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FMECA (RPN, PHMT)

The Failure Mode Effects and Criticality Analysis (Risk Priority Number, PHMT) or FMECA (RPN, PHMT) report is based on the RPN criticality method in SAE and AIAG standards, optimized by PHMT for the MADe application.

The FMECA (RPN, PHMT) report lists the Failure Mode for each item in the system model that leads to the selected End Effect. This report depends on functions, flows, failure diagrams (if provided) and criticality data.

PROJECT DETAILS

Project Name:	Aircraft Platform
Date of Issue:	14/08/2023 1:27:10 PM
Report Author:	PHMT
Version:	

DOCUMENT SIGNOFF

Name(s):			
Signature(s):			
Role(s):			
Date:			

DOCUMENT CONTROL

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GLOSSARY OF TERMS

TERM	DEFINITION
Approved By	The manager or superior approving the analysis report.
Cause	An abnormal reason, event or condition which leads to physical degradation or a process leading to a failure mode. A cause can relate to design, manufacture, environmental, operational or maintenance actions or an input flow that exceeds specified limits.
Compensating Provisions	Actions that are available or can be taken by an operator to negate or mitigate the effect of a failure on a system.
Compiled By	The current user or analyst creating the analysis report.
Detection (D)	Detection is a ranking from very low to very high of the difficulty associated with detecting a failure. The greater the difficulty the higher the value of detection and hence criticality of the failure mode.
Detection Methods	The means by which the existence of a failure mode becomes known to relevant personnel.
Failure Effects	The consequence(s) a failure mode has on the operation, function, or status of an item. Failure effects are classified as local effect, next higher level, and end effect.
Failure Effects (End)	The consequence(s) a failure mode has on the operation, function, or status of the highest indenture level.
Failure Effects (Next)	The consequence(s) a failure mode has on the operation, functions, or status of the items in the next higher indenture level above the indenture level under consideration.
Fault	The physically degraded state of a system element or a change in its behavior which will result in a failure mode or the inability to carry out its function.
Functional Failure	The listed functional failure mode of the maintainable item defined in the system model.
Indenture Level	The item levels which identify or describe relative complexity of assembly or function. The levels progress from the more complex (system) to the simpler (part) divisions.
Item / Physical Description	The listed identifier and name or nomenclature of the item or system function being analyzed for failure mode and effects.
Item No.	The unique item number that describes a failure path.
LCN	The Logistic Control Number (LCN) structure represents a topdown physical or functional breakdown of hardware and software for use within Logistics Support Analysis (LSA).
Mechanism	The chemical, electrical, mechanical or software processes which cause physical degradation of a system element and results in a fault.
Mission	An exercise involving sequential and / or concurrent operations that have been planned in order to achieve one or more stated objectives / capabilities.
Occurrence (O)	The overall likelihood or frequency of the entire failure path occurring and resulting in the end effect.
Reference Drawing	Design data and drawings identify each item and the item configuration that perform each of the system functions. System design data and drawings usually describe the system's internal and interface functions beginning at system level and progressing to the lowest indenture level of the system. Design data will usually include either functional block diagrams or schematics that will facilitate construction of reliability block diagrams.
Risk Priority Number (RPN)	A numeric assessment of risks assigned to the system. Calculated by multiplying Severity, Occurrence and Detection.
Severity (S)	Severity classifications are assigned to provide a qualitative measure of the worst potential consequences resulting from design error or item failure.
System	Lists the defined item name of the system in the highest level of indenture.

SEVERITY CLASSIFICATION DEFINITIONS AND TABLES

EFFECT	CRITERIA: SEVERITY OF EFFECT ON SYSTEM OPERATIONS	RANGE
H1	Potential failure affects safe system operation and / or noncompliance with industry standards / regulations without warning.	9.1 - 10.0
High	Potential failure affects safe system operation and / or noncompliance with industry standards / regulations with warning.	8.1 - 9.0
Moderately High	Loss of primary system function and / or does affect safe system operation, with significant effect on environment / persons.	7.1 - 8.0
Moderate	Degradation of primary system function and / or likely to affect safe system operation, with significant effect on environment / persons.	6.1 - 7.0
Moderately Low	Loss of secondary system function and / or may affect safe system operation, with significant effect on environment / persons.	5.1 - 6.0
Low	Degradation of secondary system function and / or might affect safe system operation, with moderate effect on environment / persons.	4.1 - 5.0
Very Low	Minimal effect on system functions but moderate effect on environment / persons.	2.6 - 4.0
Minimal	Minimal effect on system functions, environments and / or persons.	1.6 - 2.5
No Effect	No discernible effect.	1.0 - 1.5

OCCURRENCE CLASSIFICATION DEFINITIONS AND TABLES

LIKELIHOOD OF FAILURE	CRITERIA: OCCURRENCE OF CAUSE	RANGE
Very High	Failure is inevitable with new design, new application, or change in duty cycle / operating conditions.	9.1 - 10.0
High	Failure is likely with new design, new application, or change in duty cycle / operating conditions.	8.1 - 9.0
Moderately High	Failure is uncertain with new design, new application, or change in duty cycle / operating conditions.	7.1 - 8.0
Moderate	Failure associated with similar design or in design simulation and testing, is frequent.	6.1 - 7.0
Low	Failure associated with similar design or in design simulation and testing, is occasional.	5.1 - 6.0
Very Low	Failure is isolated and associated with similar design or in design simulation and testing,	4.1 - 5.0
Remote	Failure is isolated and associated with almost identical design or in design simulation and testing.	3.1 - 4.0
Almost Impossible	Failure is almost eliminated through design / process control.	2.1 - 3.0
Impossible	Failure is eliminated through design / process control.	1.0 - 2.0

DETECTION CLASSIFICATION DEFINITIONS AND TABLES

DIFFICULTY OF DETECTION	CRITERIA: DIFFICULTY OF DETECTION BY DESIGN CONTROL	RANGE
Highest	No current design / process control; cannot be detected or is not analyzed.	9.1 - 10.0
Very High	Most unlikely to be detected with current design / process controls.	8.1 - 9.0
High	Highly unlikely to be detected with current design / process controls.	7.1 - 8.0
Moderately High	Unlikely to be detected with current design / process controls.	6.1 - 7.0
Moderate	May be detected with current design / process controls.	5.1 - 6.0
Moderately Low	Appropriate design / process controls likely to detect failure.	4.1 - 5.0
Low	Appropriate design / process controls highly likely to detect failure.	3.1 - 4.0
Minimal	Detection of failure almost not necessary, due to appropriate design / process controls.	2.1 - 3.0
Not Applicable	Detection of failure no longer considered necessary due to appropriate design / process controls.	1.0 - 2.0

MISSION PROFILE SUMMARY

NAME	Training Flight Profile 1 (Easy)	**DESCRIPTION**	
DURATION	1.139d	A training exercise used to simulate a mission involving suppressing an enemies anti-air capabilities early in an engagement.	
MISSION CYCLES	1.00		

ID	CODE	NAME	DURATION	ELAPSED TIME	DESCRIPTION
1		Startup	1,620m	27h	Aircraft started using external starter engine.
1.1		Sub-Phase (1)	27h	27h	
1.1.1		Sub-Phase (1)	3h	3h	
1.1.2		Sub-Phase (2)	24h	27h	
1.1.2.1		Segment (1)	1d	27h	
2		Takeoff	12s	27.003h	
3		Climb 1	10m	27.17h	
4		Descent and Landing	0.17h	27.34h	

SYSTEM Aircraft System >Communications & Navigation System
INDENTURE LEVEL 2
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Communications & Navigation System	Sense Time-Space-Position-Information Signal Data	Sense Time-Space-Position-Information Signal Data High (Communications & Navigation System)				Sense Time-Space-Position-Information Signal Data High (Communications & Navigation System)	N/A	Control ACMI Reporting Signal Data High (Aircraft System)			3.0	10.0	10.0	300
				Sense Time-Space-Position-Information Signal Data Low (Communications & Navigation System)				Sense Time-Space-Position-Information Signal Data Low (Communications & Navigation System)	N/A	Control ACMI Reporting Signal Data Low (Aircraft System)			3.0	10.0	10.0	300
			Sense User Interface Display Data	Sense User Interface Display Data High (Communications & Navigation System)				Sense User Interface Display Data High (Communications & Navigation System)	N/A	Control User Display Interface Data High (Aircraft System)			3.0	10.0	10.0	300
				Sense User Interface Display Data Low (Communications & Navigation System)				Sense User Interface Display Data Low (Communications & Navigation System)	N/A	Control User Display Interface Data Low (Aircraft System)			3.0	10.0	10.0	300

SYSTEM Aircraft System >Electrical System
INDENTURE LEVEL 2
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Electrical System A single line power station consists of electric generators that power a mains line, this particular arrangement has 2 generators for redundancy and has other electrical components to regulate the output.	Convert Electrical Current The main function of the power station is to convert mechanical energy into an electrical output.	Convert Electrical Current High (Electrical System)				Convert Electrical Current High (Electrical System)	N/A	Control Mechanical - linear Linear velocity Low (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Rolling Force (Left Aileron) Force High (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Mechanical - linear Linear velocity High (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Mechanical - linear Linear velocity Low (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Mechanical - linear Linear velocity High (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Rolling Force (Right Aileron) Force High (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Mechanical - linear Linear velocity High (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Mechanical - linear Linear velocity High (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Pitching Force Force High (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Front Strut Retraction Position Displaced + (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Exhaust Mass flow rate High (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Yawing Force Force High (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Exhaust Temperature High (Aircraft System)			7.0	8.3	10.0	581

SYSTEM Aircraft System >Electrical System
INDENTURE LEVEL 2
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Electrical System A single line power station consists of electric generators that power a mains line, this particular arrangement has 2 generators for redundancy and has other electrical components to regulate the output.	Convert Electrical Current The main function of the power station is to convert mechanical energy into an electrical output.	Convert Electrical Current High (Electrical System)				Convert Electrical Current High (Electrical System)	N/A	Control Thrust Force High (Aircraft System)			7.0	2.0	10.0	140
									N/A	Control Front Strut Retraction Position Displaced + (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Air supply Mass flow rate High (Aircraft System)			7.0	10.0	10.0	700

SYSTEM Aircraft System >Electrical System
INDENTURE LEVEL 2
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Electrical System A single line power station consists of electric generators that power a mains line, this particular arrangement has 2 generators for redundancy and has other electrical components to regulate the output.	Convert Electrical Current The main function of the power station is to convert mechanical energy into an electrical output.	Convert Electrical Current Low (Electrical System)				Convert Electrical Current Low (Electrical System)	N/A	Control Mechanical - linear Linear velocity High (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Mechanical - linear Linear velocity Low (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Mechanical - linear Linear velocity High (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Mechanical - linear Linear velocity Low (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Mechanical - linear Linear velocity Low (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Mechanical - linear Linear velocity Low (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Pitching Force Force Low (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Front Strut Retraction Position Displaced - (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Exhaust Mass flow rate Low (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Yawing Force Force Low (Aircraft System)			7.0	10.0	10.0	700

SYSTEM Aircraft System >Electrical System
INDENTURE LEVEL 2
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Electrical System A single line power station consists of electric generators that power a mains line, this particular arrangement has 2 generators for redundancy and has other electrical components to regulate the output.	Convert Electrical Current The main function of the power station is to convert mechanical energy into an electrical output.	Convert Electrical Current Low (Electrical System)				Convert Electrical Current Low (Electrical System)	N/A	Control Exhaust Temperature Low (Aircraft System)			7.0	7.9	10.0	553
									N/A	Control Thrust Force Low (Aircraft System)			7.0	4.0	10.0	280
									N/A	Control Front Strut Retraction Position Displaced - (Aircraft System)			7.0	10.0	10.0	700
									N/A	Control Air supply Mass flow rate Low (Aircraft System)			7.0	10.0	10.0	700

SYSTEM Aircraft System >Fire Protection System
INDENTURE LEVEL 2
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Fire Protection System	Provide Mixture Gas-Liquid Mass flow rate	Provide Mixture Gas-Liquid Mass flow rate High (Fire Protection System)				Provide Mixture Gas-Liquid Mass flow rate High (Fire Protection System)	N/A	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			2.0	10.0	10.0	200
				Provide Mixture Gas-Liquid Mass flow rate Low (Fire Protection System)				Provide Mixture Gas-Liquid Mass flow rate Low (Fire Protection System)	N/A	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			2.0	10.0	10.0	200

SYSTEM Aircraft System >Flight Control System
INDENTURE LEVEL 2
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Flight Control System	Control Pitch Force Force	Control Pitch Force Force High (Flight Control System)				Control Pitch Force Force High (Flight Control System)	N/A	Control Pitching Force Force High (Aircraft System)			4.0	10.0	10.0	400
				Control Pitch Force Force Low (Flight Control System)				Control Pitch Force Force Low (Flight Control System)	N/A	Control Pitching Force Force Low (Aircraft System)			4.0	10.0	10.0	400
			Control Roll (Left Aileron) Force Force	Control Roll (Left Aileron) Force Force High (Flight Control System)				Control Roll (Left Aileron) Force Force High (Flight Control System)	N/A	Control Rolling Force (Left Aileron) Force High (Aircraft System)			4.0	10.0	10.0	400
				Control Roll (Left Aileron) Force Force Low (Flight Control System)				Control Roll (Left Aileron) Force Force Low (Flight Control System)	N/A	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			4.0	10.0	10.0	400
			Control Roll (Right Aileron) Force Force	Control Roll (Right Aileron) Force Force High (Flight Control System)				Control Roll (Right Aileron) Force Force High (Flight Control System)	N/A	Control Rolling Force (Right Aileron) Force High (Aircraft System)			4.0	10.0	10.0	400
				Control Roll (Right Aileron) Force Force Low (Flight Control System)				Control Roll (Right Aileron) Force Force Low (Flight Control System)	N/A	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			4.0	10.0	10.0	400
			Control Yaw Force Force	Control Yaw Force Force High (Flight Control System)				Control Yaw Force Force High (Flight Control System)	N/A	Control Yawing Force Force High (Aircraft System)			4.0	10.0	10.0	400
				Control Yaw Force Force Low (Flight Control System)				Control Yaw Force Force Low (Flight Control System)	N/A	Control Yawing Force Force Low (Aircraft System)			4.0	10.0	10.0	400

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Liquid contaminant (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Liquid contaminant (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Liquid contaminant (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Liquid contaminant (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Liquid contaminant (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Liquid contaminant (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Liquid contaminant (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Liquid contaminant (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Solid particle contaminants (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Solid particle contaminants (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Solid particle contaminants (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Solid particle contaminants (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Solid particle contaminants (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Solid particle contaminants (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Solid particle contaminants (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Solid particle contaminants (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		Impact fracture (Aft Bearing Chamber)	Impact loads (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		Impact fracture (Aft Bearing Chamber)	Impact loads (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		Impact fracture (Aft Bearing Chamber)	Impact loads (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		Impact fracture (Aft Bearing Chamber)	Impact loads (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		Impact fracture (Aft Bearing Chamber)	Impact loads (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		Impact fracture (Aft Bearing Chamber)	Impact loads (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		Impact fracture (Aft Bearing Chamber)	Impact loads (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Fractured (Aft Bearing Chamber)		Impact fracture (Aft Bearing Chamber)	Impact loads (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

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COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			5.0	7.9	10.0	395

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			5.0	4.0	10.0	200
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			5.0	7.9	10.0	395

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Aft Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-ABC1		Aft Bearing Chamber The Aft Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer RBC Lubrication Oil Flow rate The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Flow rate Low (Aft Bearing Chamber)	Partial crack (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Vibration loading (Aft Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			5.0	4.0	10.0	200
			Transfer RBC Lubrication Oil Temperature The Aft Bearing Chamber functions to collect scavenge oil from the aft section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer RBC Lubrication Oil Temperature Low (Aft Bearing Chamber)	Blocked (Aft Bearing Chamber)		Buildup of debris (Aft Bearing Chamber)	Liquid contaminant (Aft Bearing Chamber)	Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
								Solid particle contaminants (Aft Bearing Chamber)	Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
					Fractured (Aft Bearing Chamber)		High cycle fatigue (Aft Bearing Chamber)	Item life-span exceeded (Aft Bearing Chamber)	Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79
								Vibration loading (Aft Bearing Chamber)	Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79
							Impact fracture (Aft Bearing Chamber)	Impact loads (Aft Bearing Chamber)	Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Combustion Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-CC1		Combustion Chamber The Combustion Chamber is centrally located and features an igniter, fuel and air injection manifolds.	Mix Exhaust Static pressure The Combustion Chamber functions to mix fuel with high pressure air and ignite the mixture with a spark, rapidly increasing pressure and generating high velocity exhaust gas.	Mix Exhaust Static pressure High (Combustion Chamber)				Mix Exhaust Static pressure High (Combustion Chamber)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Combustion Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-CC1		Combustion Chamber The Combustion Chamber is centrally located and features an igniter, fuel and air injection manifolds.	Mix Exhaust Static pressure The Combustion Chamber functions to mix fuel with high pressure air and ignite the mixture with a spark, rapidly increasing pressure and generating high velocity exhaust gas.	Mix Exhaust Static pressure High (Combustion Chamber)				Mix Exhaust Static pressure High (Combustion Chamber)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Combustion Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-CC1		Combustion Chamber The Combustion Chamber is centrally located and features an igniter, fuel and air injection manifolds.	Mix Exhaust Static pressure The Combustion Chamber functions to mix fuel with high pressure air and ignite the mixture with a spark, rapidly increasing pressure and generating high velocity exhaust gas.	Mix Exhaust Static pressure High (Combustion Chamber)				Mix Exhaust Static pressure High (Combustion Chamber)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Combustion Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-CC1		Combustion Chamber The Combustion Chamber is centrally located and features an igniter, fuel and air injection manifolds.	Mix Exhaust Static pressure The Combustion Chamber functions to mix fuel with high pressure air and ignite the mixture with a spark, rapidly increasing pressure and generating high velocity exhaust gas.	Mix Exhaust Static pressure High (Combustion Chamber)				Mix Exhaust Static pressure High (Combustion Chamber)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Combustion Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-CC1		Combustion Chamber The Combustion Chamber is centrally located and features an igniter, fuel and air injection manifolds.	Mix Exhaust Static pressure The Combustion Chamber functions to mix fuel with high pressure air and ignite the mixture with a spark, rapidly increasing pressure and generating high velocity exhaust gas.	Mix Exhaust Static pressure High (Combustion Chamber)				Mix Exhaust Static pressure High (Combustion Chamber)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Combustion Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-CC1		Combustion Chamber The Combustion Chamber is centrally located and features an igniter, fuel and air injection manifolds.	Mix Exhaust Static pressure The Combustion Chamber functions to mix fuel with high pressure air and ignite the mixture with a spark, rapidly increasing pressure and generating high velocity exhaust gas.	Mix Exhaust Static pressure High (Combustion Chamber)				Mix Exhaust Static pressure High (Combustion Chamber)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Combustion Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-CC1		Combustion Chamber The Combustion Chamber is centrally located and features an igniter, fuel and air injection manifolds.	Mix Exhaust Static pressure The Combustion Chamber functions to mix fuel with high pressure air and ignite the mixture with a spark, rapidly increasing pressure and generating high velocity exhaust gas.	Mix Exhaust Static pressure High (Combustion Chamber)				Mix Exhaust Static pressure High (Combustion Chamber)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Combustion Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-CC1		Combustion Chamber The Combustion Chamber is centrally located and features an igniter, fuel and air injection manifolds.	Mix Exhaust Static pressure The Combustion Chamber functions to mix fuel with high pressure air and ignite the mixture with a spark, rapidly increasing pressure and generating high velocity exhaust gas.	Mix Exhaust Static pressure High (Combustion Chamber)				Mix Exhaust Static pressure High (Combustion Chamber)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Combustion Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-CC1		Combustion Chamber The Combustion Chamber is centrally located and features an igniter, fuel and air injection manifolds.	Mix Exhaust Static pressure The Combustion Chamber functions to mix fuel with high pressure air and ignite the mixture with a spark, rapidly increasing pressure and generating high velocity exhaust gas.	Mix Exhaust Static pressure Low (Combustion Chamber)				Mix Exhaust Static pressure Low (Combustion Chamber)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Combustion Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-CC1		Combustion Chamber The Combustion Chamber is centrally located and features an igniter, fuel and air injection manifolds.	Mix Exhaust Static pressure The Combustion Chamber functions to mix fuel with high pressure air and ignite the mixture with a spark, rapidly increasing pressure and generating high velocity exhaust gas.	Mix Exhaust Static pressure Low (Combustion Chamber)				Mix Exhaust Static pressure Low (Combustion Chamber)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Combustion Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-CC1		Combustion Chamber The Combustion Chamber is centrally located and features an igniter, fuel and air injection manifolds.	Mix Exhaust Static pressure The Combustion Chamber functions to mix fuel with high pressure air and ignite the mixture with a spark, rapidly increasing pressure and generating high velocity exhaust gas.	Mix Exhaust Static pressure Low (Combustion Chamber)				Mix Exhaust Static pressure Low (Combustion Chamber)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Combustion Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-CC1		Combustion Chamber The Combustion Chamber is centrally located and features an igniter, fuel and air injection manifolds.	Mix Exhaust Static pressure The Combustion Chamber functions to mix fuel with high pressure air and ignite the mixture with a spark, rapidly increasing pressure and generating high velocity exhaust gas.	Mix Exhaust Static pressure Low (Combustion Chamber)				Mix Exhaust Static pressure Low (Combustion Chamber)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Combustion Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-CC1		Combustion Chamber The Combustion Chamber is centrally located and features an igniter, fuel and air injection manifolds.	Mix Exhaust Static pressure The Combustion Chamber functions to mix fuel with high pressure air and ignite the mixture with a spark, rapidly increasing pressure and generating high velocity exhaust gas.	Mix Exhaust Static pressure Low (Combustion Chamber)				Mix Exhaust Static pressure Low (Combustion Chamber)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
			Mix Exhaust Temperature The Combustion Chamber functions to mix fuel with high pressure air and ignite the mixture with a spark, rapidly increasing pressure and generating high velocity exhaust gas.	Mix Exhaust Temperature High (Combustion Chamber)				Mix Exhaust Temperature High (Combustion Chamber)	Control Exhaust Temperature High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Mix Exhaust Temperature Low (Combustion Chamber)				Mix Exhaust Temperature Low (Combustion Chamber)	Control Exhaust Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		Impact fracture (Front Bearing Chamber)	Impact loads (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		Impact fracture (Front Bearing Chamber)	Impact loads (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		Impact fracture (Front Bearing Chamber)	Impact loads (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		Impact fracture (Front Bearing Chamber)	Impact loads (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		Impact fracture (Front Bearing Chamber)	Impact loads (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		Impact fracture (Front Bearing Chamber)	Impact loads (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		Impact fracture (Front Bearing Chamber)	Impact loads (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Fractured (Front Bearing Chamber)		Impact fracture (Front Bearing Chamber)	Impact loads (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			5.0	7.9	10.0	395

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			5.0	4.0	10.0	200
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			5.0	7.9	10.0	395

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Partial crack (Front Bearing Chamber)		High cycle fatigue (Front Bearing Chamber)	Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			5.0	4.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Liquid contaminant (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Liquid contaminant (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Liquid contaminant (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Liquid contaminant (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Liquid contaminant (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Liquid contaminant (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Liquid contaminant (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Liquid contaminant (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Solid particle contaminants (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Solid particle contaminants (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Solid particle contaminants (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 132 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Solid particle contaminants (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Solid particle contaminants (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Solid particle contaminants (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Solid particle contaminants (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Front Bearing Chamber

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-FBC1		Front Bearing Chamber The Front Bearing Chamber is a simple junction for scavenge lubrication oil.	Transfer FBC Lubrication Oil Flow rate The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Flow rate Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Solid particle contaminants (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
			Transfer FBC Lubrication Oil Temperature The Front Bearing Chamber functions to collect scavenge oil from the front section of the engine and transfer this to the Lubrication Collection Subsystem.	Transfer FBC Lubrication Oil Temperature Low (Front Bearing Chamber)	Blocked (Front Bearing Chamber)		Buildup of debris (Front Bearing Chamber)	Liquid contaminant (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
								Solid particle contaminants (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
					Fractured (Front Bearing Chamber)		Impact fracture (Front Bearing Chamber)	Impact loads (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79
							High cycle fatigue (Front Bearing Chamber)	Item life-span exceeded (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79
								Vibration loading (Front Bearing Chamber)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 146 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

