



U.S. Department of Transportation
Federal Aviation Administration
Washington, DC

Master Minimum Equipment List (MMEL)

Revision: Original
Date: 06/08/2017

Gulfstream Aerospace GIV-X (G450)

**** FOR 14 CFR PART 125 OPERATIONS ONLY ****

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U.S. DEPARTMENT OF TRANSPORTATION

MASTER MINIMUM EQUIPMENT LIST

FEDERAL AVIATION ADMINISTRATION

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HIGHLIGHTS OF CHANGE		

EFFECTIVE ABOVE DATE, this is the ORIGINAL release for the Gulfstream GIV-X (G450) Master Minimum Equipment List (MMEL) for part 125 operations only.

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DEFINITIONS		

Refer to the current FAA MMEL Policy Letter PL-25 for the most current list of definitions.

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PREAMBLE			

Insert Preamble from Policy Letter PL-34 for part 125 certificate holders.

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GUIDELINES FOR (M) AND (O) PROCEDURES			

Guidelines for (M) and (O) Procedures should be based on the Maintenance and Operational Procedures Manual for the Minimum Equipment List, published by Gulfstream Aerospace.

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SECTION ONE

LINE REPLACEABLE UNIT (LRU) COMPONENT RELIEF

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1. REPAIR CATEGORY

2. NUMBER INSTALLED

3. NUMBER REQUIRED FOR DISPATCH

4. REMARKS OR EXCEPTIONS

21. AIR CONDITIONING

Sequence No.	Item	1	2	3	4	Change Bar
1.	Cabin Altitude Indicator (Overhead Panel)	C	1	0	May be inoperative provided cabin altitude is available on EICAS Synoptic display.	
		C	1	0	May be inoperative provided: a) Cabin Pressure Selector Panel is operative, and b) Pressurization is operated in AUTO mode.	
		C	1	0	May be inoperative provided: a) Cabin Differential Pressure Indicator is operative, and b) A chart is provided to crew to convert Cabin Differential Pressure to Cabin Altitude.	
		D	1	0	May be inoperative provided airplane is equipped with additional pneumatic three-in-one cabin pressurization monitoring instrument, and Cabin Altitude Indicator portion is fully operative.	
		C	1	0	(O) May be inoperative provided airplane is operated in unpressurized configuration.	

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21. AIR CONDITIONING

Sequence No.	Item	1	2	3	4	Change Bar
2.	Cabin Differential Pressure Indicator	D	1	0	May be inoperative provided cabin differential pressure is available on EICAS Synoptic display.	
		C	1	0	May be inoperative provided: a) Cabin Pressure Selection Panel is operative, and b) Pressurization is operated in AUTO mode.	
		D	1	0	May be inoperative provided: a) Cabin Altitude Indicator is operative, and b) A chart is provided to crew to convert Cabin Altitude to Cabin Differential Pressure.	
		D	1	0	May be inoperative provided airplane is equipped with additional pneumatic three-in-one cabin pressurization monitoring instrument, and Cabin Altitude Indicator portion is fully operative.	
		C	1	0	(O) May be inoperative provided airplane is operated in unpressurized configuration.	
3.	Cabin Rate of Climb Indicator	D	1	0		

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21. AIR CONDITIONING

Sequence No.	Item	1	2	3	4	Change Bar
4.	Automatic Pressurization Control Systems	B	2	0	(O) Except for ER operations, may be inoperative provided: a) Manual Pressurization Control System is operative, b) Cabin Altitude and Differential Pressure Indicators are operative, c) Cabin Rate of Climb Indicator is operative, d) Autopilot is operative, and e) Airplane is operated in accordance with AFM Limitations.	
		B	2	0	(O) Except for ER operations, may be inoperative provided airplane is operated in unpressurized configuration.	
5.	Manual Pressurization Control System	C	1	0	May be inoperative provided both Automatic Pressurization Control Systems are operative.	
6.	Semi-Auto Pressurization Control System	C	1	0		
7.	Cabin Altitude Pressure Warning System	C	1	0	May be inoperative provided: a) Cabin Altitude and Differential Pressure Indicators are operative, b) Cabin Oxygen On Warning System is operative, and c) Airplane is operated in accordance with AFM Limitations.	
		C	1	0	(O) May be inoperative provided airplane is operated in unpressurized configuration.	
8.	Pressurization Outflow Valve Position Indicator	C	1	0	May be inoperative provided all other components of the cabin Pressure Control Panel and Cabin Pressure Indicator are operative.	