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COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Channel HP Compressor Lubrication Oil Flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)				Channel HP Compressor Lubrication Oil Flow rate Low (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
			Channel HP Compressor Lubrication Oil Temperature The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Channel HP Compressor Lubrication Oil Temperature High (HP Compressor)				Channel HP Compressor Lubrication Oil Temperature High (HP Compressor)	Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Channel HP Compressor Lubrication Oil Temperature Low (HP Compressor)				Channel HP Compressor Lubrication Oil Temperature Low (HP Compressor)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Control High Compression Airflow Mass flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Control High Compression Airflow Mass flow rate High (HP Compressor)				Control High Compression Airflow Mass flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Control High Compression Airflow Mass flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Control High Compression Airflow Mass flow rate High (HP Compressor)				Control High Compression Airflow Mass flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Control High Compression Airflow Mass flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Control High Compression Airflow Mass flow rate High (HP Compressor)				Control High Compression Airflow Mass flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Control High Compression Airflow Mass flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Control High Compression Airflow Mass flow rate High (HP Compressor)				Control High Compression Airflow Mass flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Control High Compression Airflow Mass flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Control High Compression Airflow Mass flow rate High (HP Compressor)				Control High Compression Airflow Mass flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Control High Compression Airflow Mass flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Control High Compression Airflow Mass flow rate High (HP Compressor)				Control High Compression Airflow Mass flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Control High Compression Airflow Mass flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Control High Compression Airflow Mass flow rate High (HP Compressor)				Control High Compression Airflow Mass flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Control High Compression Airflow Mass flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Control High Compression Airflow Mass flow rate High (HP Compressor)				Control High Compression Airflow Mass flow rate High (HP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Control High Compression Airflow Mass flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Control High Compression Airflow Mass flow rate Low (HP Compressor)				Control High Compression Airflow Mass flow rate Low (HP Compressor)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Control High Compression Airflow Mass flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Control High Compression Airflow Mass flow rate Low (HP Compressor)				Control High Compression Airflow Mass flow rate Low (HP Compressor)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Control High Compression Airflow Mass flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Control High Compression Airflow Mass flow rate Low (HP Compressor)				Control High Compression Airflow Mass flow rate Low (HP Compressor)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Control High Compression Airflow Mass flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Control High Compression Airflow Mass flow rate Low (HP Compressor)				Control High Compression Airflow Mass flow rate Low (HP Compressor)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPC		HP Compressor The High Pressure (HP) Compressor is a 14-stage (14 HPC) axial-flow compressor with inlet guide vanes (IGVs) and five variable-geometry-stator stages.	Control High Compression Airflow Mass flow rate The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Control High Compression Airflow Mass flow rate Low (HP Compressor)				Control High Compression Airflow Mass flow rate Low (HP Compressor)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Control High Compression Airflow Temperature The HP Compressor functions to increase the compressed air to a highly pressurised airflow ready for combustiion.	Control High Compression Airflow Temperature High (HP Compressor)				Control High Compression Airflow Temperature High (HP Compressor)	Control Exhaust Temperature High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Control High Compression Airflow Temperature Low (HP Compressor)				Control High Compression Airflow Temperature Low (HP Compressor)	Control Exhaust Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Ductile fracture (HP Shaft)	Mechanical shock (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Ductile fracture (HP Shaft)	Mechanical shock (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Ductile fracture (HP Shaft)	Mechanical shock (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Ductile fracture (HP Shaft)	Mechanical shock (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Ductile fracture (HP Shaft)	Mechanical shock (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Ductile fracture (HP Shaft)	Mechanical shock (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Ductile fracture (HP Shaft)	Mechanical shock (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Ductile fracture (HP Shaft)	Mechanical shock (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Impact fracture (HP Shaft)	Impact loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Impact fracture (HP Shaft)	Impact loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Impact fracture (HP Shaft)	Impact loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Impact fracture (HP Shaft)	Impact loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Impact fracture (HP Shaft)	Impact loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Impact fracture (HP Shaft)	Impact loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Impact fracture (HP Shaft)	Impact loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	Impact fracture (HP Shaft)	Impact loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Fractured (HP Shaft)	Performance parameters changed (HP Shaft)	High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			5.0	7.9	10.0	395

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			5.0	4.0	10.0	200
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Item life-span exceeded (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			5.0	7.9	10.0	395

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Unbalanced or off-axis mechanical loads (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			5.0	4.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			5.0	7.9	10.0	395

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			5.0	4.0	10.0	200
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Shaft

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPS1		HP Shaft The High Pressure (HP) Shaft is a simple shaft that is supported by a bearing.	Convert HP Compressor Torque Torque The HP shaft functions to transfer power from the HP Turbine and the HP Compressor.	Convert HP Compressor Torque Torque Low (HP Shaft) Convert HP Compressor Torque Torque Low: Reduced shaft speed causes loss of gas pressure	Partial crack (HP Shaft)		High cycle fatigue (HP Shaft)	Vibration loading (HP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Channel HP Turbine Lubrication Oil Flow rate The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)				Channel HP Turbine Lubrication Oil Flow rate Low (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Channel HP Turbine Lubrication Oil Temperature The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Channel HP Turbine Lubrication Oil Temperature High (HP Turbine)				Channel HP Turbine Lubrication Oil Temperature High (HP Turbine)	Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Channel HP Turbine Lubrication Oil Temperature Low (HP Turbine)				Channel HP Turbine Lubrication Oil Temperature Low (HP Turbine)	Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Control Exhaust Static pressure The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Control Exhaust Static pressure High (HP Turbine)				Control Exhaust Static pressure High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Control Exhaust Static pressure The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Control Exhaust Static pressure High (HP Turbine)				Control Exhaust Static pressure High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Control Exhaust Static pressure The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Control Exhaust Static pressure High (HP Turbine)				Control Exhaust Static pressure High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Control Exhaust Static pressure The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Control Exhaust Static pressure High (HP Turbine)				Control Exhaust Static pressure High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Control Exhaust Static pressure The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Control Exhaust Static pressure High (HP Turbine)				Control Exhaust Static pressure High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Control Exhaust Static pressure The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Control Exhaust Static pressure High (HP Turbine)				Control Exhaust Static pressure High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Control Exhaust Static pressure The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Control Exhaust Static pressure High (HP Turbine)				Control Exhaust Static pressure High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Control Exhaust Static pressure The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Control Exhaust Static pressure High (HP Turbine)				Control Exhaust Static pressure High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Control Exhaust Static pressure The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Control Exhaust Static pressure Low (HP Turbine)				Control Exhaust Static pressure Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Control Exhaust Static pressure The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Control Exhaust Static pressure Low (HP Turbine)				Control Exhaust Static pressure Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Control Exhaust Static pressure The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Control Exhaust Static pressure Low (HP Turbine)				Control Exhaust Static pressure Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Control Exhaust Static pressure The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Control Exhaust Static pressure Low (HP Turbine)				Control Exhaust Static pressure Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Control Exhaust Static pressure The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Control Exhaust Static pressure Low (HP Turbine)				Control Exhaust Static pressure Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
			Control Exhaust Temperature The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Control Exhaust Temperature High (HP Turbine)				Control Exhaust Temperature High (HP Turbine)	Control Exhaust Temperature High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Control Exhaust Temperature Low (HP Turbine)				Control Exhaust Temperature Low (HP Turbine)	Control Exhaust Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Friction Torque The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Friction Torque High (HP Turbine)				Convert HP Turbine Friction Torque High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Friction Torque The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Friction Torque High (HP Turbine)				Convert HP Turbine Friction Torque High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Friction Torque The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Friction Torque High (HP Turbine)				Convert HP Turbine Friction Torque High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Friction Torque The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Friction Torque High (HP Turbine)				Convert HP Turbine Friction Torque High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Friction Torque The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Friction Torque High (HP Turbine)				Convert HP Turbine Friction Torque High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Friction Torque The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Friction Torque High (HP Turbine)				Convert HP Turbine Friction Torque High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Friction Torque The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Friction Torque High (HP Turbine)				Convert HP Turbine Friction Torque High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Friction Torque The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Friction Torque High (HP Turbine)				Convert HP Turbine Friction Torque High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
				Convert HP Turbine Friction Torque Low (HP Turbine)				Convert HP Turbine Friction Torque Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Friction Torque The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Friction Torque Low (HP Turbine)				Convert HP Turbine Friction Torque Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Friction Torque The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Friction Torque Low (HP Turbine)				Convert HP Turbine Friction Torque Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Friction Torque The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Friction Torque Low (HP Turbine)				Convert HP Turbine Friction Torque Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Friction Torque The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Friction Torque Low (HP Turbine)				Convert HP Turbine Friction Torque Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Friction Torque The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Friction Torque Low (HP Turbine)				Convert HP Turbine Friction Torque Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Gearbox) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Gearbox) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Gearbox) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Gearbox) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Gearbox) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Gearbox) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Gearbox) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Gearbox) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Gearbox) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Gearbox) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Gearbox) Angular velocity Low (HP Turbine)				Convert HP Turbine Rotation (Gearbox) Angular velocity Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Gearbox) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Gearbox) Angular velocity Low (HP Turbine)				Convert HP Turbine Rotation (Gearbox) Angular velocity Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Gearbox) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Gearbox) Angular velocity Low (HP Turbine)				Convert HP Turbine Rotation (Gearbox) Angular velocity Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Gearbox) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Gearbox) Angular velocity Low (HP Turbine)				Convert HP Turbine Rotation (Gearbox) Angular velocity Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Gearbox) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Gearbox) Angular velocity Low (HP Turbine)				Convert HP Turbine Rotation (Gearbox) Angular velocity Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Gearbox) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Gearbox) Angular velocity Low (HP Turbine)				Convert HP Turbine Rotation (Gearbox) Angular velocity Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Shaft) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Shaft) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
INDENTURE LEVEL 4
REFERENCE DRAWING
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				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Shaft) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Shaft) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Shaft) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Shaft) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Shaft) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Shaft) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)				Convert HP Turbine Rotation (Shaft) Angular velocity High (HP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Shaft) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Shaft) Angular velocity Low (HP Turbine)				Convert HP Turbine Rotation (Shaft) Angular velocity Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Shaft) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Shaft) Angular velocity Low (HP Turbine)				Convert HP Turbine Rotation (Shaft) Angular velocity Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Shaft) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Shaft) Angular velocity Low (HP Turbine)				Convert HP Turbine Rotation (Shaft) Angular velocity Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Shaft) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Shaft) Angular velocity Low (HP Turbine)				Convert HP Turbine Rotation (Shaft) Angular velocity Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >HP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-HPT		HP Turbine The High Pressure (HP) Turbine is a 2 Stage High Pressure Turbine that is connected to the HP Compressor by a shaft.	Convert HP Turbine Rotation (Shaft) Angular velocity The HP Turbine functions to provide power back to the compressor which is driven by the force exerted by the exhaust.	Convert HP Turbine Rotation (Shaft) Angular velocity Low (HP Turbine)				Convert HP Turbine Rotation (Shaft) Angular velocity Low (HP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 301 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 302 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

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MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Channel LP Compressor Lubrication Oil Flow rate The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)				Channel LP Compressor Lubrication Oil Flow rate Low (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
			Channel LP Compressor Lubrication Oil Temperature The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Channel LP Compressor Lubrication Oil Temperature High (LP Compressor)				Channel LP Compressor Lubrication Oil Temperature High (LP Compressor)	Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Channel LP Compressor Lubrication Oil Temperature Low (LP Compressor)				Channel LP Compressor Lubrication Oil Temperature Low (LP Compressor)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Control Compressed Airflow Flow velocity The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Control Compressed Airflow Flow velocity High (LP Compressor)				Control Compressed Airflow Flow velocity High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Control Compressed Airflow Flow velocity The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Control Compressed Airflow Flow velocity High (LP Compressor)				Control Compressed Airflow Flow velocity High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Control Compressed Airflow Flow velocity The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Control Compressed Airflow Flow velocity High (LP Compressor)				Control Compressed Airflow Flow velocity High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Control Compressed Airflow Flow velocity The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Control Compressed Airflow Flow velocity High (LP Compressor)				Control Compressed Airflow Flow velocity High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Control Compressed Airflow Flow velocity The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Control Compressed Airflow Flow velocity High (LP Compressor)				Control Compressed Airflow Flow velocity High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Control Compressed Airflow Flow velocity The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Control Compressed Airflow Flow velocity High (LP Compressor)				Control Compressed Airflow Flow velocity High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Control Compressed Airflow Flow velocity The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Control Compressed Airflow Flow velocity High (LP Compressor)				Control Compressed Airflow Flow velocity High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Control Compressed Airflow Flow velocity The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Control Compressed Airflow Flow velocity High (LP Compressor)				Control Compressed Airflow Flow velocity High (LP Compressor)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Control Compressed Airflow Flow velocity The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Control Compressed Airflow Flow velocity Low (LP Compressor)				Control Compressed Airflow Flow velocity Low (LP Compressor)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Control Compressed Airflow Flow velocity The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Control Compressed Airflow Flow velocity Low (LP Compressor)				Control Compressed Airflow Flow velocity Low (LP Compressor)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Control Compressed Airflow Flow velocity The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Control Compressed Airflow Flow velocity Low (LP Compressor)				Control Compressed Airflow Flow velocity Low (LP Compressor)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Control Compressed Airflow Flow velocity The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Control Compressed Airflow Flow velocity Low (LP Compressor)				Control Compressed Airflow Flow velocity Low (LP Compressor)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Compressor

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPC		LP Compressor The Low Pressure Compressor (LP Compressor) comprises of a single fan stage and outlet guide vanes.	Control Compressed Airflow Flow velocity The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Control Compressed Airflow Flow velocity Low (LP Compressor)				Control Compressed Airflow Flow velocity Low (LP Compressor)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
			Control Compressed Airflow Temperature The Low Pressure Compressor (LP Compressor) functions to compress the incoming airflow, in the first stage of compression.	Control Compressed Airflow Temperature High (LP Compressor)				Control Compressed Airflow Temperature High (LP Compressor)	Control Exhaust Temperature High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Control Compressed Airflow Temperature Low (LP Compressor)				Control Compressed Airflow Temperature Low (LP Compressor)	Control Exhaust Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Ductile fracture (LP Shaft)	Mechanical shock (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Ductile fracture (LP Shaft)	Mechanical shock (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Ductile fracture (LP Shaft)	Mechanical shock (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Ductile fracture (LP Shaft)	Mechanical shock (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Ductile fracture (LP Shaft)	Mechanical shock (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Ductile fracture (LP Shaft)	Mechanical shock (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Ductile fracture (LP Shaft)	Mechanical shock (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Ductile fracture (LP Shaft)	Mechanical shock (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM
SHEET 353 **OF** 1118
COMPILED BY PHMT
APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Impact fracture (LP Shaft)	Impact loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Impact fracture (LP Shaft)	Impact loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Impact fracture (LP Shaft)	Impact loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Impact fracture (LP Shaft)	Impact loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Impact fracture (LP Shaft)	Impact loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Impact fracture (LP Shaft)	Impact loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			1.0	7.9	10.0	79
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			1.0	4.0	10.0	40

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Impact fracture (LP Shaft)	Impact loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Fractured (LP Shaft)	Performance parameters changed (LP Shaft)	Impact fracture (LP Shaft)	Impact loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			1.0	10.0	10.0	100

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
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COMPILED BY PHMT
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			5.0	7.9	10.0	395
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			5.0	4.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Item life-span exceeded (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			5.0	7.9	10.0	395

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			5.0	4.0	10.0	200
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Unbalanced or off-axis mechanical loads (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			5.0	7.9	10.0	395

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			5.0	4.0	10.0	200
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Shaft

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPS1		LP Shaft The Low Pressure (LP) Shaft is a simple shaft that is supported by a bearing.	Convert LP Compressor Torque Torque The LP shaft functions to transfer power from the LP Turbine and the LP Compressor.	Convert LP Compressor Torque Torque Low (LP Shaft)	Partial crack (LP Shaft)		High cycle fatigue (LP Shaft)	Vibration loading (LP Shaft)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Channel LP Turbine Lubrication Oil Flow rate The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)				Channel LP Turbine Lubrication Oil Flow rate Low (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
			Channel LP Turbine Lubrication Oil Temperature The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Channel LP Turbine Lubrication Oil Temperature High (LP Turbine)				Channel LP Turbine Lubrication Oil Temperature High (LP Turbine)	Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Channel LP Turbine Lubrication Oil Temperature Low (LP Turbine)				Channel LP Turbine Lubrication Oil Temperature Low (LP Turbine)	Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
			Control Exhaust Static pressure The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Control Exhaust Static pressure High (LP Turbine)				Control Exhaust Static pressure High (LP Turbine)	Control Exhaust Static pressure High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Control Exhaust Static pressure High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200
									Control Exhaust Static pressure High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
				Control Exhaust Static pressure Low (LP Turbine)				Control Exhaust Static pressure Low (LP Turbine)	Control Exhaust Static pressure Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Control Exhaust Static pressure Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
									Control Exhaust Static pressure Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
			Control Exhaust Temperature The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Control Exhaust Temperature High (LP Turbine)				Control Exhaust Temperature High (LP Turbine)	Control Exhaust Temperature High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Control Exhaust Temperature Low (LP Turbine)				Control Exhaust Temperature Low (LP Turbine)	Control Exhaust Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Friction Torque The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Friction Torque High (LP Turbine)				Convert LP Shaft Friction Torque High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Friction Torque The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Friction Torque High (LP Turbine)				Convert LP Shaft Friction Torque High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Friction Torque The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Friction Torque High (LP Turbine)				Convert LP Shaft Friction Torque High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Friction Torque The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Friction Torque High (LP Turbine)				Convert LP Shaft Friction Torque High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Friction Torque The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Friction Torque High (LP Turbine)				Convert LP Shaft Friction Torque High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Friction Torque The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Friction Torque High (LP Turbine)				Convert LP Shaft Friction Torque High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Friction Torque The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Friction Torque High (LP Turbine)				Convert LP Shaft Friction Torque High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Friction Torque The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Friction Torque High (LP Turbine)				Convert LP Shaft Friction Torque High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Friction Torque The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Friction Torque Low (LP Turbine)				Convert LP Shaft Friction Torque Low (LP Turbine)	Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Friction Torque The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Friction Torque Low (LP Turbine)				Convert LP Shaft Friction Torque Low (LP Turbine)	Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Friction Torque The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Friction Torque Low (LP Turbine)				Convert LP Shaft Friction Torque Low (LP Turbine)	Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Friction Torque The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Friction Torque Low (LP Turbine)				Convert LP Shaft Friction Torque Low (LP Turbine)	Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Friction Torque The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Friction Torque Low (LP Turbine)				Convert LP Shaft Friction Torque Low (LP Turbine)	Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Rotation Angular velocity The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Rotation Angular velocity High (LP Turbine)				Convert LP Shaft Rotation Angular velocity High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Rotation Angular velocity The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Rotation Angular velocity High (LP Turbine)				Convert LP Shaft Rotation Angular velocity High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Rotation Angular velocity The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Rotation Angular velocity High (LP Turbine)				Convert LP Shaft Rotation Angular velocity High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Rotation Angular velocity The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Rotation Angular velocity High (LP Turbine)				Convert LP Shaft Rotation Angular velocity High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Rotation Angular velocity The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Rotation Angular velocity High (LP Turbine)				Convert LP Shaft Rotation Angular velocity High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Rotation Angular velocity The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Rotation Angular velocity High (LP Turbine)				Convert LP Shaft Rotation Angular velocity High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Rotation Angular velocity The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Rotation Angular velocity High (LP Turbine)				Convert LP Shaft Rotation Angular velocity High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Rotation Angular velocity The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Rotation Angular velocity High (LP Turbine)				Convert LP Shaft Rotation Angular velocity High (LP Turbine)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Rotation Angular velocity The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Rotation Angular velocity Low (LP Turbine)				Convert LP Shaft Rotation Angular velocity Low (LP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Rotation Angular velocity The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Rotation Angular velocity Low (LP Turbine)				Convert LP Shaft Rotation Angular velocity Low (LP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Rotation Angular velocity The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Rotation Angular velocity Low (LP Turbine)				Convert LP Shaft Rotation Angular velocity Low (LP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Rotation Angular velocity The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Rotation Angular velocity Low (LP Turbine)				Convert LP Shaft Rotation Angular velocity Low (LP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >LP Turbine
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LPT		LP Turbine The Low Pressure (LP) Turbine is a 3 Stage Low Pressure Turbine, that is connected to the LP Compressor by a LP Shaft.	Convert LP Shaft Rotation Angular velocity The Low Pressure (LP) Turbine functions to provide power to the LP Compressor by generating force via the exhaust gas.	Convert LP Shaft Rotation Angular velocity Low (LP Turbine)				Convert LP Shaft Rotation Angular velocity Low (LP Turbine)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
			Distribute HP Compressor Lubrication Oil Temperature The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Compressor Lubrication Oil Temperature High (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Temperature High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Distribute HP Compressor Lubrication Oil Temperature Low (Lubrication Junction)				Distribute HP Compressor Lubrication Oil Temperature Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

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COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute HP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
			Distribute HP Turbine Lubrication Oil Temperature The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute HP Turbine Lubrication Oil Temperature High (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Temperature High (Lubrication Junction)	Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Distribute HP Turbine Lubrication Oil Temperature Low (Lubrication Junction)				Distribute HP Turbine Lubrication Oil Temperature Low (Lubrication Junction)	Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Compressor Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
			Distribute LP Compressor Lubrication Oil Temperature The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Compressor Lubrication Oil Temperature High (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Temperature High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Distribute LP Compressor Lubrication Oil Temperature Low (Lubrication Junction)				Distribute LP Compressor Lubrication Oil Temperature Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate High (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate High (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem), Control Exhaust Static pressure High (Engine Subsystem), Control Exhaust Temperature High (Engine Subsystem), Control HP Turbine Rotation Angular velocity High (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity High (Engine Subsystem)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Lubrication Junction

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-LJ1		Lubrication Junction The Lubrication Junction is a 4-way branch that takes a single lubrication oil inflow.	Distribute LP Turbine Lubrication Oil Flow rate The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Flow rate Low (Lubrication Junction)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
			Distribute LP Turbine Lubrication Oil Temperature The Lubrication Junction acts to provide lubrication oil to the 4 main components in the Engine Subsystem.	Distribute LP Turbine Lubrication Oil Temperature High (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Temperature High (Lubrication Junction)	Channel Rear Bearing Scavenge Oil Temperature High (Engine Subsystem)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Distribute LP Turbine Lubrication Oil Temperature Low (Lubrication Junction)				Distribute LP Turbine Lubrication Oil Temperature Low (Lubrication Junction)	Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 498 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 512 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 513 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 514 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 523 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 568 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 569 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 570 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 571 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 572 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 573 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 574 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 575 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 576 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 577 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 578 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 579 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 580 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 581 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control HP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control HP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			2.0	7.9	8.0	126
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			2.0	4.0	8.0	64

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 596 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 597 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 598 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 599 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			2.0	7.9	8.0	126
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 600 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			2.0	4.0	8.0	64

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 601 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 602 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 603 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 604 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 605 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 606 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			2.0	7.9	8.0	126

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 607 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 608 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 609 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			2.0	4.0	8.0	64

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			2.0	7.9	8.0	126
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			2.0	4.0	8.0	64

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Decreased dielectric strength (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Crystal defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Crystal defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Crystal defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Crystal defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Crystal defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Crystal defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Crystal defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			2.0	7.9	8.0	126
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			2.0	4.0	8.0	64

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Crystal defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Junction defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Junction defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Junction defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Junction defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Junction defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Junction defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			2.0	7.9	8.0	126

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Junction defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			2.0	4.0	8.0	64
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller), Change in behaviour (Signal Controller) AND Discrete signal (Signal Controller)	Ground bounce (Signal Controller)	Junction defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			2.0	7.9	8.0	126

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			2.0	4.0	8.0	64

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			2.0	7.9	8.0	126
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			2.0	4.0	8.0	64

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160
								Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 652 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 653 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			2.0	7.9	8.0	126

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			2.0	4.0	8.0	64
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			2.0	7.9	8.0	126

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			2.0	4.0	8.0	64

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 666 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 667 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			2.0	7.9	8.0	126
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			2.0	4.0	8.0	64

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			2.0	7.9	8.0	126

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			2.0	4.0	8.0	64

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 680 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Property mismatch (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 681 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 704 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 708 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 709 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 710 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 711 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 712 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 714 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 716 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 718 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 719 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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SHEET 720 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 722 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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SHEET 724 **OF** 1118
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 736 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 737 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 738 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 739 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 740 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 741 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 742 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 743 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 744 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 745 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 746 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 747 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 748 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 749 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control Ignition Spark Voltage A controller that distributes the FADEC engine control signal to different engine components.	Control Ignition Spark Voltage Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Line defects (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Performance parameters changed (Signal Controller)	Dielectric breakdown (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 792 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical potential high (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 793 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 800 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Electrical resistance low (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 802 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 803 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 804 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 806 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 807 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 808 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-current (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 809 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 810 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 812 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 814 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 815 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 816 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Over-voltage (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 817 **OF** 1118

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 818 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 820 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 821 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 822 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 824 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Random or transient electrical loads (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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COMPILED BY PHMT
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 826 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 828 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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SHEET 829 **OF** 1118
COMPILED BY PHMT
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 830 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 831 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Open circuit (Signal Controller)	Analogue signal (Signal Controller) AND Performance parameters changed (Signal Controller)	Burnout (Signal Controller)	Short circuit (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 833 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity High (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mechanical - linear Linear velocity Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Pitching Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Yawing Force Force Low (Aircraft System)			3.0	10.0	7.0	210
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Exhaust Temperature Low (Aircraft System)			3.0	7.9	7.0	166

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Thrust Force Low (Aircraft System)			3.0	4.0	7.0	84
									Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Front Strut Retraction Position Displaced - (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System > Engine Subsystem >Signal Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
ES-SC1		Signal Controller The Signal Controller is a regular electronic controller.	Control LP Compressor Control Data A controller that distributes the FADEC engine control signal to different engine components.	Control LP Compressor Control Data Low (Signal Controller)	Short circuit (Signal Controller)		Electrostatic discharge (Signal Controller)	Mishandling (Signal Controller)	Channel Front Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Front Bearing Scavenge Oil Temperature Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Flow rate Low (Engine Subsystem), Channel Rear Bearing Scavenge Oil Temperature Low (Engine Subsystem), Control Exhaust Static pressure Low (Engine Subsystem), Control Exhaust Temperature Low (Engine Subsystem), Control HP Turbine Rotation Angular velocity Low (Engine Subsystem) AND Control Hydraulic Power for Pump Angular velocity Low (Engine Subsystem)	Control Air supply Mass flow rate Low (Aircraft System)			3.0	10.0	7.0	210

SYSTEM Aircraft System > Fuel and Power System >Exhaust Nozzle
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-EN1		Exhaust Nozzle The Exhaust Nozzle is located on the rear of the engine and contains a cone, nozzle, casing and support for the rear turbine.	Control Exhaust Gas Mass flow rate The Exhaust Nozzle functions to accelerate and guide the exhaust flow to control the thrust of the engine.	Control Exhaust Gas Mass flow rate High (Exhaust Nozzle)				Control Exhaust Gas Mass flow rate High (Exhaust Nozzle)	Control Exhaust Mass flow rate High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
				Control Exhaust Gas Mass flow rate Low (Exhaust Nozzle)				Control Exhaust Gas Mass flow rate Low (Exhaust Nozzle)	Control Exhaust Mass flow rate Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
			Control Exhaust Gas Temperature The Exhaust Nozzle functions to accelerate and guide the exhaust flow to control the thrust of the engine.	Control Exhaust Gas Temperature High (Exhaust Nozzle)				Control Exhaust Gas Temperature High (Exhaust Nozzle)	Control Exhaust Temperature High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Control Exhaust Gas Temperature Low (Exhaust Nozzle)				Control Exhaust Gas Temperature Low (Exhaust Nozzle)	Control Exhaust Temperature Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
			Convert Exhaust Force Force The Exhaust Nozzle functions to accelerate and guide the exhaust flow to control the thrust of the engine.	Convert Exhaust Force Force High (Exhaust Nozzle)				Convert Exhaust Force Force High (Exhaust Nozzle)	Provide Engine Thrust Force High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200
				Convert Exhaust Force Force Low (Exhaust Nozzle)				Convert Exhaust Force Force Low (Exhaust Nozzle)	Provide Engine Thrust Force Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Compressor Control Signal Data The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Compressor Control Signal Data High (FADEC)				Control Compressor Control Signal Data High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Compressor Control Signal Data The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Compressor Control Signal Data High (FADEC)				Control Compressor Control Signal Data High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Compressor Control Signal Data The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Compressor Control Signal Data High (FADEC)				Control Compressor Control Signal Data High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Compressor Control Signal Data The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Compressor Control Signal Data High (FADEC)				Control Compressor Control Signal Data High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Compressor Control Signal Data The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Compressor Control Signal Data Low (FADEC)				Control Compressor Control Signal Data Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Compressor Control Signal Data The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Compressor Control Signal Data Low (FADEC)				Control Compressor Control Signal Data Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Compressor Control Signal Data The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Compressor Control Signal Data Low (FADEC)				Control Compressor Control Signal Data Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Compressor Control Signal Data The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Compressor Control Signal Data Low (FADEC)				Control Compressor Control Signal Data Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Amplitude The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Amplitude High (FADEC)				Control Continuous Amplitude High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Amplitude The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Amplitude High (FADEC)				Control Continuous Amplitude High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Amplitude The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Amplitude High (FADEC)				Control Continuous Amplitude High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Amplitude The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Amplitude High (FADEC)				Control Continuous Amplitude High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC

INDENTURE LEVEL 3

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Amplitude The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Amplitude High (FADEC)				Control Continuous Amplitude High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System >FADEC
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Amplitude The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Amplitude Low (FADEC)				Control Continuous Amplitude Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Amplitude The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Amplitude Low (FADEC)				Control Continuous Amplitude Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Amplitude The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Amplitude Low (FADEC)				Control Continuous Amplitude Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Amplitude The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Amplitude Low (FADEC)				Control Continuous Amplitude Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Frequency The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Frequency High (FADEC)				Control Continuous Frequency High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Frequency The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Frequency High (FADEC)				Control Continuous Frequency High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Frequency The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Frequency High (FADEC)				Control Continuous Frequency High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System >FADEC
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Frequency The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Frequency High (FADEC)				Control Continuous Frequency High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Frequency The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Frequency Low (FADEC)				Control Continuous Frequency Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Frequency The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Frequency Low (FADEC)				Control Continuous Frequency Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Frequency The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Frequency Low (FADEC)				Control Continuous Frequency Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Frequency The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Frequency Low (FADEC)				Control Continuous Frequency Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC

INDENTURE LEVEL 3

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Continuous Frequency The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Continuous Frequency Low (FADEC)				Control Continuous Frequency Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Engine Power Voltage The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Engine Power Voltage High (FADEC)				Control Engine Power Voltage High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Engine Power Voltage The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Engine Power Voltage High (FADEC)				Control Engine Power Voltage High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Engine Power Voltage The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Engine Power Voltage High (FADEC)				Control Engine Power Voltage High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Engine Power Voltage The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Engine Power Voltage High (FADEC)				Control Engine Power Voltage High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Engine Power Voltage The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Engine Power Voltage Low (FADEC)				Control Engine Power Voltage Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Engine Power Voltage The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Engine Power Voltage Low (FADEC)				Control Engine Power Voltage Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Engine Power Voltage The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Engine Power Voltage Low (FADEC)				Control Engine Power Voltage Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400

SYSTEM Aircraft System > Fuel and Power System >FADEC
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Engine Power Voltage The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Engine Power Voltage Low (FADEC)				Control Engine Power Voltage Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Control Exhaust Control Signal Data The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Exhaust Control Signal Data High (FADEC)				Control Exhaust Control Signal Data High (FADEC)	Control Exhaust Mass flow rate High (Fuel and Power System) AND Provide Engine Thrust Force High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System) AND Provide Engine Thrust Force High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System >FADEC

INDENTURE LEVEL 3

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-F1	AUPD0101	FADEC The Full Authority Digital Engine Control unit (FADEC) is a control unit that looks like a typical control box.	Control Exhaust Control Signal Data The FADEC acts to monitor and control various parts around the engine including the compression cycles, and the vanes on the exhaust of the engine.	Control Exhaust Control Signal Data Low (FADEC)				Control Exhaust Control Signal Data Low (FADEC)	Control Exhaust Mass flow rate Low (Fuel and Power System) AND Provide Engine Thrust Force Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System) AND Provide Engine Thrust Force Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400

SYSTEM Aircraft System > Fuel and Power System >Fuel Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-FDS		Fuel Delivery Subsystem The Fuel Subsystem contains a tank, filter, pump and fuel lines.	Provide Fuel Flow Flow rate The Fuel Subsystem acts to provide the engine for fuel during a mission, and storing fuel upon refuelling for a mission.	Provide Fuel Flow Flow rate High (Fuel Delivery Subsystem)				Provide Fuel Flow Flow rate High (Fuel Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Fuel Delivery Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-FDS		Fuel Delivery Subsystem The Fuel Subsystem contains a tank, filter, pump and fuel lines.	Provide Fuel Flow Flow rate The Fuel Subsystem acts to provide the engine for fuel during a mission, and storing fuel upon refuelling for a mission.	Provide Fuel Flow Flow rate High (Fuel Delivery Subsystem)				Provide Fuel Flow Flow rate High (Fuel Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Fuel Delivery Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-FDS		Fuel Delivery Subsystem The Fuel Subsystem contains a tank, filter, pump and fuel lines.	Provide Fuel Flow Flow rate The Fuel Subsystem acts to provide the engine for fuel during a mission, and storing fuel upon refuelling for a mission.	Provide Fuel Flow Flow rate High (Fuel Delivery Subsystem)				Provide Fuel Flow Flow rate High (Fuel Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Fuel Delivery Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-FDS		Fuel Delivery Subsystem The Fuel Subsystem contains a tank, filter, pump and fuel lines.	Provide Fuel Flow Flow rate The Fuel Subsystem acts to provide the engine for fuel during a mission, and storing fuel upon refuelling for a mission.	Provide Fuel Flow Flow rate High (Fuel Delivery Subsystem)				Provide Fuel Flow Flow rate High (Fuel Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System >Fuel Delivery Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-FDS		Fuel Delivery Subsystem The Fuel Subsystem contains a tank, filter, pump and fuel lines.	Provide Fuel Flow Flow rate The Fuel Subsystem acts to provide the engine for fuel during a mission, and storing fuel upon refuelling for a mission.	Provide Fuel Flow Flow rate Low (Fuel Delivery Subsystem)				Provide Fuel Flow Flow rate Low (Fuel Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Fuel Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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COMPILED BY PHMT
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-FDS		Fuel Delivery Subsystem The Fuel Subsystem contains a tank, filter, pump and fuel lines.	Provide Fuel Flow Flow rate The Fuel Subsystem acts to provide the engine for fuel during a mission, and storing fuel upon refuelling for a mission.	Provide Fuel Flow Flow rate Low (Fuel Delivery Subsystem)				Provide Fuel Flow Flow rate Low (Fuel Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Fuel Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-FDS		Fuel Delivery Subsystem The Fuel Subsystem contains a tank, filter, pump and fuel lines.	Provide Fuel Flow Flow rate The Fuel Subsystem acts to provide the engine for fuel during a mission, and storing fuel upon refuelling for a mission.	Provide Fuel Flow Flow rate Low (Fuel Delivery Subsystem)				Provide Fuel Flow Flow rate Low (Fuel Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Fuel Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-FDS		Fuel Delivery Subsystem The Fuel Subsystem contains a tank, filter, pump and fuel lines.	Provide Fuel Flow Flow rate The Fuel Subsystem acts to provide the engine for fuel during a mission, and storing fuel upon refuelling for a mission.	Provide Fuel Flow Flow rate Low (Fuel Delivery Subsystem)				Provide Fuel Flow Flow rate Low (Fuel Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
			Provide Fuel Flow Temperature The Fuel Subsystem acts to provide the engine for fuel during a mission, and storing fuel upon refuelling for a mission.	Provide Fuel Flow Temperature High (Fuel Delivery Subsystem)				Provide Fuel Flow Temperature High (Fuel Delivery Subsystem)	Control Exhaust Temperature High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Provide Fuel Flow Temperature Low (Fuel Delivery Subsystem)				Provide Fuel Flow Temperature Low (Fuel Delivery Subsystem)	Control Exhaust Temperature Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System >Generator Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-GS		Generator Subsystem The Generator Subsystem contains a engine and aircraft generator that provide power for emergency and start-up situations.	Convert Aircraft Electrical Power Voltage The Generators provide the engine and the aircraft with stored electrical power when needed.	Convert Aircraft Electrical Power Voltage Low (Generator Subsystem) Convert Aircraft Electrical Power Voltage Low: Insufficient for normal electrical system operation.				Convert Aircraft Electrical Power Voltage Low (Generator Subsystem)	Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	10.0	200
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			2.0	10.0	10.0	200
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			2.0	10.0	10.0	200
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.0	10.0	10.0	200
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	10.0	200
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	10.0	200
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			2.0	10.0	10.0	200
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			2.0	10.0	10.0	200
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			2.0	10.0	10.0	200
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System >Generator Subsystem
INDENTURE LEVEL 3
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MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-GS		Generator Subsystem The Generator Subsystem contains a engine and aircraft generator that provide power for emergency and start-up situations.	Convert Engine Electrical Power Voltage The Generators provide the engine and the aircraft with stored electrical power when needed.	Convert Engine Electrical Power Voltage Low (Generator Subsystem) Convert Engine Electrical Power Voltage Low: Insufficient for normal electrical system operation, reduced engine performance or flame out				Convert Engine Electrical Power Voltage Low (Generator Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)				2.3	10.0	3.2	74
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.3	10.0	3.2	74
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			2.3	10.0	3.2	74
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.3	10.0	3.2	74

SYSTEM Aircraft System > Fuel and Power System >Generator Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-GS		Generator Subsystem The Generator Subsystem contains a engine and aircraft generator that provide power for emergency and start-up situations.	Convert Engine Electrical Power Voltage The Generators provide the engine and the aircraft with stored electrical power when needed.	Convert Engine Electrical Power Voltage Low (Generator Subsystem) Convert Engine Electrical Power Voltage Low: Insufficient for normal electrical system operation, reduced engine performance or flame out				Convert Engine Electrical Power Voltage Low (Generator Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			2.3	10.0	3.2	74
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			2.3	10.0	3.2	74
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			2.3	10.0	3.2	74
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.3	10.0	3.2	74

SYSTEM Aircraft System > Fuel and Power System >Generator Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-GS		Generator Subsystem The Generator Subsystem contains a engine and aircraft generator that provide power for emergency and start-up situations.	Convert Engine Electrical Power Voltage The Generators provide the engine and the aircraft with stored electrical power when needed.	Convert Engine Electrical Power Voltage Low (Generator Subsystem) Convert Engine Electrical Power Voltage Low: Insufficient for normal electrical system operation, reduced engine performance or flame out				Convert Engine Electrical Power Voltage Low (Generator Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			2.3	10.0	3.2	74
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			2.3	10.0	3.2	74
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.3	10.0	3.2	74
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			2.3	10.0	3.2	74

SYSTEM Aircraft System > Fuel and Power System >Generator Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-GS		Generator Subsystem The Generator Subsystem contains a engine and aircraft generator that provide power for emergency and start-up situations.	Convert Engine Electrical Power Voltage The Generators provide the engine and the aircraft with stored electrical power when needed.	Convert Engine Electrical Power Voltage Low (Generator Subsystem) Convert Engine Electrical Power Voltage Low: Insufficient for normal electrical system operation, reduced engine performance or flame out				Convert Engine Electrical Power Voltage Low (Generator Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			2.3	7.9	3.2	58
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			2.3	4.0	3.2	29
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Air supply Mass flow rate Low (Aircraft System)			2.3	10.0	3.2	74

SYSTEM Aircraft System > Fuel and Power System >Intake
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-I1		Intake The Intake is made up of a nacelle, fasteners and cowling which act to cover the front part of the engine.	Guide Gas Mass flow rate The Intake function is to guide air to the compressive sections of the engine and allow bypass air to avoid the compression cycle.	Guide Gas Mass flow rate High (Intake)				Guide Gas Mass flow rate High (Intake)	Control Exhaust Mass flow rate High (Fuel and Power System) AND Control Exhaust Temperature High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
				Guide Gas Mass flow rate Low (Intake)				Guide Gas Mass flow rate Low (Intake)	Control Exhaust Mass flow rate Low (Fuel and Power System) AND Control Exhaust Temperature Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
			Guide Gas Temperature The Intake function is to guide air to the compressive sections of the engine and allow bypass air to avoid the compression cycle.	Guide Gas Temperature High (Intake)				Guide Gas Temperature High (Intake)	Control Exhaust Temperature High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Guide Gas Temperature Low (Intake)				Guide Gas Temperature Low (Intake)	Control Exhaust Temperature Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System >Intake
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-I1		Intake The Intake is made up of a nacelle, fasteners and cowling which act to cover the front part of the engine.	Guide LP Compressor Airflow Mass flow rate The Intake function is to guide air to the compressive sections of the engine and allow bypass air to avoid the compression cycle.	Guide LP Compressor Airflow Mass flow rate High (Intake)				Guide LP Compressor Airflow Mass flow rate High (Intake)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Intake
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-I1		Intake The Intake is made up of a nacelle, fasteners and cowling which act to cover the front part of the engine.	Guide LP Compressor Airflow Mass flow rate The Intake function is to guide air to the compressive sections of the engine and allow bypass air to avoid the compression cycle.	Guide LP Compressor Airflow Mass flow rate High (Intake)				Guide LP Compressor Airflow Mass flow rate High (Intake)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Intake
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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COMPILED BY PHMT
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-I1		Intake The Intake is made up of a nacelle, fasteners and cowling which act to cover the front part of the engine.	Guide LP Compressor Airflow Mass flow rate The Intake function is to guide air to the compressive sections of the engine and allow bypass air to avoid the compression cycle.	Guide LP Compressor Airflow Mass flow rate High (Intake)				Guide LP Compressor Airflow Mass flow rate High (Intake)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Intake
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-I1		Intake The Intake is made up of a nacelle, fasteners and cowling which act to cover the front part of the engine.	Guide LP Compressor Airflow Mass flow rate The Intake function is to guide air to the compressive sections of the engine and allow bypass air to avoid the compression cycle.	Guide LP Compressor Airflow Mass flow rate High (Intake)				Guide LP Compressor Airflow Mass flow rate High (Intake)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System >Intake
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-I1		Intake The Intake is made up of a nacelle, fasteners and cowling which act to cover the front part of the engine.	Guide LP Compressor Airflow Mass flow rate The Intake function is to guide air to the compressive sections of the engine and allow bypass air to avoid the compression cycle.	Guide LP Compressor Airflow Mass flow rate Low (Intake)				Guide LP Compressor Airflow Mass flow rate Low (Intake)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Intake
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-I1		Intake The Intake is made up of a nacelle, fasteners and cowling which act to cover the front part of the engine.	Guide LP Compressor Airflow Mass flow rate The Intake function is to guide air to the compressive sections of the engine and allow bypass air to avoid the compression cycle.	Guide LP Compressor Airflow Mass flow rate Low (Intake)				Guide LP Compressor Airflow Mass flow rate Low (Intake)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Intake
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-I1		Intake The Intake is made up of a nacelle, fasteners and cowling which act to cover the front part of the engine.	Guide LP Compressor Airflow Mass flow rate The Intake function is to guide air to the compressive sections of the engine and allow bypass air to avoid the compression cycle.	Guide LP Compressor Airflow Mass flow rate Low (Intake)				Guide LP Compressor Airflow Mass flow rate Low (Intake)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Intake
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-I1		Intake The Intake is made up of a nacelle, fasteners and cowling which act to cover the front part of the engine.	Guide LP Compressor Airflow Mass flow rate The Intake function is to guide air to the compressive sections of the engine and allow bypass air to avoid the compression cycle.	Guide LP Compressor Airflow Mass flow rate Low (Intake)				Guide LP Compressor Airflow Mass flow rate Low (Intake)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
			Guide LP Compressor Airflow Temperature The Intake function is to guide air to the compressive sections of the engine and allow bypass air to avoid the compression cycle.	Guide LP Compressor Airflow Temperature High (Intake)				Guide LP Compressor Airflow Temperature High (Intake)	Control Exhaust Temperature High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Guide LP Compressor Airflow Temperature Low (Intake)				Guide LP Compressor Airflow Temperature Low (Intake)	Control Exhaust Temperature Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System >Lubrication Collection Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LCS		Lubrication Collection Subsystem The Lubrication Collection Subsystem includes scavenge pumps, oil cooler, oil tank, oil line, gear housing and bypass valve.	Connect Lubrication Oil Static pressure The Lubrication Collection Subsystem collects, cools and stores oil from both the Engine Subsytem and Power Distribution Subsytem and provides oil to the Lubrication Delivery Subsystem.	Connect Lubrication Oil Static pressure High (Lubrication Collection Subsystem)				Connect Lubrication Oil Static pressure High (Lubrication Collection Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Collection Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LCS		Lubrication Collection Subsystem The Lubrication Collection Subsystem includes scavenge pumps, oil cooler, oil tank, oil line, gear housing and bypass valve.	Connect Lubrication Oil Static pressure The Lubrication Collection Subsystem collects, cools and stores oil from both the Engine Subsytem and Power Distribution Subsytem and provides oil to the Lubrication Delivery Subsystem.	Connect Lubrication Oil Static pressure High (Lubrication Collection Subsystem)				Connect Lubrication Oil Static pressure High (Lubrication Collection Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Collection Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LCS		Lubrication Collection Subsystem The Lubrication Collection Subsystem includes scavenge pumps, oil cooler, oil tank, oil line, gear housing and bypass valve.	Connect Lubrication Oil Static pressure The Lubrication Collection Subsystem collects, cools and stores oil from both the Engine Subsytem and Power Distribution Subsytem and provides oil to the Lubrication Delivery Subsystem.	Connect Lubrication Oil Static pressure High (Lubrication Collection Subsystem)				Connect Lubrication Oil Static pressure High (Lubrication Collection Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Collection Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LCS		Lubrication Collection Subsystem The Lubrication Collection Subsystem includes scavenge pumps, oil cooler, oil tank, oil line, gear housing and bypass valve.	Connect Lubrication Oil Static pressure The Lubrication Collection Subsystem collects, cools and stores oil from both the Engine Subsytem and Power Distribution Subsytem and provides oil to the Lubrication Delivery Subsystem.	Connect Lubrication Oil Static pressure High (Lubrication Collection Subsystem)				Connect Lubrication Oil Static pressure High (Lubrication Collection Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Collection Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LCS		Lubrication Collection Subsystem The Lubrication Collection Subsystem includes scavenge pumps, oil cooler, oil tank, oil line, gear housing and bypass valve.	Connect Lubrication Oil Static pressure The Lubrication Collection Subsystem collects, cools and stores oil from both the Engine Subsytem and Power Distribution Subsytem and provides oil to the Lubrication Delivery Subsystem.	Connect Lubrication Oil Static pressure Low (Lubrication Collection Subsystem)				Connect Lubrication Oil Static pressure Low (Lubrication Collection Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Collection Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LCS		Lubrication Collection Subsystem The Lubrication Collection Subsystem includes scavenge pumps, oil cooler, oil tank, oil line, gear housing and bypass valve.	Connect Lubrication Oil Static pressure The Lubrication Collection Subsystem collects, cools and stores oil from both the Engine Subsytem and Power Distribution Subsytem and provides oil to the Lubrication Delivery Subsystem.	Connect Lubrication Oil Static pressure Low (Lubrication Collection Subsystem)				Connect Lubrication Oil Static pressure Low (Lubrication Collection Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Collection Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LCS		Lubrication Collection Subsystem The Lubrication Collection Subsystem includes scavenge pumps, oil cooler, oil tank, oil line, gear housing and bypass valve.	Connect Lubrication Oil Static pressure The Lubrication Collection Subsystem collects, cools and stores oil from both the Engine Subsytem and Power Distribution Subsytem and provides oil to the Lubrication Delivery Subsystem.	Connect Lubrication Oil Static pressure Low (Lubrication Collection Subsystem)				Connect Lubrication Oil Static pressure Low (Lubrication Collection Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Collection Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LCS		Lubrication Collection Subsystem The Lubrication Collection Subsystem includes scavenge pumps, oil cooler, oil tank, oil line, gear housing and bypass valve.	Connect Lubrication Oil Static pressure The Lubrication Collection Subsystem collects, cools and stores oil from both the Engine Subsytem and Power Distribution Subsytem and provides oil to the Lubrication Delivery Subsystem.	Connect Lubrication Oil Static pressure Low (Lubrication Collection Subsystem)				Connect Lubrication Oil Static pressure Low (Lubrication Collection Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
			Convert Warm Air Mass flow rate The Lubrication Collection Subsystem collects, cools and stores oil from both the Engine Subsytem and Power Distribution Subsytem and provides oil to the Lubrication Delivery Subsystem.	Convert Warm Air Mass flow rate High (Lubrication Collection Subsystem)				Convert Warm Air Mass flow rate High (Lubrication Collection Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
				Convert Warm Air Mass flow rate Low (Lubrication Collection Subsystem)				Convert Warm Air Mass flow rate Low (Lubrication Collection Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
			Convert Warm Air Temperature The Lubrication Collection Subsystem collects, cools and stores oil from both the Engine Subsytem and Power Distribution Subsytem and provides oil to the Lubrication Delivery Subsystem.	Convert Warm Air Temperature High (Lubrication Collection Subsystem)				Convert Warm Air Temperature High (Lubrication Collection Subsystem)	Control Exhaust Temperature High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Convert Warm Air Temperature Low (Lubrication Collection Subsystem)				Convert Warm Air Temperature Low (Lubrication Collection Subsystem)	Control Exhaust Temperature Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Bearing Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Bearing Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Bearing Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Bearing Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Bearing Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Bearing Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Bearing Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Bearing Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Bearing Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Bearing Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Bearing Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Bearing Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Bearing Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Bearing Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Bearing Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Bearing Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Bearing Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Bearing Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Bearing Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Bearing Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Bearing Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Bearing Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Bearing Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Bearing Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
			Supply Bearing Lubrication Oil Temperature The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Bearing Lubrication Oil Temperature High (Lubrication Delivery Subsystem)				Supply Bearing Lubrication Oil Temperature High (Lubrication Delivery Subsystem)	Control Exhaust Temperature High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Supply Bearing Lubrication Oil Temperature Low (Lubrication Delivery Subsystem)				Supply Bearing Lubrication Oil Temperature Low (Lubrication Delivery Subsystem)	Control Exhaust Temperature Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Engine Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Engine Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Engine Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Engine Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Engine Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Engine Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Engine Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Engine Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Engine Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Engine Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Engine Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Engine Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Engine Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Engine Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Engine Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Engine Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Engine Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Engine Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Engine Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Engine Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Engine Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Engine Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Engine Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Engine Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
			Supply Engine Lubrication Oil Temperature The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Engine Lubrication Oil Temperature High (Lubrication Delivery Subsystem)				Supply Engine Lubrication Oil Temperature High (Lubrication Delivery Subsystem)	Control Exhaust Temperature High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Supply Engine Lubrication Oil Temperature Low (Lubrication Delivery Subsystem)				Supply Engine Lubrication Oil Temperature Low (Lubrication Delivery Subsystem)	Control Exhaust Temperature Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Gearbox Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Gearbox Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Gearbox Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Gearbox Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Gearbox Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Gearbox Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Gearbox Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Gearbox Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Gearbox Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Gearbox Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Gearbox Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Gearbox Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Gearbox Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Gearbox Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Gearbox Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Gearbox Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Gearbox Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Gearbox Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Gearbox Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Gearbox Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Gearbox Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Gearbox Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Gearbox Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Gearbox Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem