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21. AIR CONDITIONING

Sequence No.	Item	1	2	3	4	Change Bar
9.	Cockpit Zone Temperature Control System and Cabin Zone Temperature Control Systems	C	3	2		
		C	3	1	(O) May be inoperative provided: a) Ram Air is operative, and b) Airplane is operated in unpressurized configuration.	
		1)	Automatic Systems	C	3	0
2)	Manual Systems	C	3	0	May be inoperative provided: a) Associated automatic control system is operative, and b) Associated temperature indicator is operative.	
10.	Cockpit/Cabin Zone Temperature Indicators (Overhead Panel)	D	3	0	May be inoperative provided associated Automatic Temperature Control System is operative.	
		D	3	0	May be inoperative provided associated zone temperature is available on EICAS Synoptic display.	
		D	3	0	May be inoperative provided associated Manual Temperature Control System is operative.	
11.	Duct Temperature Indicators (Overhead Panel)	D	3	0		

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21. AIR CONDITIONING

Sequence No.	Item	1	2	3	4	Change Bar
12.	Environmental Control System (ECS) Packs					
1)	Pressurized Configuration	C	2	1	Except for ER operations, may be inoperative provided: <ul style="list-style-type: none"> a) Inoperative ECS Pack is selected OFF, b) Bleed Air Isolation Valve is CLOSED and OPERATIVE, c) Right Main TRU is operative, d) Airplane is operated at or below FL 410, and e) Autothrottle must be operative and engaged at or above FL 400. 	
2)	Unpressurized Configuration	C	2	0	Except for ER operations, may be inoperative provided outflow valve is operative.	
13. ***	Three-In-One Cabin Pneumatic Pressurization Monitoring Instrument	C	1	0	May be inoperative provided primary Cabin Altitude and primary Cabin Differential Pressure Indicators are operative either in the overhead panel or on the Synoptic Display.	
14.	Air Conditioning System Pack Inlet Valves	C	2	1	(M) Except for ER operations, may be inoperative provided: <ul style="list-style-type: none"> a) Affected Valve is CLOSED and deactivated electrically, b) Associated Air Conditioning Pack is selected OFF, and c) Airplane is operated in accordance with AFM Limitations. 	

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21. AIR CONDITIONING

Sequence No.	Item	1	2	3	4	Change Bar
15.	Outflow Valve System	C	1	0	(M)(O) May be inoperative provided: a) Outflow valve is positioned to full OPEN position and electrically isolated, b) Airplane is operated in unpressurized configuration, and c) Extended overwater operations are not conducted.	
1)	A/C Motors	C	2	1	May be inoperative provided: a) DC motor is operative, and b) Airplane is operated in accordance with AFM Limitations.	
16.	Pressure Relief Valve	C	1	0	May be inoperative provided: a) Cabin differential pressure and cabin altitude displays are operative, b) Selected cabin altitude is 1,000 feet higher than normal cabin altitude for the cruise flight level, and c) Flightcrew monitors actual cabin differential pressure and maintains it at or below 9.5 psi.	
		C	1	0	(O) May be inoperative provided airplane is operated in unpressurized configuration.	

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21. AIR CONDITIONING

Sequence No.	Item	1	2	3	4	Change Bar
17.	Cabin Pressure Indicator and Control Panel					
1)	Manual Light	C	1	0		
2)	Flight/Landing Switch (Light Function Only)	C	1	0		
3)	Fault/Manual Switch (Light Function Only)	C	1	0		
4)	Auto/Semi Switch (Light Function Only)	C	1	0		
18.	Selector Panel (Semi-Auto)	B	1	0	May be inoperative provided: a) Auto system (Cabin Pressure Control Panel) is operative, and b) Semi-auto mode is considered inoperative.	
19.	Remote Filter (Pressure Relief Valve (PRV))	B	1	0		
20.	Cabin Pressure Acquisition Module (CPAM)	C	1	0	May be inoperative provided both auto systems are operative.	

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21. AIR CONDITIONING

Sequence No.	Item	1	2	3	4	Change Bar
21.	Ram Air System					
1)	Pressurized Configuration	C	1	0	May be inoperative provided: a) Automatic Pressurization Control System is operative, b) Manual Pressurization Control System is operative, c) Bleed Air Pressure Regulating and Shutoff Systems are operative, and d) Airplane is operated in accordance with AFM Limitations and Procedures.	
2)	Unpressurized Configuration	C	1	0	(O) May be inoperative provided: a) Airplane is operated in unpressurized configuration, and b) Airplane is operated in accordance with AFM Limitations and Procedures.	
22.	PSU Fan	C	1	0	(O) May be inoperative provided: a) Ambient Temperature is 95 degrees F (35 degrees C) or cooler, b) TRU electrical loads are 50% or less, c) Right main TRU is operative, and d) Both Environmental Control System (ECS) Packs are operative.	

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22. AUTOFLIGHT

Sequence No.	Item	1	2	3	4	Change Bar
1.	Autothrottle Systems	C	2	0		
2.	Performance Management Systems (SmartPerf/TOLD)	C	2	0	May be inoperative provided Performance Handbook is immediately available to the flightcrew.	
3.	Control Wheel Autopilot Disconnect Buttons	C	2	1	May be inoperative provided: a) Autopilot is not utilized below 1,500 feet AGL, b) Approach minimums do not require the use of the autopilot, and c) Airplane is piloted from the side with operative button.	
4.	Autothrottle Disconnect Buttons (On Thrust Lever Handles)	C	2	1		
		C	2	0	May be inoperative provided Autothrottle is not used.	
5.	Autothrottle Engage/Disengage Switches (On Thrust Lever Stem)	C	2	1		
		C	2	0	May be inoperative provided Autothrottle is not used.	
6.	Touch Control Steering Switches (TCS)	D	2	0		
7.	Autopilots (Flight Guidance Computers (FGC)/ Flight Directors)	C	2	1	(M)(O) Except for ER operations or where en route operations or approach minimums require its use, may be inoperative provided airplane is operated in accordance with AFM Limitations in the event operative FGC fails and Yaw Damper is inoperative.	
					NOTE: AP/FGC is required for MNPS, RVSM, RNP, and PRNAV operations.	