INDENTURE LEVEL 3

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Gearbox Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Gearbox Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Gearbox Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Supply Gearbox Lubrication Oil Temperature The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Gearbox Lubrication Oil Temperature High (Lubrication Delivery Subsystem)				Supply Gearbox Lubrication Oil Temperature High (Lubrication Delivery Subsystem)	Control Exhaust Temperature High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Supply Gearbox Lubrication Oil Temperature Low (Lubrication Delivery Subsystem)				Supply Gearbox Lubrication Oil Temperature Low (Lubrication Delivery Subsystem)	Control Exhaust Temperature Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Relief Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Relief Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Relief Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Relief Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Relief Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Relief Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Relief Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Relief Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Relief Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Relief Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Relief Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)				Supply Relief Lubrication Oil Flow rate Low (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Relief Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Relief Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Relief Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Relief Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Relief Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Relief Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Relief Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Relief Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Relief Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Lubrication Delivery Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-LDS		Lubrication Delivery Subsystem The Lubrication Delivery Subsystem includes the oil high pressure pump, oil filter, pressurising valves and various nozzles for the lubrication of bearings.	Supply Relief Lubrication Oil Flow rate The Lubrication Delivery functions to provide lubrication oil to the power distribution subsystem and the engine subsystem.	Supply Relief Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)				Supply Relief Lubrication Oil Flow rate High (Lubrication Delivery Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Aircraft Generator Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Aircraft Generator Gear Velocity Angular velocity High (Power Distribution Subsystem)				Branch Aircraft Generator Gear Velocity Angular velocity High (Power Distribution Subsystem)	Provide Aircraft Generator Power Voltage High (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage High (Fuel and Power System)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage High (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage High (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage High (Fuel and Power System)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage High (Fuel and Power System)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage High (Fuel and Power System)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage High (Fuel and Power System)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Aircraft Generator Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Aircraft Generator Gear Velocity Angular velocity Low (Power Distribution Subsystem)				Branch Aircraft Generator Gear Velocity Angular velocity Low (Power Distribution Subsystem)	Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Provide Aircraft Generator Power Voltage Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Engine Generator Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Engine Generator Gear Velocity Angular velocity High (Power Distribution Subsystem)				Branch Engine Generator Gear Velocity Angular velocity High (Power Distribution Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Engine Generator Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Engine Generator Gear Velocity Angular velocity High (Power Distribution Subsystem)				Branch Engine Generator Gear Velocity Angular velocity High (Power Distribution Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Engine Generator Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Engine Generator Gear Velocity Angular velocity High (Power Distribution Subsystem)				Branch Engine Generator Gear Velocity Angular velocity High (Power Distribution Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Engine Generator Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Engine Generator Gear Velocity Angular velocity High (Power Distribution Subsystem)				Branch Engine Generator Gear Velocity Angular velocity High (Power Distribution Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Engine Generator Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Engine Generator Gear Velocity Angular velocity Low (Power Distribution Subsystem)				Branch Engine Generator Gear Velocity Angular velocity Low (Power Distribution Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem

INDENTURE LEVEL 3

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Engine Generator Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Engine Generator Gear Velocity Angular velocity Low (Power Distribution Subsystem)				Branch Engine Generator Gear Velocity Angular velocity Low (Power Distribution Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Engine Generator Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Engine Generator Gear Velocity Angular velocity Low (Power Distribution Subsystem)				Branch Engine Generator Gear Velocity Angular velocity Low (Power Distribution Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Engine Generator Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Engine Generator Gear Velocity Angular velocity Low (Power Distribution Subsystem)				Branch Engine Generator Gear Velocity Angular velocity Low (Power Distribution Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Engine Generator Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Engine Generator Gear Velocity Angular velocity Low (Power Distribution Subsystem)				Branch Engine Generator Gear Velocity Angular velocity Low (Power Distribution Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Lubrication Delivery Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Lubrication Delivery Gear Velocity Angular velocity High (Power Distribution Subsystem)				Branch Lubrication Delivery Gear Velocity Angular velocity High (Power Distribution Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Lubrication Delivery Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Lubrication Delivery Gear Velocity Angular velocity High (Power Distribution Subsystem)				Branch Lubrication Delivery Gear Velocity Angular velocity High (Power Distribution Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Lubrication Delivery Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Lubrication Delivery Gear Velocity Angular velocity High (Power Distribution Subsystem)				Branch Lubrication Delivery Gear Velocity Angular velocity High (Power Distribution Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Lubrication Delivery Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Lubrication Delivery Gear Velocity Angular velocity High (Power Distribution Subsystem)				Branch Lubrication Delivery Gear Velocity Angular velocity High (Power Distribution Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Lubrication Delivery Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Lubrication Delivery Gear Velocity Angular velocity Low (Power Distribution Subsystem)				Branch Lubrication Delivery Gear Velocity Angular velocity Low (Power Distribution Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Lubrication Delivery Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Lubrication Delivery Gear Velocity Angular velocity Low (Power Distribution Subsystem)				Branch Lubrication Delivery Gear Velocity Angular velocity Low (Power Distribution Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Lubrication Delivery Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Lubrication Delivery Gear Velocity Angular velocity Low (Power Distribution Subsystem)				Branch Lubrication Delivery Gear Velocity Angular velocity Low (Power Distribution Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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COMPILED BY PHMT
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Branch Lubrication Delivery Gear Velocity Angular velocity The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Branch Lubrication Delivery Gear Velocity Angular velocity Low (Power Distribution Subsystem)				Branch Lubrication Delivery Gear Velocity Angular velocity Low (Power Distribution Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Channel Gearbox Scavenge Oil Flow rate The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Channel Gearbox Scavenge Oil Flow rate High (Power Distribution Subsystem)				Channel Gearbox Scavenge Oil Flow rate High (Power Distribution Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Channel Gearbox Scavenge Oil Flow rate The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Channel Gearbox Scavenge Oil Flow rate High (Power Distribution Subsystem)				Channel Gearbox Scavenge Oil Flow rate High (Power Distribution Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Right Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Channel Gearbox Scavenge Oil Flow rate The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Channel Gearbox Scavenge Oil Flow rate High (Power Distribution Subsystem)				Channel Gearbox Scavenge Oil Flow rate High (Power Distribution Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Yawing Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Rolling Force (Left Aileron) Force High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Channel Gearbox Scavenge Oil Flow rate The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Channel Gearbox Scavenge Oil Flow rate High (Power Distribution Subsystem)				Channel Gearbox Scavenge Oil Flow rate High (Power Distribution Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Pitching Force Force High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Air supply Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Exhaust Mass flow rate High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Channel Gearbox Scavenge Oil Flow rate The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Channel Gearbox Scavenge Oil Flow rate High (Power Distribution Subsystem)				Channel Gearbox Scavenge Oil Flow rate High (Power Distribution Subsystem)	Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Front Strut Retraction Position Displaced + (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate High (Fuel and Power System), Control Exhaust Temperature High (Fuel and Power System), Provide Aircraft Generator Power Voltage High (Fuel and Power System), Provide Engine Thrust Force High (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity High (Fuel and Power System)	Control Thrust Force High (Aircraft System)			10.0	2.0	10.0	200

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Channel Gearbox Scavenge Oil Flow rate The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Channel Gearbox Scavenge Oil Flow rate Low (Power Distribution Subsystem)				Channel Gearbox Scavenge Oil Flow rate Low (Power Distribution Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Channel Gearbox Scavenge Oil Flow rate The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Channel Gearbox Scavenge Oil Flow rate Low (Power Distribution Subsystem)				Channel Gearbox Scavenge Oil Flow rate Low (Power Distribution Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Yawing Force Force Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Channel Gearbox Scavenge Oil Flow rate The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Channel Gearbox Scavenge Oil Flow rate Low (Power Distribution Subsystem)				Channel Gearbox Scavenge Oil Flow rate Low (Power Distribution Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Pitching Force Force Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Fuel and Power System >Power Distribution Subsystem
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
TE-PDS		Power Distribution Subsystem The Power Distribution Subsystem consists of a lubrication line, bearing, shaft, gearbox and gearbox distribution.	Channel Gearbox Scavenge Oil Flow rate The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Channel Gearbox Scavenge Oil Flow rate Low (Power Distribution Subsystem)				Channel Gearbox Scavenge Oil Flow rate Low (Power Distribution Subsystem)	Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Exhaust Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Control Exhaust Mass flow rate Low (Fuel and Power System), Control Exhaust Temperature Low (Fuel and Power System), Provide Aircraft Generator Power Voltage Low (Fuel and Power System), Provide Engine Thrust Force Low (Fuel and Power System) AND Provide Power for Hydraulic Pump Angular velocity Low (Fuel and Power System)	Control Thrust Force Low (Aircraft System)			10.0	4.0	10.0	400
			Channel Gearbox Scavenge Oil Temperature The Power Distribution System functions to take the power generated by the turbine and distribute this into multiple different subsystems in the Engine System.	Channel Gearbox Scavenge Oil Temperature High (Power Distribution Subsystem)				Channel Gearbox Scavenge Oil Temperature High (Power Distribution Subsystem)	Control Exhaust Temperature High (Fuel and Power System)	Control Exhaust Temperature High (Aircraft System)			10.0	8.3	10.0	830
				Channel Gearbox Scavenge Oil Temperature Low (Power Distribution Subsystem)				Channel Gearbox Scavenge Oil Temperature Low (Power Distribution Subsystem)	Control Exhaust Temperature Low (Fuel and Power System)	Control Exhaust Temperature Low (Aircraft System)			10.0	7.9	10.0	790

SYSTEM Aircraft System >Hydraulic System
INDENTURE LEVEL 2
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic System	Convert Control Surfaces Pressure	Convert Control Surfaces Pressure High (Hydraulic System)				Convert Control Surfaces Pressure High (Hydraulic System)	N/A	Control Rolling Force (Right Aileron) Force High (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Pitching Force Force High (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Yawing Force Force High (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Rolling Force (Left Aileron) Force High (Aircraft System)			8.0	10.0	10.0	800
				Convert Control Surfaces Pressure Low (Hydraulic System)				Convert Control Surfaces Pressure Low (Hydraulic System)	N/A	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Pitching Force Force Low (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Yawing Force Force Low (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			8.0	10.0	10.0	800
			Convert Landing Gear Pressure	Convert Landing Gear Pressure High (Hydraulic System)				Convert Landing Gear Pressure High (Hydraulic System)	N/A	Control Mechanical - linear Linear velocity Low (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Mechanical - linear Linear velocity High (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Mechanical - linear Linear velocity High (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Front Strut Retraction Position Displaced + (Aircraft System)			8.0	10.0	10.0	800

SYSTEM Aircraft System >Hydraulic System
INDENTURE LEVEL 2
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic System	Convert Landing Gear Pressure	Convert Landing Gear Pressure Low (Hydraulic System)				Convert Landing Gear Pressure Low (Hydraulic System)	N/A	Control Mechanical - linear Linear velocity High (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Mechanical - linear Linear velocity Low (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Mechanical - linear Linear velocity Low (Aircraft System)			8.0	10.0	10.0	800
									N/A	Control Front Strut Retraction Position Displaced - (Aircraft System)			8.0	10.0	10.0	800

SYSTEM Aircraft System >Ice Protection System
INDENTURE LEVEL 2
REFERENCE DRAWING
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Ice Protection System The Ice Protection System was based on a helicopter platform. The system purpose is to provide warmed air to remove any ice formations that may appear.	Provide Electrical Current	Provide Electrical Current High (Ice Protection System)				Provide Electrical Current High (Ice Protection System)	N/A	Control Mechanical - linear Linear velocity High (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Mechanical - linear Linear velocity Low (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Rolling Force (Right Aileron) Force High (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Mechanical - linear Linear velocity High (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Pitching Force Force High (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Yawing Force Force High (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Rolling Force (Left Aileron) Force High (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Exhaust Temperature High (Aircraft System)			4.0	8.3	10.0	332
									N/A	Control Thrust Force High (Aircraft System)			4.0	2.0	10.0	80
									N/A	Control Air supply Mass flow rate High (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Exhaust Mass flow rate High (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Front Strut Retraction Position Displaced + (Aircraft System)			4.0	10.0	10.0	400

SYSTEM Aircraft System >Ice Protection System
INDENTURE LEVEL 2
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Ice Protection System The Ice Protection System was based on a helicopter platform. The system purpose is to provide warmed air to remove any ice formations that may appear.	Provide Electrical Current	Provide Electrical Current Low (Ice Protection System)				Provide Electrical Current Low (Ice Protection System)	N/A	Control Mechanical - linear Linear velocity Low (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Mechanical - linear Linear velocity High (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Mechanical - linear Linear velocity Low (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Pitching Force Force Low (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Yawing Force Force Low (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Exhaust Temperature Low (Aircraft System)			4.0	7.9	10.0	316
									N/A	Control Thrust Force Low (Aircraft System)			4.0	4.0	10.0	160
									N/A	Control Air supply Mass flow rate Low (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Exhaust Mass flow rate Low (Aircraft System)			4.0	10.0	10.0	400
									N/A	Control Front Strut Retraction Position Displaced - (Aircraft System)			4.0	10.0	10.0	400

SYSTEM Aircraft System > Landing Gear System >Brake Assembly
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Brake Assembly	Apply Deceleration Force to Wheels Mechanical - linear Force 3	Apply Deceleration Force to Wheels Mechanical - linear Force 3 Low (Brake Assembly)	Decomposed (Brake Assembly)		Thermal degradation (Brake Assembly)	High temperature (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
				Steering column seized	Stiffness reduced (Brake Assembly)		Thermal degradation (Brake Assembly)	High temperature (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
				Apply Deceleration Force to Wheels Mechanical - linear Force 3 Low (Brake Assembly)	Electrical potential decreased (Brake Assembly)		Burnout (Brake Assembly)	Electrical potential high (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
				Electrical system out				Electrical resistance low (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Over-current (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Short circuit (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Transient electrical loads (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
					Open circuit (Brake Assembly)		Burnout (Brake Assembly)	Electrical potential high (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Electrical resistance low (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Over-current (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Short circuit (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Transient electrical loads (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
					Property mismatch (Brake Assembly)		Burnout (Brake Assembly)	Electrical potential high (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Electrical resistance low (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Brake Assembly
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Brake Assembly	Apply Deceleration Force to Wheels Mechanical - linear Force 3	Apply Deceleration Force to Wheels Mechanical - linear Force 3 Low (Brake Assembly) Electrical system out	Property mismatch (Brake Assembly)		Burnout (Brake Assembly)	Over-current (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Short circuit (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Transient electrical loads (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
				Apply Deceleration Force to Wheels Mechanical - linear Force 3 Low (Brake Assembly) Wheel misaligned	Decomposed (Brake Assembly)		Thermal degradation (Brake Assembly)	High temperature (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
			Control Mechanical - linear Force 1	Control Mechanical - linear Force 1 Low (Brake Assembly) New Failure Condition 2					Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
				Control Mechanical - linear Force 1 Low (Brake Assembly) New Failure Condition					Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
				Control Mechanical - linear Force 1 Low (Brake Assembly) New Failure Condition 5					Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
				Control Mechanical - linear Force 1 Low (Brake Assembly) New Failure Condition 3					Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
				Control Mechanical - linear Force 1 Low (Brake Assembly) New Failure Condition 4					Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
				Control Mechanical - linear Force 1 Low (Brake Assembly) New Failure Condition ADFW					Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
				Control Mechanical - linear Force 1 Low (Brake Assembly) Steering column seized	Decomposed (Brake Assembly)		Thermal degradation (Brake Assembly)	High temperature (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
					Stiffness reduced (Brake Assembly)		Thermal degradation (Brake Assembly)	High temperature (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
				Control Mechanical - linear Force 1 Low (Brake Assembly) Wheel misaligned	Decomposed (Brake Assembly)		Thermal degradation (Brake Assembly)	High temperature (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Brake Assembly
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Brake Assembly	Control Mechanical - linear Force 1	Control Mechanical - linear Force 1 Low (Brake Assembly) Electrical system out	Electrical potential decreased (Brake Assembly)		Burnout (Brake Assembly)	Electrical potential high (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
								Electrical resistance low (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
								Over-current (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
								Short circuit (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
								Transient electrical loads (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
					Open circuit (Brake Assembly)		Burnout (Brake Assembly)	Electrical potential high (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
								Electrical resistance low (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
								Over-current (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Brake Assembly
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Brake Assembly	Control Mechanical - linear Force 1	Control Mechanical - linear Force 1 Low (Brake Assembly) Electrical system out	Open circuit (Brake Assembly)		Burnout (Brake Assembly)	Short circuit (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
								Transient electrical loads (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
					Property mismatch (Brake Assembly)		Burnout (Brake Assembly)	Electrical potential high (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
								Electrical resistance low (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
								Over-current (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
								Short circuit (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
								Transient electrical loads (Brake Assembly)	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
			Control Wheel Deceleration Mechanical - linear Force 2	Control Wheel Deceleration Mechanical - linear Force 2 Low (Brake Assembly) Steering column seized	Decomposed (Brake Assembly)		Thermal degradation (Brake Assembly)	High temperature (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
					Stiffness reduced (Brake Assembly)		Thermal degradation (Brake Assembly)	High temperature (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
				Control Wheel Deceleration Mechanical - linear Force 2 Low (Brake Assembly) Wheel misaligned	Decomposed (Brake Assembly)		Thermal degradation (Brake Assembly)	High temperature (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
				Control Wheel Deceleration Mechanical - linear Force 2 Low (Brake Assembly) Electrical system out	Electrical potential decreased (Brake Assembly)		Burnout (Brake Assembly)	Electrical potential high (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Electrical resistance low (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Over-current (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Short circuit (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Brake Assembly
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Brake Assembly	Control Wheel Deceleration Mechanical - linear Force 2	Control Wheel Deceleration Mechanical - linear Force 2 Low (Brake Assembly)	Electrical potential decreased (Brake Assembly)		Burnout (Brake Assembly)	Transient electrical loads (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
				Electrical system out	Open circuit (Brake Assembly)		Burnout (Brake Assembly)	Electrical potential high (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Electrical resistance low (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Over-current (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Short circuit (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Transient electrical loads (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
					Property mismatch (Brake Assembly)		Burnout (Brake Assembly)	Electrical potential high (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Electrical resistance low (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Over-current (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Short circuit (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000
								Transient electrical loads (Brake Assembly)	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Downlock
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Downlock	Secure Mechanical - linear Force	Secure Mechanical - linear Force Low (Downlock)	Fractured (Downlock)	Airborne noise (Downlock)			Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			6.7	10.0	8.4	563
					Misaligned (Downlock)	Airborne noise (Downlock) AND Fluid borne noise (Downlock)			Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Compressed (Downlock)	Airborne noise (Downlock)			Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			7.5	10.0	5.3	398
				Secure Mechanical - linear Force Low (Downlock) Intermittent operation		Airborne noise (Downlock)			Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Downlock 1

INDENTURE LEVEL 3

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Downlock 1	Secure Mechanical - linear Force	Secure Mechanical - linear Force Low (Downlock 1) Loss of output Misaligned downlock fails to secure.	Misaligned (Downlock 1)		Crushing (Downlock 1)	High mechanical load (Downlock 1)	Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Sensing Device Sensing device attached to detect misalignment.	Repair Repair of downlock to restore misalignment.	10.0	10.0	10.0	1000
				Secure Mechanical - linear Force Low (Downlock 1) Failure to operate Misaligned downlock fails to secure.	Misaligned (Downlock 1)		Crushing (Downlock 1)	High mechanical load (Downlock 1)	Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Sensing Device Sensing device attached to detect misalignment.	Repair Repair of downlock to restore misalignment.	10.0	10.0	10.0	1000
				Secure Mechanical - linear Force Low (Downlock 1) Loss of output Loss of force on the downlock due to compression.	Compressed (Downlock 1)		Crushing (Downlock 1)	High mechanical load (Downlock 1)	Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Sensing Device Sensing device attached to downlock.	Replace Replacement of downlock.	10.0	10.0	10.0	1000
				Secure Mechanical - linear Force Low (Downlock 1) Loss of output Failure to retain force.	Fractured (Downlock 1)		Crushing (Downlock 1)	High mechanical load (Downlock 1)	Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Inspection Visual inspection to detect fracture.	Replace Replace fractured downlock.	10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Downlock 2