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22. AUTOFLIGHT

Sequence No.	Item	1	2	3	4	Change Bar
8.	Yaw Damper Systems	C	2	1	(O) Except for ER operations, may be inoperative provided airplane is operated in accordance with AFM Limitations.	
9.	Takeoff/Go-Around (TO/GA) Buttons (On Power Lever Handles)	C	2	1	May be inoperative provided approach minimums do not require its use.	
		C	2	0	(O) May be inoperative provided: a) Both power levers are operated manually for takeoff and go-around, and b) Autopilot and Flight Director are not used below 500 feet or MDA, whichever is higher. NOTE: Flight Director Takeoff and Go-Around guidance and Autothrottle are not available with both TO/GA switches inoperative. Missed approach, if needed, must be selected via the MCDU.	
10.	Mach Trim Systems	C	2	1		

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23. COMMUNICATIONS

Sequence No.	Item	1	2	3	4	Change Bar
1.	Communications Systems (VHF, UHF)	D	-	-	Any in excess of those required by 14 CFR may be inoperative provided it is not powered by the Emergency AC Bus, Emergency DC Bus, Battery Bus, Battery Direct Bus, or the DC Transfer Bus and not required for emergency procedures.	
1)	VHF Communication Control Panels					
a) ***	Frequency Transfer Light	C	-	0		
b) ***	Frequency Transfer Switch	C	-	0		
c) ***	Frequency Selector Knob	C	-	2		
d) ***	Frequency Indication	C	-	2		

NOTE: Comm 1 is powered by the Emergency Bus.

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23. COMMUNICATIONS

Sequence No.	Item	1	2	3	4	Change Bar
2.	Cockpit Voice Recorder (CVR) (With Flight Data Recorder (FDR) Installed)	A	1	0	May be inoperative provided: a) Flight Data Recorder (FDR) is operative, and b) Repairs are made within 3 flight days.	
1) ***	Independent Power Source	C	1	0		
	Cockpit Voice Recorder (CVR) (Without Flight Data Recorder (FDR) Installed)	A	1	0	May be inoperative provided repairs are made within 3 flight days.	
1) ***	Independent Power Source	C	1	0		
	Cockpit Voice Recorder (CVR) (Operator Other Than a Holder of an Air Carrier or Commercial Operator Certificate)	A	1	0	May be inoperative provided repairs are made in accordance with applicable 14 CFRs.	
1) ***	Independent Power Source	C	1	0		
3. ***	Selective Call Systems (SELCAL)	C	-	0	(O) May be inoperative provided alternate procedures are established and used.	
		D	-	0	May be inoperative provided procedures do not require its use.	
1) ***	Channels	C	-	0	(O) May be inoperative provided alternate procedures are established and used.	
		D	-	0	May be inoperative provided procedures do not require its use.	

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23. COMMUNICATIONS

Sequence No.	Item	1	2	3	4	Change Bar
4.	Emergency Locator Transmitter (ELT)					
1) ***	Survival Type ELTs	D	-	-	Any in excess of those required by 14 CFR may be inoperative or missing.	
2) ***	Fixed ELTs	A	-	0	(M) May be inoperative provided: a) System is deactivated, and b) Repairs are made within 90 days.	
		A	-	0	May be missing provided repairs are made within 90 days.	
		D	-	-	(M) Any in excess of those required by 14 CFR may be inoperative provided system is deactivated.	
		D	-	-	Any in excess of those required by 14 CFR may be missing.	

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23. COMMUNICATIONS

Sequence No.	Item	1	2	3	4	Change Bar
5. ***	Crewmember Interphone System	C	2	1		
	1) Passenger Configuration					
	a) Flight Deck to Cabin, Cabin to Flight Deck Functions	B	-	-	May be inoperative provided alternate communications procedures are established and used.	
		D	-	-	May be inoperative provided procedures do not require its use.	
	2) All Other Aircraft/Operations	C	-	0	(O) May be inoperative provided alternate procedures are established and used.	
		D	-	0	May be inoperative provided procedures do not require its use.	
6. ***	Interphone Systems	D	-	0		
7.	Cockpit Speakers	C	2	0	May be inoperative provided: a) Affected speaker is not required for aural warnings, and b) An operative headset is provided for each person on cockpit duty.	

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23. COMMUNICATIONS

Sequence No.	Item	1	2	3	4	Change Bar
8. ***	Passenger Address Systems (PA)					
1)	Passenger Configuration	B	1	0	(O) May be inoperative provided alternate, normal, and emergency procedures and/or operating restrictions are established and used.	
a)	Lavatory Speakers	C	-	-	(O) May be inoperative provided alternate procedures are established and used.	
2)	Cargo Only Configuration (Courier/Supernumerary Address System)	C	1	0	(O) May be inoperative provided alternate, normal, and emergency procedures are established and used.	
		D	1	0	May be inoperative provided procedures do not require its use.	
a)	Lavatory Speakers	C	1	0	(O) May be inoperative provided alternate procedures are established and used.	
		D	1	0	May be inoperative provided procedures do not require its use.	
9. ***	Satellite Communication Systems	D	-	0	May be inoperative provided procedures do not require their use.	
10. ***	Prerecorded Passenger Announcement Systems	C	-	0	(O) May be inoperative provided alternate procedures are established and used.	
		D	-	0	May be inoperative provided procedures do not require its use.	