INDENTURE LEVEL 3

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Downlock 2	Secure Mechanical - linear Force	Secure Mechanical - linear Force Low (Downlock 2)	Fractured (Downlock 2)		Crushing (Downlock 2)	High mechanical load (Downlock 2)	Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			3.5	10.0	8.3	291
					Misaligned (Downlock 2)		Crushing (Downlock 2)	High mechanical load (Downlock 2)	Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Compressed (Downlock 2)		Crushing (Downlock 2)	High mechanical load (Downlock 2)	Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Front Panel (F)
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Front Panel (F)	Position Solid Position	Position Solid Position Displaced - (Front Panel (F))	Fractured (Front Panel (F))		Impact fatigue (Front Panel (F))	Cyclic mechanical loads (Front Panel (F)) AND Mechanical shock (Front Panel (F))	Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Mechanical shock (Front Panel (F)) AND Transient mechanical loads (Front Panel (F))	Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Cracked (Front Panel (F))		Impact fatigue (Front Panel (F))	Cyclic mechanical loads (Front Panel (F)) AND Mechanical shock (Front Panel (F))	Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Mechanical shock (Front Panel (F)) AND Transient mechanical loads (Front Panel (F))	Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Main Panel (L)

INDENTURE LEVEL 3

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Main Panel (L) EXAMPLE 1. Soft failure.	Position Solid Position	Position Solid Position Displaced - (Main Panel (L))	Fractured (Main Panel (L))		Impact fatigue (Main Panel (L))	Cyclic mechanical loads (Main Panel (L)) AND Mechanical shock (Main Panel (L))	Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Mechanical shock (Main Panel (L)) AND Transient mechanical loads (Main Panel (L))	Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Cracked (Main Panel (L))		Impact fatigue (Main Panel (L))	Cyclic mechanical loads (Main Panel (L)) AND Mechanical shock (Main Panel (L))	Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Mechanical shock (Main Panel (L)) AND Transient mechanical loads (Main Panel (L))	Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Main Panel (R)
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Main Panel (R)	Position Solid Position	Position Solid Position Displaced - (Main Panel (R))	Fractured (Main Panel (R))		Impact fatigue (Main Panel (R))	Cyclic mechanical loads (Main Panel (R)) AND Mechanical shock (Main Panel (R))	Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Mechanical shock (Main Panel (R)) AND Transient mechanical loads (Main Panel (R))	Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Cracked (Main Panel (R))		Impact fatigue (Main Panel (R))	Cyclic mechanical loads (Main Panel (R)) AND Mechanical shock (Main Panel (R))	Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Mechanical shock (Main Panel (R)) AND Transient mechanical loads (Main Panel (R))	Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Door Control Valve 1 >Adjustable sleeve 1

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Adjustable sleeve 1	Prevent Liquid Leakage Flowrate (Sealing ring 1_Adjustable sleeve 1)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 1_Adjustable sleeve 1)	Surface cracks (Adjustable sleeve 1)	Surface change (Adjustable sleeve 1) AND Vibration (Adjustable sleeve 1)	Fretting fatigue (Adjustable sleeve 1)	Cyclic mechanical loads (Adjustable sleeve 1) AND Vibration loading (Adjustable sleeve 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Pitted (Adjustable sleeve 1)	Fluid borne noise (Adjustable sleeve 1) AND Surface change (Adjustable sleeve 1)	Cavitation corrosion (Adjustable sleeve 1)	Aerated liquid input (Adjustable sleeve 1) AND Insufficient surface protection (Adjustable sleeve 1) Aerated liquid input: Aerated liquid flow causing cavitation leading to cavitation damage to item surfaces. Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Adjustable sleeve 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Adjustable sleeve 1)	Fluid borne noise (Adjustable sleeve 1) AND Surface change (Adjustable sleeve 1)	Cavitation corrosion (Adjustable sleeve 1)	Aerated liquid input (Adjustable sleeve 1) AND Insufficient surface protection (Adjustable sleeve 1) Aerated liquid input: Aerated liquid flow causing cavitation leading to cavitation damage to item surfaces. Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Adjustable sleeve 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Regulate Liquid Flowrate (Valve housing 1_Adjustable sleeve 1)	Regulate Liquid Flowrate Very low (Valve housing 1_Adjustable sleeve 1)	Surface cracks (Adjustable sleeve 1)	Surface change (Adjustable sleeve 1) AND Vibration (Adjustable sleeve 1)	Fretting fatigue (Adjustable sleeve 1)	Cyclic mechanical loads (Adjustable sleeve 1) AND Vibration loading (Adjustable sleeve 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Adjustable sleeve 1)	Fluid borne noise (Adjustable sleeve 1) AND Surface change (Adjustable sleeve 1)	Cavitation corrosion (Adjustable sleeve 1)	Aerated liquid input (Adjustable sleeve 1) AND Insufficient surface protection (Adjustable sleeve 1) Aerated liquid input: Aerated liquid flow causing cavitation leading to cavitation damage to item surfaces. Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Adjustable sleeve 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Door Control Valve 1 >Adjustable sleeve 1

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Adjustable sleeve 1	Regulate Liquid Flowrate (Valve housing 1_Adjustable sleeve 1)	Regulate Liquid Flowrate Very low (Valve housing 1_Adjustable sleeve 1)	Pitted (Adjustable sleeve 1)	Fluid borne noise (Adjustable sleeve 1) AND Surface change (Adjustable sleeve 1)	Cavitation corrosion (Adjustable sleeve 1)	Aerated liquid input (Adjustable sleeve 1) AND Insufficient surface protection (Adjustable sleeve 1) Aerated liquid input: Aerated liquid flow causing cavitation leading to cavitation damage to item surfaces. Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Adjustable sleeve 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Door Control Valve 1 >Sealing ring 1

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Sealing ring 1	Prevent Liquid Leakage Flowrate (Sealing ring 1_Adjustable sleeve 1)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 1_Adjustable sleeve 1)	Abraded (Sealing ring 1)	Solid debris (Sealing ring 1) AND Surface change (Sealing ring 1)	Abrasive wear (Sealing ring 1)	Insufficient lubricant (Sealing ring 1) AND Solid particle contaminants (Sealing ring 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Partial crack (Sealing ring 1)	Leakage liquid/gas (Sealing ring 1)	Extrusion (Sealing ring 1)	High pressure input flow (Sealing ring 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Blistered (Sealing ring 1)	Surface change (Sealing ring 1)	Blistering (Sealing ring 1)	Liquid contaminant (Sealing ring 1) Liquid contaminant: Presence of moisture that can be absorbed.	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Oxidised (Sealing ring 1)	Surface change (Sealing ring 1)	Plasma degradation (Sealing ring 1)	Chemically reactive contaminant (Sealing ring 1) Chemically reactive contaminant: Ozone.	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								High temperature (Sealing ring 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Scratched (Sealing ring 1)	Solid debris (Sealing ring 1) AND Surface change (Sealing ring 1)	Abrasive wear (Sealing ring 1)	Insufficient lubricant (Sealing ring 1) AND Solid particle contaminants (Sealing ring 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Extruded (Sealing ring 1)	Leakage liquid/gas (Sealing ring 1) AND Shape change (Sealing ring 1)	Extrusion (Sealing ring 1)	High pressure input flow (Sealing ring 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Prevent Liquid Leakage Flowrate (Sealing ring 1_Valve housing 1)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 1_Valve housing 1)	Extruded (Sealing ring 1)	Leakage liquid/gas (Sealing ring 1) AND Shape change (Sealing ring 1)	Extrusion (Sealing ring 1)	High pressure input flow (Sealing ring 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Oxidised (Sealing ring 1)	Surface change (Sealing ring 1)	Plasma degradation (Sealing ring 1)	Chemically reactive contaminant (Sealing ring 1) Chemically reactive contaminant: Ozone.	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								High temperature (Sealing ring 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Partial crack (Sealing ring 1)	Leakage liquid/gas (Sealing ring 1)	Extrusion (Sealing ring 1)	High pressure input flow (Sealing ring 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Blistered (Sealing ring 1)	Surface change (Sealing ring 1)	Blistering (Sealing ring 1)	Liquid contaminant (Sealing ring 1) Liquid contaminant: Presence of moisture that can be absorbed.	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Abraded (Sealing ring 1)	Solid debris (Sealing ring 1) AND Surface change (Sealing ring 1)	Abrasive wear (Sealing ring 1)	Insufficient lubricant (Sealing ring 1) AND Solid particle contaminants (Sealing ring 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Scratched (Sealing ring 1)	Solid debris (Sealing ring 1) AND Surface change (Sealing ring 1)	Abrasive wear (Sealing ring 1)	Insufficient lubricant (Sealing ring 1) AND Solid particle contaminants (Sealing ring 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Door Control Valve 1 >Valve housing 1

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Valve housing 1	Prevent Liquid Leakage Flowrate (Sealing ring 1_Valve housing 1)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 1_Valve housing 1)	Partial crack (Valve housing 1)	Airborne noise (Valve housing 1) AND Surface change (Valve housing 1)	Impact fracture (Valve housing 1)	Impact loads (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Weak (Valve housing 1)	Performance parameters changed (Valve housing 1)	Pitting corrosion (Valve housing 1)	Corrosive contaminant (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Valve housing 1)	Surface change (Valve housing 1) AND Vibration (Valve housing 1)	Fretting fatigue (Valve housing 1)	Cyclic mechanical loads (Valve housing 1) AND Vibration loading (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Valve housing 1)	Surface change (Valve housing 1)	Pitting corrosion (Valve housing 1)	Corrosive contaminant (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Cavitation corrosion (Valve housing 1)	Insufficient surface protection (Valve housing 1) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Pitted (Valve housing 1)	Solid debris (Valve housing 1) AND Surface change (Valve housing 1)	Cavitation corrosion (Valve housing 1)	Insufficient surface protection (Valve housing 1) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Pitting corrosion (Valve housing 1)	Corrosive contaminant (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Scratched (Valve housing 1)	Solid debris (Valve housing 1) AND Surface change (Valve housing 1)	Abrasive wear (Valve housing 1)	Insufficient lubricant (Valve housing 1) AND Solid particle contaminants (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Abraded (Valve housing 1)	Solid debris (Valve housing 1) AND Surface change (Valve housing 1)	Abrasive wear (Valve housing 1)	Insufficient lubricant (Valve housing 1) AND Solid particle contaminants (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Regulate Liquid Flowrate (Valve housing 1_Adjustable sleeve 1)	Regulate Liquid Flowrate Very low (Valve housing 1_Adjustable sleeve 1)	Abraded (Valve housing 1)	Solid debris (Valve housing 1) AND Surface change (Valve housing 1)	Abrasive wear (Valve housing 1)	Insufficient lubricant (Valve housing 1) AND Solid particle contaminants (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Valve housing 1)	Surface change (Valve housing 1) AND Vibration (Valve housing 1)	Fretting fatigue (Valve housing 1)	Cyclic mechanical loads (Valve housing 1) AND Vibration loading (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Door Control Valve 1 >Valve housing 1

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Valve housing 1	Regulate Liquid Flowrate (Valve housing 1_Adjustable sleeve 1)	Regulate Liquid Flowrate Very low (Valve housing 1_Adjustable sleeve 1)	Corroded (Valve housing 1)	Surface change (Valve housing 1)	Pitting corrosion (Valve housing 1)	Corrosive contaminant (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Cavitation corrosion (Valve housing 1)	Insufficient surface protection (Valve housing 1) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Partial crack (Valve housing 1)	Airborne noise (Valve housing 1) AND Surface change (Valve housing 1)	Impact fracture (Valve housing 1)	Impact loads (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Fractured (Valve housing 1)	Airborne noise (Valve housing 1), Change in behaviour (Valve housing 1), Leakage liquid/gas (Valve housing 1) AND Shape change (Valve housing 1)	Impact fracture (Valve housing 1)	Impact loads (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Weak (Valve housing 1)	Performance parameters changed (Valve housing 1)	Pitting corrosion (Valve housing 1)	Corrosive contaminant (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Pitted (Valve housing 1)	Solid debris (Valve housing 1) AND Surface change (Valve housing 1)	Cavitation corrosion (Valve housing 1)	Insufficient surface protection (Valve housing 1) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Pitting corrosion (Valve housing 1)	Corrosive contaminant (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Scratched (Valve housing 1)	Solid debris (Valve housing 1) AND Surface change (Valve housing 1)	Abrasive wear (Valve housing 1)	Insufficient lubricant (Valve housing 1) AND Solid particle contaminants (Valve housing 1)	Regulate Hydraulic Flow rate Low (Door Control Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Door Control Valve 2 >Adjustable sleeve 2

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 987 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Adjustable sleeve 2	Prevent Liquid Leakage Flowrate (Sealing ring 2_Adjustable sleeve 2)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 2_Adjustable sleeve 2) Degraded output - Prevent Liquid Leakage Flowrate (Sealing ring 2_Adjustable sleeve 2)	Corroded (Adjustable sleeve 2)	Surface change (Adjustable sleeve 2) AND Vibration (Adjustable sleeve 2)	Fretting fatigue (Adjustable sleeve 2)	Cyclic mechanical loads (Adjustable sleeve 2) AND Vibration loading (Adjustable sleeve 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
						Fluid borne noise (Adjustable sleeve 2) AND Surface change (Adjustable sleeve 2)	Cavitation corrosion (Adjustable sleeve 2)	Aerated liquid input (Adjustable sleeve 2) AND Insufficient surface protection (Adjustable sleeve 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
								Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent. Aerated liquid input: Aerated liquid flow causing cavitation leading to cavitation damage to item surfaces.	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
								Pressure differential (Adjustable sleeve 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
					Surface cracks (Adjustable sleeve 2)	Surface change (Adjustable sleeve 2) AND Vibration (Adjustable sleeve 2)	Fretting fatigue (Adjustable sleeve 2)	Cyclic mechanical loads (Adjustable sleeve 2) AND Vibration loading (Adjustable sleeve 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
			Regulate Liquid Flowrate (Valve housing 2_Adjustable sleeve 2)	Regulate Liquid Flowrate Very low (Valve housing 2_Adjustable sleeve 2)	Corroded (Adjustable sleeve 2)	Surface change (Adjustable sleeve 2) AND Vibration (Adjustable sleeve 2)	Fretting fatigue (Adjustable sleeve 2)	Cyclic mechanical loads (Adjustable sleeve 2) AND Vibration loading (Adjustable sleeve 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
						Fluid borne noise (Adjustable sleeve 2) AND Surface change (Adjustable sleeve 2)	Cavitation corrosion (Adjustable sleeve 2)	Aerated liquid input (Adjustable sleeve 2) AND Insufficient surface protection (Adjustable sleeve 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent. Aerated liquid input: Aerated liquid flow causing cavitation leading to cavitation damage to item surfaces.	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Door Control Valve 2 >Adjustable sleeve 2

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 988 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Adjustable sleeve 2	Regulate Liquid Flowrate (Valve housing 2_Adjustable sleeve 2)	Regulate Liquid Flowrate Very low (Valve housing 2_Adjustable sleeve 2)	Corroded (Adjustable sleeve 2)	Fluid borne noise (Adjustable sleeve 2) AND Surface change (Adjustable sleeve 2)	Cavitation corrosion (Adjustable sleeve 2)	Pressure differential (Adjustable sleeve 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Adjustable sleeve 2)	Surface change (Adjustable sleeve 2) AND Vibration (Adjustable sleeve 2)	Fretting fatigue (Adjustable sleeve 2)	Cyclic mechanical loads (Adjustable sleeve 2) AND Vibration loading (Adjustable sleeve 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Door Control Valve 2 >Sealing ring 2

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 989 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Sealing ring 2	Prevent Liquid Leakage Flowrate (Sealing ring 2_Adjustable sleeve 2)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 2_Adjustable sleeve 2) Degraded output - Prevent Liquid Leakage Flowrate (Sealing ring 2_Adjustable sleeve 2)	Partial crack (Sealing ring 2)	Leakage liquid/gas (Sealing ring 2)	Extrusion (Sealing ring 2)	High pressure input flow (Sealing ring 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Inspection	Replace	10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Inspection	Replace	10.0	10.0	10.0	1000
					Abraded (Sealing ring 2)	Solid debris (Sealing ring 2) AND Surface change (Sealing ring 2)	Abrasive wear (Sealing ring 2)	Insufficient lubricant (Sealing ring 2) AND Solid particle contaminants (Sealing ring 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
					Oxidised (Sealing ring 2)	Surface change (Sealing ring 2)	Plasma degradation (Sealing ring 2)	Chemically reactive contaminant (Sealing ring 2) Chemically reactive contaminant: Ozone.	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
								High temperature (Sealing ring 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
					Blistered (Sealing ring 2)	Surface change (Sealing ring 2)	Blistering (Sealing ring 2)	Liquid contaminant (Sealing ring 2) Liquid contaminant: Presence of moisture that can be absorbed.	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
					Scratched (Sealing ring 2)	Solid debris (Sealing ring 2) AND Surface change (Sealing ring 2)	Abrasive wear (Sealing ring 2)	Insufficient lubricant (Sealing ring 2) AND Solid particle contaminants (Sealing ring 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
					Extruded (Sealing ring 2)	Leakage liquid/gas (Sealing ring 2) AND Shape change (Sealing ring 2)	Extrusion (Sealing ring 2)	High pressure input flow (Sealing ring 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)		Repair	10.0	10.0	10.0	1000
			Prevent Liquid Leakage Flowrate (Sealing ring 2_Valve housing 2)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 2_Valve housing 2)	Partial crack (Sealing ring 2)	Leakage liquid/gas (Sealing ring 2)	Extrusion (Sealing ring 2)	High pressure input flow (Sealing ring 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Inspection	Replace	10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Inspection	Replace	10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Door Control Valve 2 >Sealing ring 2

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 990 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Sealing ring 2	Prevent Liquid Leakage Flowrate (Sealing ring 2_Valve housing 2)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 2_Valve housing 2)	Oxidised (Sealing ring 2)	Surface change (Sealing ring 2)	Plasma degradation (Sealing ring 2)	Chemically reactive contaminant (Sealing ring 2) Chemically reactive contaminant: Ozone.	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								High temperature (Sealing ring 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Abraded (Sealing ring 2)	Solid debris (Sealing ring 2) AND Surface change (Sealing ring 2)	Abrasive wear (Sealing ring 2)	Insufficient lubricant (Sealing ring 2) AND Solid particle contaminants (Sealing ring 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Blistered (Sealing ring 2)	Surface change (Sealing ring 2)	Blistering (Sealing ring 2)	Liquid contaminant (Sealing ring 2) Liquid contaminant: Presence of moisture that can be absorbed.	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Extruded (Sealing ring 2)	Leakage liquid/gas (Sealing ring 2) AND Shape change (Sealing ring 2)	Extrusion (Sealing ring 2)	High pressure input flow (Sealing ring 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Scratched (Sealing ring 2)	Solid debris (Sealing ring 2) AND Surface change (Sealing ring 2)	Abrasive wear (Sealing ring 2)	Insufficient lubricant (Sealing ring 2) AND Solid particle contaminants (Sealing ring 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Door Control Valve 2 >Valve housing 2

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 991 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Valve housing 2	Prevent Liquid Leakage Flowrate (Sealing ring 2_Valve housing 2)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 2_Valve housing 2)	Abraded (Valve housing 2)	Solid debris (Valve housing 2) AND Surface change (Valve housing 2)	Abrasive wear (Valve housing 2)	Insufficient lubricant (Valve housing 2) AND Solid particle contaminants (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Scratched (Valve housing 2)	Solid debris (Valve housing 2) AND Surface change (Valve housing 2)	Abrasive wear (Valve housing 2)	Insufficient lubricant (Valve housing 2) AND Solid particle contaminants (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Valve housing 2)	Surface change (Valve housing 2) AND Vibration (Valve housing 2)	Fretting fatigue (Valve housing 2)	Cyclic mechanical loads (Valve housing 2) AND Vibration loading (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Partial crack (Valve housing 2)	Airborne noise (Valve housing 2) AND Surface change (Valve housing 2)	Impact fracture (Valve housing 2)	Impact loads (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Fractured (Valve housing 2)	Airborne noise (Valve housing 2), Change in behaviour (Valve housing 2), Leakage liquid/gas (Valve housing 2) AND Shape change (Valve housing 2)	Impact fracture (Valve housing 2)	Impact loads (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Pitted (Valve housing 2)	Solid debris (Valve housing 2) AND Surface change (Valve housing 2)	Cavitation corrosion (Valve housing 2)	Insufficient surface protection (Valve housing 2) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Pitting corrosion (Valve housing 2)	Corrosive contaminant (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Door Control Valve 2 >Valve housing 2

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 992 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Valve housing 2	Prevent Liquid Leakage Flowrate (Sealing ring 2_Valve housing 2)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 2_Valve housing 2)	Weak (Valve housing 2)	Performance parameters changed (Valve housing 2)	Pitting corrosion (Valve housing 2)	Corrosive contaminant (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Valve housing 2)	Surface change (Valve housing 2)	Cavitation corrosion (Valve housing 2)	Insufficient surface protection (Valve housing 2) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Pitting corrosion (Valve housing 2)	Corrosive contaminant (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Regulate Liquid Flowrate (Valve housing 2_Adjustable sleeve 2)	Regulate Liquid Flowrate Very low (Valve housing 2_Adjustable sleeve 2)	Corroded (Valve housing 2)	Surface change (Valve housing 2)	Pitting corrosion (Valve housing 2)	Corrosive contaminant (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Cavitation corrosion (Valve housing 2)	Insufficient surface protection (Valve housing 2) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Scratched (Valve housing 2)	Solid debris (Valve housing 2) AND Surface change (Valve housing 2)	Abrasive wear (Valve housing 2)	Insufficient lubricant (Valve housing 2) AND Solid particle contaminants (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Door Control Valve 2 >Valve housing 2

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 993 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Valve housing 2	Regulate Liquid Flowrate (Valve housing 2_Adjustable sleeve 2)	Regulate Liquid Flowrate Very low (Valve housing 2_Adjustable sleeve 2)	Abraded (Valve housing 2)	Solid debris (Valve housing 2) AND Surface change (Valve housing 2)	Abrasive wear (Valve housing 2)	Insufficient lubricant (Valve housing 2) AND Solid particle contaminants (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Valve housing 2)	Surface change (Valve housing 2) AND Vibration (Valve housing 2)	Fretting fatigue (Valve housing 2)	Cyclic mechanical loads (Valve housing 2) AND Vibration loading (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Pitted (Valve housing 2)	Solid debris (Valve housing 2) AND Surface change (Valve housing 2)	Pitting corrosion (Valve housing 2)	Corrosive contaminant (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Cavitation corrosion (Valve housing 2)	Insufficient surface protection (Valve housing 2) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Door Control Valve 2 >Valve housing 2