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23. COMMUNICATIONS

Sequence No.	Item	1	2	3	4	Change Bar		
11.	Flight Deck Hand Microphones (Holder of an Air Carrier or Commercial Operator Certificate)	C	-	0	May be inoperative provided associated boom microphone operates normally.			
		D	-	0	Any in excess of those required by regulation may be inoperative.			
12.	Flight Deck Headsets Earphones/Headphones and Boom Microphones (Holder of an Air Carrier or Commercial Operator Certificate)	1)	Headset Boom Microphones	A	-	0	May be inoperative provided: a) Associated hand microphone is installed and operates normally, and b) Repairs are made within 3 flight days.	
				D	-	-	Any in excess of those required by regulation may be inoperative.	
		2)	Headset Earphones/Headphones	C	-	1	May be inoperative provided associated flight deck speaker operates normally.	
				D	-	-	Any in excess of those required by regulation may be inoperative.	
		3)	Active Noise Canceling/Reduction Function	D	-	0	May be inoperative provided normal audio function of headset is operative.	

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23. COMMUNICATIONS

Sequence No.	Item	1	2	3	4	Change Bar
12.	Flight Deck Headsets Earphones/Headphones and Boom Microphones (Cont'd) (Operator Other Than a Holder of an Air Carrier or Commercial Operator Certificate)	D	-	-	Any in excess of those required by regulation may be inoperative.	
	1) Headset Boom Microphones	A	-	0	May be inoperative provided: a) Associated hand microphone is installed and operates normally, and b) Repairs are made in accordance with applicable regulations.	
		D	-	-	Any in excess of those required by regulation may be inoperative.	
	2) Headset Earphones/Headphones	C	-	1	May be inoperative provided associated flight deck speaker operates normally.	
3)	Active Noise Canceling/Reduction Function	D	-	0	May be inoperative provided normal audio function of headset is operative.	

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23. COMMUNICATIONS

Sequence No.	Item	1	2	3	4	Change Bar
13. ***	Alerting Systems (Audio/Visual)					
1) ***	Passenger Configuration					
a) ***	Flight Deck Call Visual Alerting System	D	1	0	May be inoperative provided the flight deck audio alerting system is operative. NOTE: The flight deck audio alerting must always be operative.	
b) ***	Flight Attendant Visual Alerting System	D	1	0	(O) May be inoperative provided: a) PA system is operative, and b) Alternate procedures for contacting flight attendants are established and used. NOTE 1: Passenger to Attendant Call System is considered a Non-Essential Equipment and Furnishings (NEF). NOTE 2: Any visual alerting system function(s) that are operative may be used.	
c) ***	Flight Attendant Audio Alerting System	C	-	0	(O) May be inoperative provided alternate procedures for contacting flight attendants are established and used.	
		D	-	0	May be inoperative provided procedures do not require its use.	

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23. COMMUNICATIONS

Sequence No.	Item	1	2	3	4	Change Bar
14.	Handset Systems					
1)	Passenger Configuration					
a)	Flight Deck	C	1	0	(O) May be inoperative provided: a) Flight Deck to cabin communication is operative, and b) Alternate procedures are established and used.	
		D	1	0	May be inoperative provided procedures do not require its use.	
b)	Cabin	B	-	-	(O) May be inoperative provided: a) 50% of cabin handsets operate normally, b) On wide-body airplanes, one handset must operate normally at each pair of exit doors, and c) Alternate communications procedures between the affected flight attendant station(s) are established and used.	
					NOTE 1: An operative handset at an inoperative flight attendant seat shall not be counted to satisfy the 50% requirement.	
					NOTE 2: Any handset(s) function(s) that is operative may be used.	

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23. COMMUNICATIONS

Sequence No.	Item	1	2	3	4	Change Bar
15.	High Frequency (HF) Communication Systems	D	-	-	Any in excess of those required by 14 CFR may be inoperative.	
		C	2	1	(O) May be inoperative while conducting operations that require two LRCS provided: a) Aircraft SATVOICE operates normally, b) SATVOICE services are available as an LRCS over the intended route of flight, c) The ICAO flight plan is updated as required to notify ATC of the communication equipment status of the aircraft, and d) Alternate procedures are established and used.	
16.	NAVCOM Radio	C	1	0	May be inoperative provided operations do not require its use.	
17.	Modular Radio Cabinet (MRC) Power Source	A	2	1	May be inoperative provided: a) Associated Comm and Nav radios and opposite ATC are operative, and b) Repairs are made within 1 flight day. NOTE: Dispatch is acceptable with an MRC 1 or MRC 2 failed and EICAS blue messages "APM FAIL" and "ASCB FAIL" displayed.	

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23. COMMUNICATIONS

Sequence No.	Item	1	2	3	4	Change Bar
18.	Flight Deck Hand Microphones (Operator Other Than a Holder of an Air Carrier or Commercial Operator Certificate)	D	-	0	Any in excess of those required by regulation may be inoperative.	
		C	-	0	May be inoperative provided associated boom microphone operates normally.	
19. ***	Communications Management Function (CMF)	C	-	0	(O) May be inoperative provided alternate procedures are established and used. NOTE 1: CMF system is required for ADS-C and/or CPDLC operations. NOTE 2: CMF must be operative whenever flights in RNP 4 airspace are conducted.	
		D	-	0	May be inoperative provided routine procedures do not require its use. NOTE 1: CMF system is required for ADS-C and/or CPDLC operations. NOTE 2: CMF must be operative whenever flights in RNP 4 airspace are conducted.	
20. ***	Controller Pilot Data Link Communications (CPDLC)					
1) ***	ATN B1 (PM-CPDLC/ Link 2000+)	D	1	0	(O) May be inoperative provided en route operations do not require its use.	
2) ***	FANS 1/A (ADS-C/CPDLC)	D	1	0	(O) May be inoperative provided en route operations do not require its use.	

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24. ELECTRICAL POWER

Sequence No.	Item	1	2	3	4	Change Bar
1.	Engine Generators	B	2	1	(O) Except for ER operations, may be inoperative provided: a) APU Generator is used for all phases of flight, b) Airplane is operated at or below FL 370, c) Standby Electrical System is operative, and d) FSECU SPOST is performed manually prior to the first flight of the day for airplanes equipped with ASC 086 and dispatching with the left generator inoperative.	
2.	APU Generator	B	1	0	(M) Except for ER operations, may be inoperative provided: a) Both Engine Generators are operative, and b) Standby Electrical System is operative.	
		C	1	0	(M) Except for ER operations, may be inoperative provided APU is not used.	

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24. ELECTRICAL POWER

Sequence No.	Item	1	2	3	4	Change Bar
3.	Transformer-Rectifier Units (TRUs)	B	5	4	May be inoperative provided: a) Both Generators are operative, b) Both essential TRUs are operative, c) Auxiliary TRU is operative, d) APU Generator is operative, e) Both Battery chargers are operative, f) Both Main Airplane Batteries are operative, and g) Inoperative L MAIN TRU LEFT PDB or R MAIN TRU RIGHT PDB TRU circuit breaker on the Power Distribution Box is pulled and collared.	
4.	Battery Chargers	B	2	1	May be inoperative provided: a) Both Engine Generators are operative, b) APU Generator is operative, c) Associated L BATT CHGR LEFT PDB or R BATT CHGR RIGHT PDB Battery Charger circuit breaker on the Power Distribution Box is pulled and collared, and d) Standby Electrical System is operative.	

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24. ELECTRICAL POWER

Sequence No.	Item	1	2	3	4	Change Bar
5.	Main Airplane Batteries	B	2	1	May be inoperative provided: <ul style="list-style-type: none"> a) There are no other electrical power source failures, b) Associated Battery cables are disconnected and secured, c) Associated "BATT CHGR" and "BATT CONT" CB: L BATT CHGR LEFT PDB, L BATT CONT LEER G-15, R BATT CHGR RIGHT PDB, and R BATT CONT REER C-28 Battery Charger circuit breaker on the Power Distribution Box is pulled and collared, and d) Associated battery circuit breaker is pulled and collared. 	
		B	2	1	May be inoperative provided: <ul style="list-style-type: none"> a) Airplane is operated in day VMC, b) Standby Electrical System is operative, c) Associated Battery cables are disconnected and secured d) Associated "BATT CHGR" and "BATT CONT" CB: L BATT CHGR LEFT PDB, L BATT CONT LEER G-15, R BATT CHGR RIGHT PDB, and R BATT CONT REER C-28 Battery Charger circuit breaker on the Power Distribution Box is pulled and collared, and e) Associated battery circuit breaker is pulled and collared. 	

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24. ELECTRICAL POWER

Sequence No.	Item	1	2	3	4	Change Bar
6.	Battery Ammeters (Overhead Panel)	C	2	0	May be inoperative provided: a) Associated voltmeter is operative, and b) Both battery charger fail messages are operative.	
		C	2	0	May be inoperative provided battery ammeter indications are available in EICAS.	
	(EICAS Indication)	C	2	0	May be inoperative provided the battery ammeters in overhead panel are operative.	
7.	Battery Voltmeters (Overhead Panel)	C	2	0	May be inoperative provided associated ammeter is operative.	
		C	2	0	May be inoperative provided Battery Voltmeter indications are available on EICAS.	
	(EICAS Indication)	C	2	0	May be inoperative provided Battery Ammeters indications are available on EICAS.	
		C	2	0	May be inoperative provided Battery Voltmeters in overhead panel are operative.	