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Valve housing 2	Regulate Liquid Flowrate (Valve housing 2_Adjustable sleeve 2)	Regulate Liquid Flowrate Very low (Valve housing 2_Adjustable sleeve 2)	Pitted (Valve housing 2)	Solid debris (Valve housing 2) AND Surface change (Valve housing 2)	Cavitation corrosion (Valve housing 2)	Pressure differential (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Partial crack (Valve housing 2)	Airborne noise (Valve housing 2) AND Surface change (Valve housing 2)	Impact fracture (Valve housing 2)	Impact loads (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Fractured (Valve housing 2)	Airborne noise (Valve housing 2), Change in behaviour (Valve housing 2), Leakage liquid/gas (Valve housing 2) AND Shape change (Valve housing 2)	Impact fracture (Valve housing 2)	Impact loads (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Weak (Valve housing 2)	Performance parameters changed (Valve housing 2)	Pitting corrosion (Valve housing 2)	Corrosive contaminant (Valve housing 2)	Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Door Control Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Downlock Actuator (L)
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Downlock Actuator (L) Hydraulic actuators typically involve a hollow cylinder having a piston inserted in it. An unbalanced pressure applied to the piston provides force that can move an external object. Since liquids are nearly incompressible, a hydraulic cylinder can provide controlled precise linear displacement of the piston.	Provide Mechanical - linear Linear velocity Modelled as a Hydraulic Actuator, using fluid pressure to provide linear velocity.	Provide Mechanical - linear Linear velocity Low (Downlock Actuator (L))	Perforated (Downlock Actuator (L))	Leakage liquid/gas (Downlock Actuator (L)) AND Solid debris (Downlock Actuator (L))	Corrosive attack (Downlock Actuator (L))	Corrosive contaminant (Downlock Actuator (L)), Damaged surface protection (Downlock Actuator (L)) AND Insufficient cleaning (Downlock Actuator (L))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Downlock Actuator (L)), Damaged surface protection (Downlock Actuator (L)) AND Untimely maintenance actions (Downlock Actuator (L))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Seized (Downlock Actuator (L))	Performance parameters changed (Downlock Actuator (L)) AND Shape change (Downlock Actuator (L))	Compression deformation (Downlock Actuator (L))	High mechanical load (Downlock Actuator (L))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Compressed (Downlock Actuator (L))	Performance parameters changed (Downlock Actuator (L)) AND Shape change (Downlock Actuator (L))	Compression deformation (Downlock Actuator (L))	High mechanical load (Downlock Actuator (L))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Downlock Actuator (L))	Leakage liquid/gas (Downlock Actuator (L)) AND Solid debris (Downlock Actuator (L))	Corrosive attack (Downlock Actuator (L))	Corrosive contaminant (Downlock Actuator (L)), Damaged surface protection (Downlock Actuator (L)) AND Insufficient cleaning (Downlock Actuator (L))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Downlock Actuator (L)), Damaged surface protection (Downlock Actuator (L)) AND Untimely maintenance actions (Downlock Actuator (L))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Downlock Actuator (L))	Solid debris (Downlock Actuator (L)) AND Surface change (Downlock Actuator (L))	Surface fatigue wear (Downlock Actuator (L))	Cyclic mechanical loads (Downlock Actuator (L))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Pitted (Downlock Actuator (L))	Leakage liquid/gas (Downlock Actuator (L)) AND Solid debris (Downlock Actuator (L))	Corrosive attack (Downlock Actuator (L))	Corrosive contaminant (Downlock Actuator (L)), Damaged surface protection (Downlock Actuator (L)) AND Insufficient cleaning (Downlock Actuator (L))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Downlock Actuator (L)), Damaged surface protection (Downlock Actuator (L)) AND Untimely maintenance actions (Downlock Actuator (L))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Downlock Actuator (L)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Downlock Actuator (L) Hydraulic actuators typically involve a hollow cylinder having a piston inserted in it. An unbalanced pressure applied to the piston provides force that can move an external object. Since liquids are nearly incompressible, a hydraulic cylinder can provide controlled precise linear displacement of the piston.	Provide Mechanical - linear Linear velocity Modelled as a Hydraulic Actuator, using fluid pressure to provide linear velocity.	Provide Mechanical - linear Linear velocity Low (Downlock Actuator (L))	Pitted (Downlock Actuator (L))	Solid debris (Downlock Actuator (L)) AND Surface change (Downlock Actuator (L))	Surface fatigue wear (Downlock Actuator (L))	Cyclic mechanical loads (Downlock Actuator (L))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Downlock Actuator (R)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Downlock Actuator (R) Hydraulic actuators typically involve a hollow cylinder having a piston inserted in it. An unbalanced pressure applied to the piston provides force that can move an external object. Since liquids are nearly incompressible, a hydraulic cylinder can provide controlled precise linear displacement of the piston.	Provide Mechanical - linear Linear velocity Modelled as a Hydraulic Actuator, using fluid pressure to provide linear velocity.	Provide Mechanical - linear Linear velocity Low (Downlock Actuator (R))	Compressed (Downlock Actuator (R))	Performance parameters changed (Downlock Actuator (R)) AND Shape change (Downlock Actuator (R))	Compression deformation (Downlock Actuator (R))	High mechanical load (Downlock Actuator (R))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Perforated (Downlock Actuator (R))	Leakage liquid/gas (Downlock Actuator (R)) AND Solid debris (Downlock Actuator (R))	Corrosive attack (Downlock Actuator (R))	Corrosive contaminant (Downlock Actuator (R)), Damaged surface protection (Downlock Actuator (R)) AND Insufficient cleaning (Downlock Actuator (R))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Downlock Actuator (R)), Damaged surface protection (Downlock Actuator (R)) AND Untimely maintenance actions (Downlock Actuator (R))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Downlock Actuator (R))	Leakage liquid/gas (Downlock Actuator (R)) AND Solid debris (Downlock Actuator (R))	Corrosive attack (Downlock Actuator (R))	Corrosive contaminant (Downlock Actuator (R)), Damaged surface protection (Downlock Actuator (R)) AND Insufficient cleaning (Downlock Actuator (R))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Downlock Actuator (R)), Damaged surface protection (Downlock Actuator (R)) AND Untimely maintenance actions (Downlock Actuator (R))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Seized (Downlock Actuator (R))	Performance parameters changed (Downlock Actuator (R)) AND Shape change (Downlock Actuator (R))	Compression deformation (Downlock Actuator (R))	High mechanical load (Downlock Actuator (R))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Pitted (Downlock Actuator (R))	Leakage liquid/gas (Downlock Actuator (R)) AND Solid debris (Downlock Actuator (R))	Corrosive attack (Downlock Actuator (R))	Corrosive contaminant (Downlock Actuator (R)), Damaged surface protection (Downlock Actuator (R)) AND Insufficient cleaning (Downlock Actuator (R))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Downlock Actuator (R)), Damaged surface protection (Downlock Actuator (R)) AND Untimely maintenance actions (Downlock Actuator (R))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
						Solid debris (Downlock Actuator (R)) AND Surface change (Downlock Actuator (R))	Surface fatigue wear (Downlock Actuator (R))	Cyclic mechanical loads (Downlock Actuator (R))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Downlock Actuator (R)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Downlock Actuator (R) Hydraulic actuators typically involve a hollow cylinder having a piston inserted in it. An unbalanced pressure applied to the piston provides force that can move an external object. Since liquids are nearly incompressible, a hydraulic cylinder can provide controlled precise linear displacement of the piston.	Provide Mechanical - linear Linear velocity Modelled as a Hydraulic Actuator, using fluid pressure to provide linear velocity.	Provide Mechanical - linear Linear velocity Low (Downlock Actuator (R))	Surface cracks (Downlock Actuator (R))	Solid debris (Downlock Actuator (R)) AND Surface change (Downlock Actuator (R))	Surface fatigue wear (Downlock Actuator (R))	Cyclic mechanical loads (Downlock Actuator (R))	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Gear Train
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Gear Train	Provide Mechanical - linear Linear velocity	Provide Mechanical - linear Linear velocity Low (Gear Train)	Pitted (Gear Train)		Corrosive attack (Gear Train)	Corrosive contaminant (Gear Train), Damaged surface protection (Gear Train) AND Insufficient cleaning (Gear Train)	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Gear Train), Damaged surface protection (Gear Train) AND Untimely maintenance actions (Gear Train)	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Abraded (Gear Train)		Abrasive wear (Gear Train)	Insufficient clearances (Gear Train), Insufficient lubricant (Gear Train) AND Solid particle contaminants (Gear Train)	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Scratched (Gear Train)		Abrasive wear (Gear Train)	Insufficient clearances (Gear Train), Insufficient lubricant (Gear Train) AND Solid particle contaminants (Gear Train)	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >High Power Multi-Drive

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		High Power Multi-Drive	Actuate Electrical Current	Actuate Electrical Current Nominal (High Power Multi-Drive)	Open circuit (High Power Multi-Drive)		Burnout (High Power Multi-Drive)	Over-current (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Short circuit (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Transient electrical loads (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Property mismatch (High Power Multi-Drive)		Burnout (High Power Multi-Drive)	Over-current (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Short circuit (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Transient electrical loads (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Sense Continuous Amplitude	Sense Continuous Amplitude Low (High Power Multi-Drive)	Open circuit (High Power Multi-Drive)		Burnout (High Power Multi-Drive)	Over-current (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Short circuit (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Transient electrical loads (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Property mismatch (High Power Multi-Drive)		Burnout (High Power Multi-Drive)	Over-current (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Short circuit (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Transient electrical loads (High Power Multi-Drive)	Actuate Mechanical - linear Linear velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Surface cracks (Hydraulic Line)		Corrosive fatigue (Hydraulic Line)	Corrosive contaminant (Hydraulic Line) AND Cyclic mechanical loads (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Surface cracks (Hydraulic Line)		Corrosive fatigue (Hydraulic Line)	Corrosive contaminant (Hydraulic Line) AND Temperature fluctuations (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Surface cracks (Hydraulic Line)		Corrosive fatigue (Hydraulic Line)	Corrosive contaminant (Hydraulic Line) AND Vibration loading (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Surface cracks (Hydraulic Line)		Burnout (Hydraulic Line)	Electrical potential high (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Surface cracks (Hydraulic Line)		Burnout (Hydraulic Line)	Electrical resistance low (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Surface cracks (Hydraulic Line)		Burnout (Hydraulic Line)	Over-current (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Surface cracks (Hydraulic Line)		Burnout (Hydraulic Line)	Over-voltage (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Electrical potential decreased (Hydraulic Line) ADA DEMO		Burnout (Hydraulic Line)	Electrical potential high (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Electrical potential decreased (Hydraulic Line) ADA DEMO		Burnout (Hydraulic Line)	Electrical resistance low (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Electrical potential decreased (Hydraulic Line) ADA DEMO		Burnout (Hydraulic Line)	Over-current (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Electrical potential decreased (Hydraulic Line) ADA DEMO		Burnout (Hydraulic Line)	Over-voltage (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Fractured (Hydraulic Line)		Corrosive fatigue (Hydraulic Line)	Corrosive contaminant (Hydraulic Line) AND Cyclic mechanical loads (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Fractured (Hydraulic Line)		Corrosive fatigue (Hydraulic Line)	Corrosive contaminant (Hydraulic Line) AND Temperature fluctuations (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Fractured (Hydraulic Line)		Corrosive fatigue (Hydraulic Line)	Corrosive contaminant (Hydraulic Line) AND Vibration loading (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Fractured (Hydraulic Line)		Corrosive fatigue (Hydraulic Line)	Corrosive contaminant (Hydraulic Line) AND Vibration loading (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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SHEET 1016 **OF** 1118
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Corroded (Hydraulic Line)		Corrosive fatigue (Hydraulic Line)	Corrosive contaminant (Hydraulic Line) AND Cyclic mechanical loads (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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SHEET 1017 **OF** 1118
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Corroded (Hydraulic Line)		Corrosive fatigue (Hydraulic Line)	Corrosive contaminant (Hydraulic Line) AND Temperature fluctuations (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Hydraulic Line
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Hydraulic Line	Channel Hydraulic Pressure	Channel Hydraulic Pressure Low (Hydraulic Line)	Corroded (Hydraulic Line)		Corrosive fatigue (Hydraulic Line)	Corrosive contaminant (Hydraulic Line) AND Vibration loading (Hydraulic Line)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Low Power Motor Controller

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1019 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Low Power Motor Controller	Control Discrete Data	Control Discrete Data Nominal (Low Power Motor Controller)	Property mismatch (Low Power Motor Controller)		Burnout (Low Power Motor Controller)	Over-current (Low Power Motor Controller)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (Low Power Motor Controller)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Short circuit (Low Power Motor Controller)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Transient electrical loads (Low Power Motor Controller)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Open circuit (Low Power Motor Controller)		Burnout (Low Power Motor Controller)	Over-current (Low Power Motor Controller)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (Low Power Motor Controller)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Short circuit (Low Power Motor Controller)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Transient electrical loads (Low Power Motor Controller)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Main Door Actuator

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Main Door Actuator Hydraulic actuators typically involve a hollow cylinder having a piston inserted in it. An unbalanced pressure applied to the piston provides force that can move an external object. Since liquids are nearly incompressible, a hydraulic cylinder can provide controlled precise linear displacement of the piston.	Provide Mechanical - linear Linear velocity Modelled as a Hydraulic Actuator, using fluid pressure to provide linear velocity.	Provide Mechanical - linear Linear velocity Low (Main Door Actuator)	Pitted (Main Door Actuator)	Solid debris (Main Door Actuator) AND Surface change (Main Door Actuator)	Surface fatigue wear (Main Door Actuator)	Cyclic mechanical loads (Main Door Actuator)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
						Leakage liquid/gas (Main Door Actuator) AND Solid debris (Main Door Actuator)	Corrosive attack (Main Door Actuator)	Corrosive contaminant (Main Door Actuator), Damaged surface protection (Main Door Actuator) AND Insufficient cleaning (Main Door Actuator)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Main Door Actuator), Damaged surface protection (Main Door Actuator) AND Untimely maintenance actions (Main Door Actuator)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Perforated (Main Door Actuator)	Leakage liquid/gas (Main Door Actuator) AND Solid debris (Main Door Actuator)	Corrosive attack (Main Door Actuator)	Corrosive contaminant (Main Door Actuator), Damaged surface protection (Main Door Actuator) AND Insufficient cleaning (Main Door Actuator)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Main Door Actuator

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 1021 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Main Door Actuator Hydraulic actuators typically involve a hollow cylinder having a piston inserted in it. An unbalanced pressure applied to the piston provides force that can move an external object. Since liquids are nearly incompressible, a hydraulic cylinder can provide controlled precise linear displacement of the piston.	Provide Mechanical - linear Linear velocity Modelled as a Hydraulic Actuator, using fluid pressure to provide linear velocity.	Provide Mechanical - linear Linear velocity Low (Main Door Actuator)	Perforated (Main Door Actuator)	Leakage liquid/gas (Main Door Actuator) AND Solid debris (Main Door Actuator)	Corrosive attack (Main Door Actuator)	Corrosive contaminant (Main Door Actuator), Damaged surface protection (Main Door Actuator) AND Untimely maintenance actions (Main Door Actuator)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Compressed (Main Door Actuator)	Performance parameters changed (Main Door Actuator) AND Shape change (Main Door Actuator)	Compression deformation (Main Door Actuator)	High mechanical load (Main Door Actuator)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Main Door Actuator)	Leakage liquid/gas (Main Door Actuator) AND Solid debris (Main Door Actuator)	Corrosive attack (Main Door Actuator)	Corrosive contaminant (Main Door Actuator), Damaged surface protection (Main Door Actuator) AND Insufficient cleaning (Main Door Actuator)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Main Door Actuator), Damaged surface protection (Main Door Actuator) AND Untimely maintenance actions (Main Door Actuator)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Main Door Actuator

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1022 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Main Door Actuator Hydraulic actuators typically involve a hollow cylinder having a piston inserted in it. An unbalanced pressure applied to the piston provides force that can move an external object. Since liquids are nearly incompressible, a hydraulic cylinder can provide controlled precise linear displacement of the piston.	Provide Mechanical - linear Linear velocity Modelled as a Hydraulic Actuator, using fluid pressure to provide linear velocity.	Provide Mechanical - linear Linear velocity Low (Main Door Actuator)	Surface cracks (Main Door Actuator)	Solid debris (Main Door Actuator) AND Surface change (Main Door Actuator)	Surface fatigue wear (Main Door Actuator)	Cyclic mechanical loads (Main Door Actuator)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Seized (Main Door Actuator)	Performance parameters changed (Main Door Actuator) AND Shape change (Main Door Actuator)	Compression deformation (Main Door Actuator)	High mechanical load (Main Door Actuator)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Main Door Gearbox

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Main Door Gearbox Parts working one upon another, by means of teeth in order to transmit force and motion between rack and gears.	Change Mechanical - rotational Angular velocity Operates by a linear mechanical force that is used to drive the gears to provide a rotational output.	Change Mechanical - rotational Angular velocity Low (Main Door Gearbox)	Geometric property mismatch (Main Door Gearbox)	Performance parameters changed (Main Door Gearbox) AND Vibration (Main Door Gearbox)	Fretting wear (Main Door Gearbox)	Cyclic mechanical loads (Main Door Gearbox) AND Vibration loading (Main Door Gearbox)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	7.0	140
									Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	7.0	140
					Surface cracks (Main Door Gearbox)	Performance parameters changed (Main Door Gearbox), Surface change (Main Door Gearbox) AND Vibration (Main Door Gearbox)	Fretting fatigue (Main Door Gearbox)	Cyclic mechanical loads (Main Door Gearbox) AND Vibration loading (Main Door Gearbox)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			4.0	10.0	8.0	320
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			4.0	10.0	8.0	320
					Abraded (Main Door Gearbox)	Performance parameters changed (Main Door Gearbox), Surface change (Main Door Gearbox) AND Vibration (Main Door Gearbox)	Fretting wear (Main Door Gearbox)	Cyclic mechanical loads (Main Door Gearbox) AND Vibration loading (Main Door Gearbox)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			4.0	10.0	7.0	280
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			4.0	10.0	7.0	280

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Motor
INDENTURE LEVEL 4
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Motor	Provide Mechanical - rotational Torque	Provide Mechanical - rotational Torque Low (Motor)	Dielectric strength decreased (Motor)		Dielectric breakdown (Motor)	Line defects (Motor)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Over-current (Motor)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (Motor)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Open circuit (Motor)		Dielectric breakdown (Motor)	Line defects (Motor)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Over-current (Motor)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (Motor)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Burnout (Motor)	Over-current (Motor)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Over-voltage (Motor)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Short circuit (Motor)	Actuate Mechanical - linear Linear velocity High (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Nose Door Actuator

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1025 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Nose Door Actuator Hydraulic actuators typically involve a hollow cylinder having a piston inserted in it. An unbalanced pressure applied to the piston provides force that can move an external object. Since liquids are nearly incompressible, a hydraulic cylinder can provide controlled precise linear displacement of the piston.	Provide Mechanical - linear Linear velocity Modelled as a Hydraulic Actuator, using fluid pressure to provide linear velocity.	Provide Mechanical - linear Linear velocity Low (Nose Door Actuator)	Pitted (Nose Door Actuator)	Solid debris (Nose Door Actuator) AND Surface change (Nose Door Actuator)	Surface fatigue wear (Nose Door Actuator)	Cyclic mechanical loads (Nose Door Actuator)	Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
						Leakage liquid/gas (Nose Door Actuator) AND Solid debris (Nose Door Actuator)	Corrosive attack (Nose Door Actuator)	Corrosive contaminant (Nose Door Actuator), Damaged surface protection (Nose Door Actuator) AND Insufficient cleaning (Nose Door Actuator)	Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Nose Door Actuator), Damaged surface protection (Nose Door Actuator) AND Untimely maintenance actions (Nose Door Actuator)	Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Perforated (Nose Door Actuator)	Leakage liquid/gas (Nose Door Actuator) AND Solid debris (Nose Door Actuator)	Corrosive attack (Nose Door Actuator)	Corrosive contaminant (Nose Door Actuator), Damaged surface protection (Nose Door Actuator) AND Insufficient cleaning (Nose Door Actuator)	Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Nose Door Actuator), Damaged surface protection (Nose Door Actuator) AND Untimely maintenance actions (Nose Door Actuator)	Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Nose Door Actuator)	Leakage liquid/gas (Nose Door Actuator) AND Solid debris (Nose Door Actuator)	Corrosive attack (Nose Door Actuator)	Corrosive contaminant (Nose Door Actuator), Damaged surface protection (Nose Door Actuator) AND Insufficient cleaning (Nose Door Actuator)	Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Nose Door Actuator), Damaged surface protection (Nose Door Actuator) AND Untimely maintenance actions (Nose Door Actuator)	Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Compressed (Nose Door Actuator)	Performance parameters changed (Nose Door Actuator) AND Shape change (Nose Door Actuator)	Compression deformation (Nose Door Actuator)	High mechanical load (Nose Door Actuator)	Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Seized (Nose Door Actuator)	Performance parameters changed (Nose Door Actuator) AND Shape change (Nose Door Actuator)	Compression deformation (Nose Door Actuator)	High mechanical load (Nose Door Actuator)	Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Nose Door Actuator)	Solid debris (Nose Door Actuator) AND Surface change (Nose Door Actuator)	Surface fatigue wear (Nose Door Actuator)	Cyclic mechanical loads (Nose Door Actuator)	Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Nose Door Gearbox

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1026 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Nose Door Gearbox Parts working one upon another, by means of teeth in order to transmit force and motion between rack and gears.	Change Mechanical - rotational Angular velocity Operates by a linear mechanical force that is used to drive the gears to provide a rotational output.	Change Mechanical - rotational Angular velocity Low (Nose Door Gearbox)	Geometric property mismatch (Nose Door Gearbox)	Performance parameters changed (Nose Door Gearbox) AND Vibration (Nose Door Gearbox)	Fretting wear (Nose Door Gearbox)	Cyclic mechanical loads (Nose Door Gearbox) AND Vibration loading (Nose Door Gearbox)	Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	7.0	140
					Surface cracks (Nose Door Gearbox)	Performance parameters changed (Nose Door Gearbox), Surface change (Nose Door Gearbox) AND Vibration (Nose Door Gearbox)	Fretting fatigue (Nose Door Gearbox)	Cyclic mechanical loads (Nose Door Gearbox) AND Vibration loading (Nose Door Gearbox)	Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			4.0	10.0	8.0	320
					Abraded (Nose Door Gearbox)	Performance parameters changed (Nose Door Gearbox), Surface change (Nose Door Gearbox) AND Vibration (Nose Door Gearbox)	Fretting wear (Nose Door Gearbox)	Cyclic mechanical loads (Nose Door Gearbox) AND Vibration loading (Nose Door Gearbox)	Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			4.0	10.0	7.0	280

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Nose Gear Actuator

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1027 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Nose Gear Actuator Hydraulic actuators typically involve a hollow cylinder having a piston inserted in it. An unbalanced pressure applied to the piston provides force that can move an external object. Since liquids are nearly incompressible, a hydraulic cylinder can provide controlled precise linear displacement of the piston.	Provide Mechanical - linear Linear velocity Modelled as a Hydraulic Actuator, using fluid pressure to provide linear velocity.	Provide Mechanical - linear Linear velocity Low (Nose Gear Actuator)	Seized (Nose Gear Actuator)	Performance parameters changed (Nose Gear Actuator) AND Shape change (Nose Gear Actuator)	Compression deformation (Nose Gear Actuator)	High mechanical load (Nose Gear Actuator)	Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Nose Gear Actuator)	Solid debris (Nose Gear Actuator) AND Surface change (Nose Gear Actuator)	Surface fatigue wear (Nose Gear Actuator)	Cyclic mechanical loads (Nose Gear Actuator)	Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Nose Gear Actuator)	Leakage liquid/gas (Nose Gear Actuator) AND Solid debris (Nose Gear Actuator)	Corrosive attack (Nose Gear Actuator)	Corrosive contaminant (Nose Gear Actuator), Damaged surface protection (Nose Gear Actuator) AND Insufficient cleaning (Nose Gear Actuator)	Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Nose Gear Actuator), Damaged surface protection (Nose Gear Actuator) AND Untimely maintenance actions (Nose Gear Actuator)	Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Pitted (Nose Gear Actuator)	Leakage liquid/gas (Nose Gear Actuator) AND Solid debris (Nose Gear Actuator)	Corrosive attack (Nose Gear Actuator)	Corrosive contaminant (Nose Gear Actuator), Damaged surface protection (Nose Gear Actuator) AND Insufficient cleaning (Nose Gear Actuator)	Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Nose Gear Actuator), Damaged surface protection (Nose Gear Actuator) AND Untimely maintenance actions (Nose Gear Actuator)	Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
						Solid debris (Nose Gear Actuator) AND Surface change (Nose Gear Actuator)	Surface fatigue wear (Nose Gear Actuator)	Cyclic mechanical loads (Nose Gear Actuator)	Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Compressed (Nose Gear Actuator)	Performance parameters changed (Nose Gear Actuator) AND Shape change (Nose Gear Actuator)	Compression deformation (Nose Gear Actuator)	High mechanical load (Nose Gear Actuator)	Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Perforated (Nose Gear Actuator)	Leakage liquid/gas (Nose Gear Actuator) AND Solid debris (Nose Gear Actuator)	Corrosive attack (Nose Gear Actuator)	Corrosive contaminant (Nose Gear Actuator), Damaged surface protection (Nose Gear Actuator) AND Insufficient cleaning (Nose Gear Actuator)	Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Nose Gear Actuator), Damaged surface protection (Nose Gear Actuator) AND Untimely maintenance actions (Nose Gear Actuator)	Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Nose Gearbox