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24. ELECTRICAL POWER

Sequence No.	Item	1	2	3	4	Change Bar
8.	Electrical Power System EICAS Displays					
1)	L Gen Voltmeter	C	1	0	May be inoperative if the frequency and loadmeter are operative.	
2)	L Gen Frequency Meter	C	1	0	May be inoperative if the voltmeter and loadmeter are operative.	
3)	L Gen Loadmeter	C	1	0	May be inoperative if the voltmeter and frequency meter are operative.	
4)	R Gen Voltmeter	C	1	0	May be inoperative if the frequency and loadmeter are operative.	
5)	R Gen Frequency Meter	C	1	0	May be inoperative if the voltmeter and loadmeter are operative.	
6)	R Gen Loadmeter	C	1	0	May be inoperative if the voltmeter and frequency meter are operative.	
7)	APU Voltmeter	C	1	0	May be inoperative if the frequency meter and loadmeter are operative.	
8)	APU Frequency Meter	C	1	0	May be inoperative if the voltmeter and loadmeter are operative.	
9)	APU Loadmeter	C	1	0	May be inoperative if the voltmeter and frequency meter are operative.	
10)	Ext AC Pwr Voltmeter	D	1	0	May be inoperative provided: a) The frequency meter and loadmeter are operative, and b) External AC power is not used.	
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24. ELECTRICAL POWER

Sequence No.	Item	1	2	3	4	Change Bar
8.	Electrical Power System EICAS Displays (Cont'd)					
11)	Ext AC Pwr Frequency Meter	D	1	0	May be inoperative if the voltmeter and loadmeter are operative.	
		D	1	0	May be inoperative if external AC power is not used.	
12)	Ext AC Loadmeter	D	1	0	May be inoperative if the frequency and voltmeter are operative.	
		D	1	0	May be inoperative if external AC power is not used.	
13)	Main, Essential, and AUX TRU Voltmeters	C	5	0	May be inoperative if loadmeters are operative.	
14)	Main, Essential, and AUX TRU Loadmeters	C	5	0	Maybe inoperative if the voltmeters are operative.	
15)	Ext DC Pwr Voltmeter	D	1	0	May be inoperative if the loadmeter is operative.	
		D	1	0	May be inoperative if external DC power is not used.	
16)	Ext DC Pwr Loadmeter	D	1	0	May be inoperative if the voltmeter is operative.	
		D	1	0	May be inoperative if external DC power is not used.	

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Sequence No.	Item	1	2	3	4	Change Bar
9.	Master Power Switch Lights (Left, Right, APU, EXT)	C	4	3	May be inoperative provided associated AC loadmeter and voltmeter are operative and selected for monitoring on the AC Synoptic.	
10. ***	Battery Temperature Indicating System	D	1	0		
11.	Standby Electrical System	C	1	0	May be inoperative provided both engine driven generators and APU generator are operative.	
12.	External Power System	D	1	0		
13. ***	Low Battery Power Audible Warning System (Sonalert)	D	1	0		
14.	Ground Service Bus System	D	1	0		
15. ***	50Hz/60Hz AC Electrical Power Systems	D	-	0	(O) May be inoperative provided affected L FREQ CONB LEFT PDB or R FREQ CONB RIGHT PDB circuit breaker is pulled and collared.	

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Sequence No.	Item	1	2	3	4	Change Bar
16.	IRU Backup Batteries	B	2	1	May be inoperative provided that the affected battery is located in the #2 and #3 IRU backup battery position.	
		A	2	0	May be inoperative provided: a) Airplane is operated in Day VMC conditions, and b) Repairs are made within 1 flight day. NOTE: EICAS message "IRU Sec Pwr Fail" will be displayed.	
		A	2	0	May be inoperative provided: a) All other components of the Electrical Power system are operative, and b) Repairs are made within 1 flight day.	
17.	Standby Inverter	B	1	0	(O) May be inoperative provided: a) APU generator is operative, b) HMG is operative, c) No failure exist in the CPCS system prior to each takeoff, and d) Flightcrew briefs pilot responsibilities and actions in the event of a dual generator failure.	

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Sequence No.	Item	1	2	3	4	Change Bar
1.	Overwater Equipment	D	-	-	As required by 14 CFR.	
2.	Passenger Seats	D	-	-	May be inoperative provided: <ul style="list-style-type: none"> a) Seat does not block an Emergency Exit, b) Seat does not restrict any passenger from access to the main airplane aisle, and c) The affected seat(s) are blocked and placarded "DO NOT OCCUPY". NOTE 1: A seat with an inoperative seat belt is considered inoperative. NOTE 2: Inoperative seats do not affect the required number of Flight Attendants. NOTE 3: Affected seat(s) may include the seat(s) behind and/or adjacent outboard seats.	
1)	Recline Mechanism	D	-	-	May be inoperative and seat occupied provided seat back is secured in the full upright position.	
		D	-	-	May be inoperative and seat occupied provided seat back is immovable in full upright position.	
2) ***	Underseat Baggage Restraining Bars	C	-	-	(O) May be inoperative provided: <ul style="list-style-type: none"> a) Baggage is not stowed under seat with inoperative restraining bar, b) Associated seat is placarded "DO NOT STOW BAGGAGE UNDER THIS SEAT", and c) Procedures are established to alert Cabin Crew of inoperative restraining bars. 	

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25. EQUIPMENT/FURNISHINGS

Sequence No.	Item	1	2	3	4	Change Bar
2.	Passenger Seats (Cont'd)					
3)	Armrests					
a)	Armrests With Recline Mechanism	D	-	-	May be inoperative or missing and seat occupied provided: a) Armrest does not block an Emergency Exit, b) Armrest does not restrict any passenger from access to the main airplane aisle, and c) If armrest is missing, seat is secured in the full upright position.	
b)	Armrest Without Recline Mechanism	D	-	-	May be inoperative or missing and seat occupied provided: a) Armrest does not block an Emergency Exit, and b) Armrest does not restrict any passenger from access to the main airplane aisle.	
4) ***	Swivel Mechanism	C	-	-	May be inoperative and seat occupied provided: a) Associated seat does not block an Emergency Exit, b) Associated seat does not restrict any passenger from access to the main airplane aisle, and c) Associated seat remains in takeoff position.	
5) ***	Divan High Backs	C	-	-	May be inoperative and seat occupied provided: a) Associated seat does not block an Emergency Exit, b) Associated seat does not restrict any passenger from access to the main airplane aisle, and c) Associated seat remains in takeoff position.	
6) ***	Electrical/Electronic Systems/Components	C	-	-	(M) May be inoperative and seat occupied provided associated component(s) is deactivated.	

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Sequence No.	Item	1	2	3	4	Change Bar
3.	Crewmember Shoulder Harnesses	B	-	-	Any in excess of those required by flight deck crewmembers (including official observer in observer's seat) may be inoperative.	
4.	Observer Seat(s)					
1)	Primary Observer Seat (Including Associated Equipment)	A	-	-	May be inoperative provided: a) A passenger seat in the passenger cabin is made available to an FAA inspector for the performance of official duties, and b) Repairs are made within 2 flight days.	
		A	-	-	May be inoperative provided: a) Required minimum safety equipment (safety belt and oxygen) is available, b) Seat is acceptable to the FAA inspector for performance of official duties, and c) Repairs are made within 2 flight days.	
					NOTE 1: These provisos are intended to provide for occupancy of the above seats by an FAA inspector when the minimum safety equipment (safety belt and oxygen) is functional and the inspector determines the condition to be acceptable.	
					NOTE 2: The pilot-in-command will determine if the minimum safety equipment is functional for other persons authorized to occupy any observer seat(s).	
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Sequence No.	Item	1	2	3	4	Change Bar
4.	Observer Seat(s) (Cont'd)					
2)	Observer Seat Not Required by 14 CFR (Including Associated Equipment)	D	-	0	NOTE: The pilot-in-command will determine if the minimum safety equipment is functional for other persons authorized to occupy any observer seat(s).	
5. ***	Megaphones	D	-	-		
6.	Flotation Devices	D	-	-	Any in excess of those required by 14 CFR may be missing or inoperative. NOTE: Inoperative equipment will be removed from airplane.	
7. ***	"Fasten Seat Belt While Seated" Signs or Placards	C	-	-	One or more signs or placards may be illegible or missing provided a legible sign or placard is readable from each occupied passenger seat.	
8. ***	Storage Bins/ Cabin, Galley, and Lavatory Storage Compartment/Closets	C	-	-	(M) May be inoperative provided: a) Procedures are established to secure the affected bin, compartment, or closet in the closed position, b) Associated bin, compartment, or closet is prominently placarded "DO NOT USE", c) Any emergency equipment located in affected compartment is considered inoperative, and d) Affected bin, compartment, or closet is not used for storage of any items except for those permanently affixed. NOTE: For overhead bins, if no partitions are installed, the entire overhead bin is considered inoperative.	
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Sequence No.	Item	1	2	3	4	Change Bar
8. ***	Storage Bins/ Cabin, Galley, and Lavatory Storage Compartment/Closets (Cont'd)	C	-	-	(M)(O) May be inoperative provided: a) For non-retractable doors, affected door is removed, b) For retractable doors, affected door is removed or secured in the retracted (fully open) position, c) Affected bin, compartment, or closet is not used for storage of any items except those permanently affixed, d) Affected bin, compartment, or closet is prominently placarded "DO NOT USE", e) Procedures are established and used to alert crewmembers and passengers of inoperative bins, compartments, or closets, and f) Passengers are briefed that associated bin, compartment, or closet is not used. NOTE 1: For overhead bins, if no partitions are installed, the entire overhead bin is considered inoperative. NOTE 2: Any emergency equipment located in the affected bin, compartment, or closet (permanently affixed) is available for use.	
1) ***	Storage Compartment Key Locks	D	-	0	(M) May be inoperative in unlocked position provided doors can be secured by other means.	

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Sequence No.	Item	1	2	3	4	Change Bar
9. ***	Cargo Restraint Systems	A	-	-	May be inoperative or missing provided: a) Acceptable cargo loading limits from an approved source (i.e., an Approved Cargo Loading Manual or Weight and Balance Document) are observed, and b) Repairs are made prior to the completion of the next heavy maintenance visit.	
		C	-	-	May be inoperative or missing provided cargo compartment remains empty.	
10. ***	Flight Attendant Seat Assembly (With Only One Flight Attendant Seat)	D	1	0	May be inoperative provided: a) Flight Attendant is not required by 14 CFR, b) Affected seat is not occupied, and c) Folding type seat stows automatically or is secured in the retracted position. NOTE 1: An automatic folding seat that will not stow automatically is considered inoperative. NOTE 2: A seat position with an inoperative or missing restraint system is considered inoperative.	
1)	All-Cargo Configuration	D	-	-	May be inoperative provided affected seat or seat assembly is not occupied.	