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1028 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Nose Gearbox Parts working one upon another, by means of teeth in order to transmit force and motion between rack and gears.	Change Mechanical - rotational Angular velocity Operates by a linear mechanical force that is used to drive the gears to provide a rotational output.	Change Mechanical - rotational Angular velocity Low (Nose Gearbox)	Geometric property mismatch (Nose Gearbox)	Performance parameters changed (Nose Gearbox) AND Vibration (Nose Gearbox)	Fretting wear (Nose Gearbox)	Cyclic mechanical loads (Nose Gearbox) AND Vibration loading (Nose Gearbox)	Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	7.0	140
					Abraded (Nose Gearbox)	Performance parameters changed (Nose Gearbox), Surface change (Nose Gearbox) AND Vibration (Nose Gearbox)	Fretting wear (Nose Gearbox)	Cyclic mechanical loads (Nose Gearbox) AND Vibration loading (Nose Gearbox)	Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			4.0	10.0	7.0	280
					Surface cracks (Nose Gearbox)	Performance parameters changed (Nose Gearbox), Surface change (Nose Gearbox) AND Vibration (Nose Gearbox)	Fretting fatigue (Nose Gearbox)	Cyclic mechanical loads (Nose Gearbox) AND Vibration loading (Nose Gearbox)	Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			4.0	10.0	8.0	320

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Selector Valve

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1029 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Selector Valve	Control Hydraulic Flow rate	Control Hydraulic Flow rate Low (Selector Valve) Loss of output	Blocked (Selector Valve)	Shape change (Selector Valve) AND Solid debris (Selector Valve)	Buildup of debris (Selector Valve)	Contaminated input flow (Selector Valve) AND Insufficient cleaning (Selector Valve)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Sensing Device	Repair	10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Sensing Device	Repair	10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Selector Valve

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1030 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Selector Valve	Control Hydraulic Flow rate	Control Hydraulic Flow rate Low (Selector Valve) Loss of output	Blocked (Selector Valve)	Shape change (Selector Valve) AND Solid debris (Selector Valve)	Buildup of debris (Selector Valve)	Contaminated input flow (Selector Valve) AND Insufficient cleaning (Selector Valve)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Sensing Device	Repair	10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Selector Valve

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1031 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Selector Valve	Control Hydraulic Flow rate	Control Hydraulic Flow rate Low (Selector Valve) Loss of output	Blocked (Selector Valve)	Shape change (Selector Valve) AND Solid debris (Selector Valve)	Buildup of debris (Selector Valve)	Insufficient cleaning (Selector Valve) AND Solid particle contaminants (Selector Valve)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Sensing Device	Repair	10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Sensing Device	Repair	10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Selector Valve

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1032 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Selector Valve	Control Hydraulic Flow rate	Control Hydraulic Flow rate Low (Selector Valve) Loss of output	Blocked (Selector Valve)	Shape change (Selector Valve) AND Solid debris (Selector Valve)	Buildup of debris (Selector Valve)	Insufficient cleaning (Selector Valve) AND Solid particle contaminants (Selector Valve)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Sensing Device	Repair	10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Selector Valve

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1033 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Selector Valve	Control Hydraulic Flow rate	Control Hydraulic Flow rate Low (Selector Valve)	Seized (Selector Valve)	Shape change (Selector Valve) AND Solid debris (Selector Valve)	Buildup of debris (Selector Valve)	Contaminated input flow (Selector Valve) AND Insufficient cleaning (Selector Valve)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Selector Valve

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1034 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Selector Valve	Control Hydraulic Flow rate	Control Hydraulic Flow rate Low (Selector Valve)	Seized (Selector Valve)	Shape change (Selector Valve) AND Solid debris (Selector Valve)	Buildup of debris (Selector Valve)	Contaminated input flow (Selector Valve) AND Insufficient cleaning (Selector Valve)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Selector Valve

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1035 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Selector Valve	Control Hydraulic Flow rate	Control Hydraulic Flow rate Low (Selector Valve)	Seized (Selector Valve)	Shape change (Selector Valve) AND Solid debris (Selector Valve)	Buildup of debris (Selector Valve)	Insufficient cleaning (Selector Valve) AND Solid particle contaminants (Selector Valve)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Selector Valve

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1036 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Selector Valve	Control Hydraulic Flow rate	Control Hydraulic Flow rate Low (Selector Valve)	Seized (Selector Valve)	Shape change (Selector Valve) AND Solid debris (Selector Valve)	Buildup of debris (Selector Valve)	Insufficient cleaning (Selector Valve) AND Solid particle contaminants (Selector Valve)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Selector Valve

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1037 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Selector Valve	Control Hydraulic Flow rate	Control Hydraulic Flow rate Low (Selector Valve)	Interference (Selector Valve)	Shape change (Selector Valve) AND Solid debris (Selector Valve)	Buildup of debris (Selector Valve)	Contaminated input flow (Selector Valve) AND Insufficient cleaning (Selector Valve)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Selector Valve

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 1038 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Selector Valve	Control Hydraulic Flow rate	Control Hydraulic Flow rate Low (Selector Valve)	Interference (Selector Valve)	Shape change (Selector Valve) AND Solid debris (Selector Valve)	Buildup of debris (Selector Valve)	Contaminated input flow (Selector Valve) AND Insufficient cleaning (Selector Valve)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Selector Valve

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1039 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Selector Valve	Control Hydraulic Flow rate	Control Hydraulic Flow rate Low (Selector Valve)	Interference (Selector Valve)	Shape change (Selector Valve) AND Solid debris (Selector Valve)	Buildup of debris (Selector Valve)	Insufficient cleaning (Selector Valve) AND Solid particle contaminants (Selector Valve)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Selector Valve

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1040 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Selector Valve	Control Hydraulic Flow rate	Control Hydraulic Flow rate Low (Selector Valve)	Interference (Selector Valve)	Shape change (Selector Valve) AND Solid debris (Selector Valve)	Buildup of debris (Selector Valve)	Insufficient cleaning (Selector Valve) AND Solid particle contaminants (Selector Valve)	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Side Brace Actuator

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Side Brace Actuator Hydraulic actuators typically involve a hollow cylinder having a piston inserted in it. An unbalanced pressure applied to the piston provides force that can move an external object. Since liquids are nearly incompressible, a hydraulic cylinder can provide controlled precise linear displacement of the piston.	Provide Mechanical - linear Linear velocity Modelled as a Hydraulic Actuator, using fluid pressure to provide linear velocity.	Provide Mechanical - linear Linear velocity Low (Side Brace Actuator)	Perforated (Side Brace Actuator)	Leakage liquid/gas (Side Brace Actuator) AND Solid debris (Side Brace Actuator)	Corrosive attack (Side Brace Actuator)	Corrosive contaminant (Side Brace Actuator), Damaged surface protection (Side Brace Actuator) AND Insufficient cleaning (Side Brace Actuator)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Side Brace Actuator), Damaged surface protection (Side Brace Actuator) AND Untimely maintenance actions (Side Brace Actuator)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Side Brace Actuator)	Leakage liquid/gas (Side Brace Actuator) AND Solid debris (Side Brace Actuator)	Corrosive attack (Side Brace Actuator)	Corrosive contaminant (Side Brace Actuator), Damaged surface protection (Side Brace Actuator) AND Insufficient cleaning (Side Brace Actuator)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Side Brace Actuator), Damaged surface protection (Side Brace Actuator) AND Untimely maintenance actions (Side Brace Actuator)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Side Brace Actuator

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1042 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Side Brace Actuator Hydraulic actuators typically involve a hollow cylinder having a piston inserted in it. An unbalanced pressure applied to the piston provides force that can move an external object. Since liquids are nearly incompressible, a hydraulic cylinder can provide controlled precise linear displacement of the piston.	Provide Mechanical - linear Linear velocity Modelled as a Hydraulic Actuator, using fluid pressure to provide linear velocity.	Provide Mechanical - linear Linear velocity Low (Side Brace Actuator)	Surface cracks (Side Brace Actuator)	Solid debris (Side Brace Actuator) AND Surface change (Side Brace Actuator)	Surface fatigue wear (Side Brace Actuator)	Cyclic mechanical loads (Side Brace Actuator)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Seized (Side Brace Actuator)	Performance parameters changed (Side Brace Actuator) AND Shape change (Side Brace Actuator)	Compression deformation (Side Brace Actuator)	High mechanical load (Side Brace Actuator)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Pitted (Side Brace Actuator)	Leakage liquid/gas (Side Brace Actuator) AND Solid debris (Side Brace Actuator)	Corrosive attack (Side Brace Actuator)	Corrosive contaminant (Side Brace Actuator), Damaged surface protection (Side Brace Actuator) AND Insufficient cleaning (Side Brace Actuator)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Corrosive contaminant (Side Brace Actuator), Damaged surface protection (Side Brace Actuator) AND Untimely maintenance actions (Side Brace Actuator)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Side Brace Actuator

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Side Brace Actuator Hydraulic actuators typically involve a hollow cylinder having a piston inserted in it. An unbalanced pressure applied to the piston provides force that can move an external object. Since liquids are nearly incompressible, a hydraulic cylinder can provide controlled precise linear displacement of the piston.	Provide Mechanical - linear Linear velocity Modelled as a Hydraulic Actuator, using fluid pressure to provide linear velocity.	Provide Mechanical - linear Linear velocity Low (Side Brace Actuator)	Pitted (Side Brace Actuator)	Solid debris (Side Brace Actuator) AND Surface change (Side Brace Actuator)	Surface fatigue wear (Side Brace Actuator)	Cyclic mechanical loads (Side Brace Actuator)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Compressed (Side Brace Actuator)	Performance parameters changed (Side Brace Actuator) AND Shape change (Side Brace Actuator)	Compression deformation (Side Brace Actuator)	High mechanical load (Side Brace Actuator)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly) AND Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Side Brace Gearbox

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 1044 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Side Brace Gearbox Parts working one upon another, by means of teeth in order to transmit force and motion between rack and gears.	Change Side Brace (L) Angular velocity Operates by a linear mechanical force that is used to drive the gears to provide a rotational output.	Change Side Brace (L) Angular velocity Low (Side Brace Gearbox)	Surface cracks (Side Brace Gearbox)	Performance parameters changed (Side Brace Gearbox), Surface change (Side Brace Gearbox) AND Vibration (Side Brace Gearbox)	Fretting fatigue (Side Brace Gearbox)	Cyclic mechanical loads (Side Brace Gearbox) AND Vibration loading (Side Brace Gearbox)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			4.0	10.0	8.0	320
					Abraded (Side Brace Gearbox)	Performance parameters changed (Side Brace Gearbox), Surface change (Side Brace Gearbox) AND Vibration (Side Brace Gearbox)	Fretting wear (Side Brace Gearbox)	Cyclic mechanical loads (Side Brace Gearbox) AND Vibration loading (Side Brace Gearbox)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			4.0	10.0	7.0	280
					Geometric property mismatch (Side Brace Gearbox)	Performance parameters changed (Side Brace Gearbox) AND Vibration (Side Brace Gearbox)	Fretting wear (Side Brace Gearbox)	Cyclic mechanical loads (Side Brace Gearbox) AND Vibration loading (Side Brace Gearbox)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	7.0	140
			Change Side Brace (R) Angular velocity Operates by a linear mechanical force that is used to drive the gears to provide a rotational output.	Change Side Brace (R) Angular velocity Low (Side Brace Gearbox)	Surface cracks (Side Brace Gearbox)	Performance parameters changed (Side Brace Gearbox), Surface change (Side Brace Gearbox) AND Vibration (Side Brace Gearbox)	Fretting fatigue (Side Brace Gearbox)	Cyclic mechanical loads (Side Brace Gearbox) AND Vibration loading (Side Brace Gearbox)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			4.0	10.0	8.0	320
					Geometric property mismatch (Side Brace Gearbox)	Performance parameters changed (Side Brace Gearbox) AND Vibration (Side Brace Gearbox)	Fretting wear (Side Brace Gearbox)	Cyclic mechanical loads (Side Brace Gearbox) AND Vibration loading (Side Brace Gearbox)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	7.0	140
					Abraded (Side Brace Gearbox)	Performance parameters changed (Side Brace Gearbox), Surface change (Side Brace Gearbox) AND Vibration (Side Brace Gearbox)	Fretting wear (Side Brace Gearbox)	Cyclic mechanical loads (Side Brace Gearbox) AND Vibration loading (Side Brace Gearbox)	Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			4.0	10.0	7.0	280

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Degraded output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Electrical potential high (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1046 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Degraded output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Electrical potential high (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1047 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Degraded output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Electrical resistance low (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Degraded output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Electrical resistance low (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 1049 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Degraded output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-current (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 1050 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Degraded output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-current (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 1051 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Degraded output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-voltage (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1052 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Degraded output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-voltage (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1053 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Degraded output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Random or transient electrical loads (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1054 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Degraded output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Random or transient electrical loads (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1055 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Degraded output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Short circuit (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1056 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Degraded output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Short circuit (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1057 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction))	Property mismatch (Signal Controller (Retraction))	Analogue signal (Signal Controller (Retraction)), Change in behaviour (Signal Controller (Retraction)), Discrete signal (Signal Controller (Retraction)) AND Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Electrical potential high (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1058 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction))	Property mismatch (Signal Controller (Retraction))	Analogue signal (Signal Controller (Retraction)), Change in behaviour (Signal Controller (Retraction)), Discrete signal (Signal Controller (Retraction)) AND Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Electrical potential high (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1059 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction))	Property mismatch (Signal Controller (Retraction))	Analogue signal (Signal Controller (Retraction)), Change in behaviour (Signal Controller (Retraction)), Discrete signal (Signal Controller (Retraction)) AND Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Electrical resistance low (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1060 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction))	Property mismatch (Signal Controller (Retraction))	Analogue signal (Signal Controller (Retraction)), Change in behaviour (Signal Controller (Retraction)), Discrete signal (Signal Controller (Retraction)) AND Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Electrical resistance low (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1061 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction))	Property mismatch (Signal Controller (Retraction))	Analogue signal (Signal Controller (Retraction)), Change in behaviour (Signal Controller (Retraction)), Discrete signal (Signal Controller (Retraction)) AND Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-current (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1062 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction))	Property mismatch (Signal Controller (Retraction))	Analogue signal (Signal Controller (Retraction)), Change in behaviour (Signal Controller (Retraction)), Discrete signal (Signal Controller (Retraction)) AND Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-current (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1063 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction))	Property mismatch (Signal Controller (Retraction))	Analogue signal (Signal Controller (Retraction)), Change in behaviour (Signal Controller (Retraction)), Discrete signal (Signal Controller (Retraction)) AND Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-voltage (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction))	Property mismatch (Signal Controller (Retraction))	Analogue signal (Signal Controller (Retraction)), Change in behaviour (Signal Controller (Retraction)), Discrete signal (Signal Controller (Retraction)) AND Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-voltage (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction))	Property mismatch (Signal Controller (Retraction))	Analogue signal (Signal Controller (Retraction)), Change in behaviour (Signal Controller (Retraction)), Discrete signal (Signal Controller (Retraction)) AND Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Random or transient electrical loads (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction))	Property mismatch (Signal Controller (Retraction))	Analogue signal (Signal Controller (Retraction)), Change in behaviour (Signal Controller (Retraction)), Discrete signal (Signal Controller (Retraction)) AND Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Random or transient electrical loads (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction))	Property mismatch (Signal Controller (Retraction))	Analogue signal (Signal Controller (Retraction)), Change in behaviour (Signal Controller (Retraction)), Discrete signal (Signal Controller (Retraction)) AND Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Short circuit (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction))	Property mismatch (Signal Controller (Retraction))	Analogue signal (Signal Controller (Retraction)), Change in behaviour (Signal Controller (Retraction)), Discrete signal (Signal Controller (Retraction)) AND Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Short circuit (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)			2.0	10.0	8.0	160

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Loss of output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Electrical potential high (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Loss of output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Electrical potential high (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
								Electrical resistance low (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
								Electrical resistance high (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Loss of output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Electrical resistance low (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Loss of output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-current (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Loss of output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-current (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Loss of output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-voltage (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 1075 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Loss of output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-voltage (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1076 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Loss of output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Random or transient electrical loads (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Loss of output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Random or transient electrical loads (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1078 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Loss of output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Short circuit (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1079 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Loss of output	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Short circuit (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1080 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Failure to operate	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Electrical potential high (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1081 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Failure to operate	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Electrical potential high (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1082 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Failure to operate	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Electrical resistance low (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Failure to operate	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Electrical resistance low (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1084 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Failure to operate	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-current (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

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COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Failure to operate	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-current (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

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COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Failure to operate	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-voltage (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Failure to operate	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Over-voltage (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Failure to operate	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Random or transient electrical loads (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Failure to operate	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Random or transient electrical loads (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Failure to operate	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Short circuit (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Front Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210
									Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly >Signal Controller (Retraction)

INDENTURE LEVEL 4

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Signal Controller (Retraction) A component that collects and distributes control signals and power to various components. The controller acts to take a single input to various controlled outputs.	Distribute Discrete Data Recieves power and a single signal to regulate the operation of the retraction of each component in the landing gear.	Distribute Discrete Data Low (Signal Controller (Retraction)) Failure to operate	Open circuit (Signal Controller (Retraction))	Performance parameters changed (Signal Controller (Retraction))	Burnout (Signal Controller (Retraction))	Short circuit (Signal Controller (Retraction))	Actuate Front Retraction Rate Angular velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - linear Linear velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Mechanical - rotational Angular velocity Low (Retraction Assembly), Actuate Rear Retraction Rate (L) Angular velocity Low (Retraction Assembly) AND Actuate Rear Retraction Rate (R) Angular velocity Low (Retraction Assembly)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)	Warning Device	Repair, Scheduled Repair	3.0	10.0	7.0	210

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Timer Valve 1 >Adjustable sleeve 11

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Adjustable sleeve 11	Prevent Liquid Leakage Flowrate (Sealing ring 11_Adjustable sleeve 11)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 11_Adjustable sleeve 11)	Pitted (Adjustable sleeve 11)	Surface change (Adjustable sleeve 11)	Cavitation corrosion (Adjustable sleeve 11)	Aerated liquid input (Adjustable sleeve 11) AND Insufficient surface protection (Adjustable sleeve 11) Aerated liquid input: Aerated liquid flow causing cavitation leading to cavitation damage to item surfaces. Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Adjustable sleeve 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Adjustable sleeve 11)	Surface change (Adjustable sleeve 11)	Cavitation corrosion (Adjustable sleeve 11)	Aerated liquid input (Adjustable sleeve 11) AND Insufficient surface protection (Adjustable sleeve 11) Aerated liquid input: Aerated liquid flow causing cavitation leading to cavitation damage to item surfaces. Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Adjustable sleeve 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Adjustable sleeve 11)	Surface change (Adjustable sleeve 11)	Fretting fatigue (Adjustable sleeve 11)	Cyclic mechanical loads (Adjustable sleeve 11) AND Vibration loading (Adjustable sleeve 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Regulate Liquid Flowrate (Valve housing 11_Adjustable sleeve 11)	Regulate Liquid Flowrate Very low (Valve housing 11_Adjustable sleeve 11)	Pitted (Adjustable sleeve 11)	Surface change (Adjustable sleeve 11)	Cavitation corrosion (Adjustable sleeve 11)	Aerated liquid input (Adjustable sleeve 11) AND Insufficient surface protection (Adjustable sleeve 11) Aerated liquid input: Aerated liquid flow causing cavitation leading to cavitation damage to item surfaces. Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Adjustable sleeve 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Timer Valve 1 >Adjustable sleeve 11

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Adjustable sleeve 11	Regulate Liquid Flowrate (Valve housing 11_Adjustable sleeve 11)	Regulate Liquid Flowrate Very low (Valve housing 11_Adjustable sleeve 11)	Corroded (Adjustable sleeve 11)	Surface change (Adjustable sleeve 11)	Cavitation corrosion (Adjustable sleeve 11)	Aerated liquid input (Adjustable sleeve 11) AND Insufficient surface protection (Adjustable sleeve 11) Aerated liquid input: Aerated liquid flow causing cavitation leading to cavitation damage to item surfaces. Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Adjustable sleeve 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Adjustable sleeve 11)	Surface change (Adjustable sleeve 11)	Fretting fatigue (Adjustable sleeve 11)	Cyclic mechanical loads (Adjustable sleeve 11) AND Vibration loading (Adjustable sleeve 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Timer Valve 1 >Sealing ring 11

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Sealing ring 11	Prevent Liquid Leakage Flowrate (Sealing ring 11_Adjustable sleeve 11)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 11_Adjustable sleeve 11)	Abraded (Sealing ring 11)	Surface change (Sealing ring 11)	Abrasive wear (Sealing ring 11)	Insufficient lubricant (Sealing ring 11) AND Solid particle contaminants (Sealing ring 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Partial crack (Sealing ring 11)	Leakage liquid/gas (Sealing ring 11)	Extrusion (Sealing ring 11)	High pressure input flow (Sealing ring 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Oxidised (Sealing ring 11)	Surface change (Sealing ring 11)	Plasma degradation (Sealing ring 11)	Chemically reactive contaminant (Sealing ring 11) Chemically reactive contaminant: Ozone.	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								High temperature (Sealing ring 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Extruded (Sealing ring 11)	Leakage liquid/gas (Sealing ring 11) AND Shape change (Sealing ring 11)	Extrusion (Sealing ring 11)	High pressure input flow (Sealing ring 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Scratched (Sealing ring 11)	Surface change (Sealing ring 11)	Abrasive wear (Sealing ring 11)	Insufficient lubricant (Sealing ring 11) AND Solid particle contaminants (Sealing ring 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Blistered (Sealing ring 11)	Surface change (Sealing ring 11)	Blistering (Sealing ring 11)	Liquid contaminant (Sealing ring 11) Liquid contaminant: Presence of moisture that can be absorbed.	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Prevent Liquid Leakage Flowrate (Sealing ring 11_Valve housing 11)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 11_Valve housing 11)	Scratched (Sealing ring 11)	Surface change (Sealing ring 11)	Abrasive wear (Sealing ring 11)	Insufficient lubricant (Sealing ring 11) AND Solid particle contaminants (Sealing ring 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Extruded (Sealing ring 11)	Leakage liquid/gas (Sealing ring 11) AND Shape change (Sealing ring 11)	Extrusion (Sealing ring 11)	High pressure input flow (Sealing ring 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Abraded (Sealing ring 11)	Surface change (Sealing ring 11)	Abrasive wear (Sealing ring 11)	Insufficient lubricant (Sealing ring 11) AND Solid particle contaminants (Sealing ring 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Partial crack (Sealing ring 11)	Leakage liquid/gas (Sealing ring 11)	Extrusion (Sealing ring 11)	High pressure input flow (Sealing ring 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Blistered (Sealing ring 11)	Surface change (Sealing ring 11)	Blistering (Sealing ring 11)	Liquid contaminant (Sealing ring 11) Liquid contaminant: Presence of moisture that can be absorbed.	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Oxidised (Sealing ring 11)	Surface change (Sealing ring 11)	Plasma degradation (Sealing ring 11)	Chemically reactive contaminant (Sealing ring 11) Chemically reactive contaminant: Ozone.	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								High temperature (Sealing ring 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Timer Valve 1 >Valve housing 11

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Valve housing 11	Prevent Liquid Leakage Flowrate (Sealing ring 11_Valve housing 11)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 11_Valve housing 11)	Fractured (Valve housing 11)	Change in behaviour (Valve housing 11), Leakage liquid/gas (Valve housing 11) AND Shape change (Valve housing 11)	Impact fracture (Valve housing 11)	Impact loads (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Partial crack (Valve housing 11)	Surface change (Valve housing 11)	Impact fracture (Valve housing 11)	Impact loads (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Valve housing 11)	Surface change (Valve housing 11)	Fretting fatigue (Valve housing 11)	Cyclic mechanical loads (Valve housing 11) AND Vibration loading (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Valve housing 11)	Surface change (Valve housing 11)	Pitting corrosion (Valve housing 11)	Corrosive contaminant (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Cavitation corrosion (Valve housing 11)	Insufficient surface protection (Valve housing 11) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Weak (Valve housing 11)	Performance parameters changed (Valve housing 11)	Pitting corrosion (Valve housing 11)	Corrosive contaminant (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Abraded (Valve housing 11)	Surface change (Valve housing 11)	Abrasive wear (Valve housing 11)	Insufficient lubricant (Valve housing 11) AND Solid particle contaminants (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Scratched (Valve housing 11)	Surface change (Valve housing 11)	Abrasive wear (Valve housing 11)	Insufficient lubricant (Valve housing 11) AND Solid particle contaminants (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Pitted (Valve housing 11)	Surface change (Valve housing 11)	Cavitation corrosion (Valve housing 11)	Insufficient surface protection (Valve housing 11) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Pitting corrosion (Valve housing 11)	Corrosive contaminant (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Regulate Liquid Flowrate (Valve housing 11_Adjustable sleeve 11)	Regulate Liquid Flowrate Very low (Valve housing 11_Adjustable sleeve 11)	Fractured (Valve housing 11)	Change in behaviour (Valve housing 11), Leakage liquid/gas (Valve housing 11) AND Shape change (Valve housing 11)	Impact fracture (Valve housing 11)	Impact loads (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Timer Valve 1 >Valve housing 11

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Valve housing 11	Regulate Liquid Flowrate (Valve housing 11_Adjustable sleeve 11)	Regulate Liquid Flowrate Very low (Valve housing 11_Adjustable sleeve 11)	Pitted (Valve housing 11)	Surface change (Valve housing 11)	Pitting corrosion (Valve housing 11)	Corrosive contaminant (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Cavitation corrosion (Valve housing 11)	Insufficient surface protection (Valve housing 11) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Weak (Valve housing 11)	Performance parameters changed (Valve housing 11)	Pitting corrosion (Valve housing 11)	Corrosive contaminant (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Partial crack (Valve housing 11)	Surface change (Valve housing 11)	Impact fracture (Valve housing 11)	Impact loads (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Valve housing 11)	Surface change (Valve housing 11)	Cavitation corrosion (Valve housing 11)	Insufficient surface protection (Valve housing 11) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Pitting corrosion (Valve housing 11)	Corrosive contaminant (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Scratched (Valve housing 11)	Surface change (Valve housing 11)	Abrasive wear (Valve housing 11)	Insufficient lubricant (Valve housing 11) AND Solid particle contaminants (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Valve housing 11)	Surface change (Valve housing 11)	Fretting fatigue (Valve housing 11)	Cyclic mechanical loads (Valve housing 11) AND Vibration loading (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Abraded (Valve housing 11)	Surface change (Valve housing 11)	Abrasive wear (Valve housing 11)	Insufficient lubricant (Valve housing 11) AND Solid particle contaminants (Valve housing 11)	Regulate Hydraulic Flow rate Low (Timer Valve 1)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Timer Valve 2 >Adjustable sleeve 22

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 1097 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Adjustable sleeve 22	Prevent Liquid Leakage Flowrate (Sealing ring 22_Adjustable sleeve 22)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 22_Adjustable sleeve 22)	Corroded (Adjustable sleeve 22)	Surface change (Adjustable sleeve 22)	Cavitation corrosion (Adjustable sleeve 22)	Aerated liquid input (Adjustable sleeve 22) AND Insufficient surface protection (Adjustable sleeve 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent. Aerated liquid input: Aerated liquid flow causing cavitation leading to cavitation damage to item surfaces.	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Adjustable sleeve 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Adjustable sleeve 22)	Surface change (Adjustable sleeve 22)	Fretting fatigue (Adjustable sleeve 22)	Cyclic mechanical loads (Adjustable sleeve 22) AND Vibration loading (Adjustable sleeve 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Pitted (Adjustable sleeve 22)	Surface change (Adjustable sleeve 22)	Cavitation corrosion (Adjustable sleeve 22)	Aerated liquid input (Adjustable sleeve 22) AND Insufficient surface protection (Adjustable sleeve 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent. Aerated liquid input: Aerated liquid flow causing cavitation leading to cavitation damage to item surfaces.	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Adjustable sleeve 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Regulate Liquid Flowrate (Valve housing 22_Adjustable sleeve 22)	Regulate Liquid Flowrate Very low (Valve housing 22_Adjustable sleeve 22)	Pitted (Adjustable sleeve 22)	Surface change (Adjustable sleeve 22)	Cavitation corrosion (Adjustable sleeve 22)	Aerated liquid input (Adjustable sleeve 22) AND Insufficient surface protection (Adjustable sleeve 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent. Aerated liquid input: Aerated liquid flow causing cavitation leading to cavitation damage to item surfaces.	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Timer Valve 2 >Adjustable sleeve 22

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1098 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Adjustable sleeve 22	Regulate Liquid Flowrate (Valve housing 22_Adjustable sleeve 22)	Regulate Liquid Flowrate Very low (Valve housing 22_Adjustable sleeve 22)	Pitted (Adjustable sleeve 22)	Surface change (Adjustable sleeve 22)	Cavitation corrosion (Adjustable sleeve 22)	Pressure differential (Adjustable sleeve 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Adjustable sleeve 22)	Surface change (Adjustable sleeve 22)	Fretting fatigue (Adjustable sleeve 22)	Cyclic mechanical loads (Adjustable sleeve 22) AND Vibration loading (Adjustable sleeve 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Adjustable sleeve 22)	Surface change (Adjustable sleeve 22)	Cavitation corrosion (Adjustable sleeve 22)	Aerated liquid input (Adjustable sleeve 22) AND Insufficient surface protection (Adjustable sleeve 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent. Aerated liquid input: Aerated liquid flow causing cavitation leading to cavitation damage to item surfaces.	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Adjustable sleeve 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Timer Valve 2 >Sealing ring 22

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 1099 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Sealing ring 22	Prevent Liquid Leakage Flowrate (Sealing ring 22_Adjustable sleeve 22)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 22_Adjustable sleeve 22)	Partial crack (Sealing ring 22)	Leakage liquid/gas (Sealing ring 22)	Extrusion (Sealing ring 22)	High pressure input flow (Sealing ring 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Extruded (Sealing ring 22)	Leakage liquid/gas (Sealing ring 22) AND Shape change (Sealing ring 22)	Extrusion (Sealing ring 22)	High pressure input flow (Sealing ring 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Blistered (Sealing ring 22)	Surface change (Sealing ring 22)	Blistering (Sealing ring 22)	Liquid contaminant (Sealing ring 22) Liquid contaminant: Presence of moisture that can be absorbed.	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Oxidised (Sealing ring 22)	Surface change (Sealing ring 22)	Plasma degradation (Sealing ring 22)	Chemically reactive contaminant (Sealing ring 22) Chemically reactive contaminant: Ozone.	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								High temperature (Sealing ring 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Abraded (Sealing ring 22)	Surface change (Sealing ring 22)	Abrasive wear (Sealing ring 22)	Insufficient lubricant (Sealing ring 22) AND Solid particle contaminants (Sealing ring 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Scratched (Sealing ring 22)	Surface change (Sealing ring 22)	Abrasive wear (Sealing ring 22)	Insufficient lubricant (Sealing ring 22) AND Solid particle contaminants (Sealing ring 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Prevent Liquid Leakage Flowrate (Sealing ring 22_Valve housing 22)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 22_Valve housing 22)	Abraded (Sealing ring 22)	Surface change (Sealing ring 22)	Abrasive wear (Sealing ring 22)	Insufficient lubricant (Sealing ring 22) AND Solid particle contaminants (Sealing ring 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Timer Valve 2 >Sealing ring 22

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 1100 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Sealing ring 22	Prevent Liquid Leakage Flowrate (Sealing ring 22_Valve housing 22)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 22_Valve housing 22)	Oxidised (Sealing ring 22)	Surface change (Sealing ring 22)	Plasma degradation (Sealing ring 22)	Chemically reactive contaminant (Sealing ring 22) Chemically reactive contaminant: Ozone.	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								High temperature (Sealing ring 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Partial crack (Sealing ring 22)	Leakage liquid/gas (Sealing ring 22)	Extrusion (Sealing ring 22)	High pressure input flow (Sealing ring 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Scratched (Sealing ring 22)	Surface change (Sealing ring 22)	Abrasive wear (Sealing ring 22)	Insufficient lubricant (Sealing ring 22) AND Solid particle contaminants (Sealing ring 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Extruded (Sealing ring 22)	Leakage liquid/gas (Sealing ring 22) AND Shape change (Sealing ring 22)	Extrusion (Sealing ring 22)	High pressure input flow (Sealing ring 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Blistered (Sealing ring 22)	Surface change (Sealing ring 22)	Blistering (Sealing ring 22)	Liquid contaminant (Sealing ring 22) Liquid contaminant: Presence of moisture that can be absorbed.	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Timer Valve 2 >Valve housing 22

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 1101 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Valve housing 22	Prevent Liquid Leakage Flowrate (Sealing ring 22_Valve housing 22)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 22_Valve housing 22)	Pitted (Valve housing 22)	Solid debris (Valve housing 22) AND Surface change (Valve housing 22)	Pitting corrosion (Valve housing 22)	Corrosive contaminant (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Cavitation corrosion (Valve housing 22)	Insufficient surface protection (Valve housing 22) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Scratched (Valve housing 22)	Solid debris (Valve housing 22) AND Surface change (Valve housing 22)	Abrasive wear (Valve housing 22)	Insufficient lubricant (Valve housing 22) AND Solid particle contaminants (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Partial crack (Valve housing 22)	Surface change (Valve housing 22)	Impact fracture (Valve housing 22)	Impact loads (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Valve housing 22)	Surface change (Valve housing 22)	Fretting fatigue (Valve housing 22)	Cyclic mechanical loads (Valve housing 22) AND Vibration loading (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Valve housing 22)	Surface change (Valve housing 22)	Pitting corrosion (Valve housing 22)	Corrosive contaminant (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Cavitation corrosion (Valve housing 22)	Insufficient surface protection (Valve housing 22) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Timer Valve 2 >Valve housing 22

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 1102 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Valve housing 22	Prevent Liquid Leakage Flowrate (Sealing ring 22_Valve housing 22)	Prevent Liquid Leakage Flowrate Very low (Sealing ring 22_Valve housing 22)	Corroded (Valve housing 22)	Surface change (Valve housing 22)	Cavitation corrosion (Valve housing 22)	Pressure differential (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Weak (Valve housing 22)	Performance parameters changed (Valve housing 22)	Pitting corrosion (Valve housing 22)	Corrosive contaminant (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Fractured (Valve housing 22)	Change in behaviour (Valve housing 22), Leakage liquid/gas (Valve housing 22) AND Shape change (Valve housing 22)	Impact fracture (Valve housing 22)	Impact loads (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Abraded (Valve housing 22)	Solid debris (Valve housing 22) AND Surface change (Valve housing 22)	Abrasive wear (Valve housing 22)	Insufficient lubricant (Valve housing 22) AND Solid particle contaminants (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Regulate Liquid Flowrate (Valve housing 22_Adjustable sleeve 22)	Regulate Liquid Flowrate Very low (Valve housing 22_Adjustable sleeve 22)	Abraded (Valve housing 22)	Solid debris (Valve housing 22) AND Surface change (Valve housing 22)	Abrasive wear (Valve housing 22)	Insufficient lubricant (Valve housing 22) AND Solid particle contaminants (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Partial crack (Valve housing 22)	Surface change (Valve housing 22)	Impact fracture (Valve housing 22)	Impact loads (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Surface cracks (Valve housing 22)	Surface change (Valve housing 22)	Fretting fatigue (Valve housing 22)	Cyclic mechanical loads (Valve housing 22) AND Vibration loading (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Fractured (Valve housing 22)	Change in behaviour (Valve housing 22), Leakage liquid/gas (Valve housing 22) AND Shape change (Valve housing 22)	Impact fracture (Valve housing 22)	Impact loads (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Timer Valve 2 >Valve housing 22

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 1103 **OF** 1118

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Valve housing 22	Regulate Liquid Flowrate (Valve housing 22_Adjustable sleeve 22)	Regulate Liquid Flowrate Very low (Valve housing 22_Adjustable sleeve 22)	Scratched (Valve housing 22)	Solid debris (Valve housing 22) AND Surface change (Valve housing 22)	Abrasive wear (Valve housing 22)	Insufficient lubricant (Valve housing 22) AND Solid particle contaminants (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Corroded (Valve housing 22)	Surface change (Valve housing 22)	Cavitation corrosion (Valve housing 22)	Insufficient surface protection (Valve housing 22) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Pitting corrosion (Valve housing 22)	Corrosive contaminant (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System > Retraction Assembly > Timer Valve 2 >Valve housing 22

INDENTURE LEVEL 5

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM

SHEET 1104 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Valve housing 22	Regulate Liquid Flowrate (Valve housing 22_Adjustable sleeve 22)	Regulate Liquid Flowrate Very low (Valve housing 22_Adjustable sleeve 22)	Weak (Valve housing 22)	Performance parameters changed (Valve housing 22)	Pitting corrosion (Valve housing 22)	Corrosive contaminant (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Pitted (Valve housing 22)	Solid debris (Valve housing 22) AND Surface change (Valve housing 22)	Cavitation corrosion (Valve housing 22)	Insufficient surface protection (Valve housing 22) Insufficient surface protection: Incorrect manufacturing leading to inadequate protection from corrosive agent.	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
								Pressure differential (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
							Pitting corrosion (Valve housing 22)	Corrosive contaminant (Valve housing 22)	Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Regulate Hydraulic Flow rate Low (Timer Valve 2)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Shock Absorber (F)

INDENTURE LEVEL 3

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1105 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Shock Absorber (F)	Connect Mechanical - rotational Angular velocity	Connect Mechanical - rotational Angular velocity Low (Shock Absorber (F))	Cracked (Shock Absorber (F))		Impact fracture (Shock Absorber (F))	Impact loads (Shock Absorber (F))	Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Fractured (Shock Absorber (F))		Impact fracture (Shock Absorber (F))	Impact loads (Shock Absorber (F))	Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Shock Absorber (L)

INDENTURE LEVEL 3

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1106 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Shock Absorber (L)	Connect Mechanical - rotational Angular velocity	Connect Mechanical - rotational Angular velocity Low (Shock Absorber (L))	Fractured (Shock Absorber (L))		Impact fracture (Shock Absorber (L))	Impact loads (Shock Absorber (L))	Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Cracked (Shock Absorber (L))		Impact fracture (Shock Absorber (L))	Impact loads (Shock Absorber (L))	Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Shock Absorber (R)

INDENTURE LEVEL 3

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1107 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Shock Absorber (R)	Connect Mechanical - rotational Angular velocity	Connect Mechanical - rotational Angular velocity Low (Shock Absorber (R))	Fractured (Shock Absorber (R))		Impact fracture (Shock Absorber (R))	Impact loads (Shock Absorber (R))	Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Cracked (Shock Absorber (R))		Impact fracture (Shock Absorber (R))	Impact loads (Shock Absorber (R))	Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Structural Post (F)
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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SHEET 1108 **OF** 1118
COMPILED BY PHMT
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Structural Post (F)	Stabilize Mechanical - rotational Torque	Stabilize Mechanical - rotational Torque Low (Structural Post (F))	Compressed (Structural Post (F))		Impact deformation (Structural Post (F))	Impact loads (Structural Post (F))	Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Dented (Structural Post (F))		Impact deformation (Structural Post (F))	Impact loads (Structural Post (F))	Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Structural Post (L)
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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SHEET 1109 **OF** 1118
COMPILED BY PHMT
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Structural Post (L)	Stabilize Mechanical - rotational Torque	Stabilize Mechanical - rotational Torque Low (Structural Post (L))	Dented (Structural Post (L))		Impact deformation (Structural Post (L))	Impact loads (Structural Post (L))	Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Compressed (Structural Post (L))		Impact deformation (Structural Post (L))	Impact loads (Structural Post (L))	Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Structural Post (R)

INDENTURE LEVEL 3

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1110 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Structural Post (R)	Stabilize Mechanical - rotational Torque	Stabilize Mechanical - rotational Torque Low (Structural Post (R))	Compressed (Structural Post (R))		Impact deformation (Structural Post (R))	Impact loads (Structural Post (R))	Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Dented (Structural Post (R))		Impact deformation (Structural Post (R))	Impact loads (Structural Post (R))	Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
									Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Trailing Arm (F)

INDENTURE LEVEL 3

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1111 **OF** 1118

COMPILED BY PHMT

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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Trailing Arm (F)	Connect Mechanical - rotational Angular velocity	Connect Mechanical - rotational Angular velocity Low (Trailing Arm (F)) Intermittent operation	Stretched (Trailing Arm (F))		Yielding (Trailing Arm (F))	High mechanical load (Trailing Arm (F))	Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
				Connect Mechanical - rotational Angular velocity Low (Trailing Arm (F))	Stretched (Trailing Arm (F))		Yielding (Trailing Arm (F))	High mechanical load (Trailing Arm (F))	Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Trailing Arm (L)

INDENTURE LEVEL 3

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1112 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Trailing Arm (L)	Connect Mechanical - rotational Angular velocity	Connect Mechanical - rotational Angular velocity Low (Trailing Arm (L))	Stretched (Trailing Arm (L))		Yielding (Trailing Arm (L))	High mechanical load (Trailing Arm (L))	Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Trailing Arm (R)

INDENTURE LEVEL 3

REFERENCE DRAWING

MISSION Training Flight Profile 1 (Easy)

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SHEET 1113 **OF** 1118

COMPILED BY PHMT

APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Trailing Arm (R)	Connect Mechanical - rotational Angular velocity	Connect Mechanical - rotational Angular velocity Low (Trailing Arm (R))	Stretched (Trailing Arm (R))		Yielding (Trailing Arm (R))	High mechanical load (Trailing Arm (R))	Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Wheel (F)
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM
SHEET 1114 **OF** 1118
COMPILED BY PHMT
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Wheel (F)	Channel Solid Position	Channel Solid Position Displaced - (Wheel (F)) Failure to operate	Scratched (Wheel (F))		Abrasive wear (Wheel (F))	Insufficient clearances (Wheel (F)), Insufficient lubricant (Wheel (F)) AND Solid particle contaminants (Wheel (F))	Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
				Channel Solid Position Displaced - (Wheel (F))	Abraded (Wheel (F))		Abrasive wear (Wheel (F))	Insufficient clearances (Wheel (F)), Insufficient lubricant (Wheel (F)) AND Solid particle contaminants (Wheel (F))	Actuate Front Strut Position Displaced - (Landing Gear System)	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Control Mechanical - linear Linear velocity	Control Mechanical - linear Linear velocity High (Wheel (F))				Control Mechanical - linear Linear velocity High (Wheel (F))	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
				Control Mechanical - linear Linear velocity Low (Wheel (F))				Control Mechanical - linear Linear velocity Low (Wheel (F))	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Wheel (L)
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM
SHEET 1115 **OF** 1118
COMPILED BY PHMT
APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Wheel (L)	Channel Solid Position	Channel Solid Position Displaced - (Wheel (L))	Scratched (Wheel (L))		Abrasive wear (Wheel (L))	Insufficient clearances (Wheel (L)), Insufficient lubricant (Wheel (L)) AND Solid particle contaminants (Wheel (L))	Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Abraded (Wheel (L))		Abrasive wear (Wheel (L))	Insufficient clearances (Wheel (L)), Insufficient lubricant (Wheel (L)) AND Solid particle contaminants (Wheel (L))	Actuate Main Strut Position Displaced - (Landing Gear System)	Control Front Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Control Mechanical - linear Linear velocity	Control Mechanical - linear Linear velocity High (Wheel (L))				Control Mechanical - linear Linear velocity High (Wheel (L))	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
				Control Mechanical - linear Linear velocity Low (Wheel (L))				Control Mechanical - linear Linear velocity Low (Wheel (L))	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System > Landing Gear System >Wheel (R)
INDENTURE LEVEL 3
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM
SHEET 1116 **OF** 1118
COMPILED BY PHMT
APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Wheel (R)	Channel Solid Position	Channel Solid Position Displaced - (Wheel (R))	Abraded (Wheel (R))		Abrasive wear (Wheel (R))	Insufficient clearances (Wheel (R)), Insufficient lubricant (Wheel (R)) AND Solid particle contaminants (Wheel (R))	Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
					Scratched (Wheel (R))		Abrasive wear (Wheel (R))	Insufficient clearances (Wheel (R)), Insufficient lubricant (Wheel (R)) AND Solid particle contaminants (Wheel (R))	Actuate Solid Position Displaced - (Landing Gear System)	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			10.0	10.0	10.0	1000
			Control Mechanical - linear Linear velocity	Control Mechanical - linear Linear velocity High (Wheel (R))				Control Mechanical - linear Linear velocity High (Wheel (R))	Control Mechanical - linear Linear velocity High (Landing Gear System)	Control Mechanical - linear Linear velocity High (Aircraft System)			10.0	10.0	10.0	1000
				Control Mechanical - linear Linear velocity Low (Wheel (R))				Control Mechanical - linear Linear velocity Low (Wheel (R))	Control Mechanical - linear Linear velocity Low (Landing Gear System)	Control Mechanical - linear Linear velocity Low (Aircraft System)			10.0	10.0	10.0	1000

SYSTEM Aircraft System >Pneumatic System
INDENTURE LEVEL 2
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

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SHEET 1117 **OF** 1118
COMPILED BY PHMT
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ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Pneumatic System	Provide Gas Mass flow rate	Provide Gas Mass flow rate Low (Pneumatic System)	Fractured (Pneumatic System)		High cycle fatigue (Pneumatic System)	Cyclic mechanical loads (Pneumatic System), Imbalanced mechanical loads (Pneumatic System) AND Vibration loading (Pneumatic System)	N/A	Control Air supply Mass flow rate Low (Aircraft System)			10.0	10.0	10.0	1000
								Provide Gas Mass flow rate Low (Pneumatic System)	N/A	Control Rolling Force (Left Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Rear Left Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Mechanical - linear Linear velocity High (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Rolling Force (Right Aileron) Force Low (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Mixture Gas-Liquid Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Rear Right Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Pitching Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Exhaust Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Yawing Force Force Low (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Exhaust Temperature Low (Aircraft System)			5.0	7.9	10.0	395
									N/A	Control Thrust Force Low (Aircraft System)			5.0	4.0	10.0	200
									N/A	Control Air supply Mass flow rate Low (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Front Strut Retraction Position Displaced - (Aircraft System)			5.0	10.0	10.0	500

SYSTEM Aircraft System >Pneumatic System
INDENTURE LEVEL 2
REFERENCE DRAWING
MISSION Training Flight Profile 1 (Easy)

DATE 14/08/2023 1:27:10 PM
SHEET 1118 **OF** 1118
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APPROVED BY

ITEM NO.	LCN	ITEM/PHYSICAL DESCRIPTION	FUNCTION/FUNCTIONAL NARRATIVE	FAILURE MODE		SYMPTOM	CAUSES OF FAILURE		FAILURE EFFECTS		DETECTION METHODS	COMPENSATING PROVISIONS	CRITICALITY			
				FUNCTIONAL FAILURE	FAULT		MECHANISM	CAUSE	NEXT HIGHER LEVEL	END EFFECTS			O	S	D	RPN
		Pneumatic System	Provide Gas Mass flow rate	Provide Gas Mass flow rate High (Pneumatic System)				Provide Gas Mass flow rate High (Pneumatic System)	N/A	Control Rolling Force (Left Aileron) Force High (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Rear Left Strut Retraction Position Displaced + (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Mechanical - linear Linear velocity Low (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Mechanical - linear Linear velocity High (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Rolling Force (Right Aileron) Force High (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Mechanical - linear Linear velocity High (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Mixture Gas-Liquid Mass flow rate High (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Rear Right Strut Retraction Position Displaced + (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Pitching Force Force High (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Exhaust Mass flow rate High (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Yawing Force Force High (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Exhaust Temperature High (Aircraft System)			5.0	8.3	10.0	415
									N/A	Control Thrust Force High (Aircraft System)			5.0	2.0	10.0	100
									N/A	Control Air supply Mass flow rate High (Aircraft System)			5.0	10.0	10.0	500
									N/A	Control Front Strut Retraction Position Displaced + (Aircraft System)			5.0	10.0	10.0	500
			Provide Gas Temperature	Provide Gas Temperature High (Pneumatic System)				Provide Gas Temperature High (Pneumatic System)	N/A	Control Exhaust Temperature High (Aircraft System)			5.0	8.3	10.0	415
									N/A	Control Air supply Temperature High (Aircraft System)			5.0	10.0	10.0	500
				Provide Gas Temperature Low (Pneumatic System)				Provide Gas Temperature Low (Pneumatic System)	N/A	Control Exhaust Temperature Low (Aircraft System)			5.0	7.9	10.0	395
									N/A	Control Air supply Temperature Low (Aircraft System)			5.0	10.0	10.0	500