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Sequence No.	Item	1	2	3	4	Change Bar
11. ***	Galley/Cabin Waste Receptacles Access Doors/Covers	C	-	-	(O) May be inoperative provided: a) The container is empty and the access is secured to prevent waste introduction into the compartment, and b) Procedures are established to ensure that sufficient galley/cabin waste receptacles are available to accommodate all waste that may be generated on a flight.	
12. ***	Exterior Lavatory Door Ashtrays					
1)	Airplanes With Multiple Exterior Lavatory Door Ashtray Installed	A	-	-	Up to and including 50% may be missing or inoperative for 10 days.	
		A	-	-	More than 50% may be missing or inoperative for 3 days.	
					NOTE: Crew lavatories are included in the total aircraft exterior lavatory door ashtray count.	
2)	Airplanes With Only One Exterior Lavatory Door Ashtray Installed	A	1	0	May be missing or inoperative for 10 days.	
13. ***	External Camera System	D	1	0		
14. ***	Emergency Vision Assurance System (EVAS) STC No. SA00892LA	D	-	0	May be inoperative or removed.	

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Sequence No.	Item	1	2	3	4	Change Bar
15.	Pilot Seat(s)					
1)	Vertical Adjustment	C	-	-	May be inoperative provided: a) Seat is secured at the individual crewmember's requirements, and b) Fore-aft adjustment is operative.	
2)	Armrest	C	-	-	May be inoperative provided: a) Affected armrest is in the upright position or removed, and b) Seat is acceptable to the affected crewmember.	
3)	Recline Adjustment	C	-	-	May be inoperative provided: a) Seat is secured at a position acceptable to the affected crewmember, and b) Seat is able to move full fore-aft on its track.	
4)	Lumbar Support	C	-	-	May be inoperative provided seat is acceptable to the affected crewmember.	
5)	Thigh Support	C	-	-	May be inoperative provided seat is acceptable to the affected crewmember.	
16.	Rudder Pedal Adjustment	C	2	0	May be inoperative provided: a) Adjustments can be secured in a position that suits individual pilot(s), and b) Position of pedal(s) permits normal full flight control movement.	
17.	Keyed Locks	D	-	0	May be inoperative provided the associated access panel, door, compartment, or cap is verified secure before each departure.	

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25. EQUIPMENT/FURNISHINGS

Sequence No.	Item	1	2	3	4	Change Bar
18.	Airplane Ladders	C	-	0	(O) May be inoperative or removed.	
1)	Ladder Hardware (Pit Pins, Lanyards, etc.)	D	-	0		
19. ***	Baggage Compartment Shelves					
1) ***	Shelf Stowage Straps	D	-	0	May be inoperative or removed provided the shelves remain in the down position.	
2) ***	Shelf Support Straps	D	-	0	May be inoperative or removed provided the shelves remain in the stowed (up) position and are not used.	
20.	Crewmember Flashlight Holder Assemblies (Including Flashlight)	C	-	0	May be inoperative or missing provided crewmember has a flashlight of equivalent characteristics readily available.	
21. ***	Non-Essential Equipment and Furnishings (NEF)	D	-	0	May be inoperative, damaged, or missing provided item(s) is deferred in accordance with operator's NEF deferral program. The NEF program, procedures, and processes are outlined in the operator's (insert name) Manual. (M) and (O) procedures, if required, must be available to flightcrew and included in appropriate operator's document.	
					NOTE: Exterior lavatory door ashtrays are not considered NEF items.	

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25. EQUIPMENT/FURNISHINGS

Sequence No.	Item	1	2	3	4	Change Bar
22. ***	Automatic External Defibrillator (AED) and/or Associated Equipment	D	-	-	Any in excess of those required by 14 CFR may be incomplete, missing, or inoperative.	
23. ***	Emergency Medical Kit (EMK) and/or Associated Equipment	D	-	-	Any in excess of those required by 14 CFR may be incomplete, missing, or inoperative.	
24. ***	First Aid Kit (FAK) and/or Associated Equipment	D	-	-	Any in excess of those required by 14 CFR may be incomplete, missing, or inoperative.	
25. ***	Flightcrew Sleeping Facilities – Crew Seat (Includes Crew Seat Recline Mechanism, Berthing Mechanism, Armrests, Swivel Mechanism, and Electrical/Electronic Systems/Components)	C	-	0	(M)(O) May be inoperative provided crew seat is secured in a position acceptable to the crewmember(s) who will occupy the crew seat. NOTE: All other equipment in the flightcrew sleeping facilities is covered by the NEF program.	
		D	-	0	May be inoperative provided: a) Crew seat is not occupied, and b) Crew Rest is placarded "INOPERATIVE – DO NOT USE."	

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25. EQUIPMENT/FURNISHINGS

Sequence No.	Item	1	2	3	4	Change Bar
26.	Cabin Management System	D	1	0		
1) ***	Cabin Power Bus Controller (043A1)	D	1	0		
2) ***	Advanced Cabin Server (428A4, 428A5)	D	2	0		
3) ***	GCMS Controllers (179A5, 179A6)	D	2	0		
4) ***	I/O Concentrators (178A1, 178A2)	D	2	0		
5) ***	Aft I/O Concentrators (178A3, 178A4)	D	2	0		
6) ***	AVDS Nodes	D	4	0		
7) ***	Galley Touchscreen (502S2)	D	1	0		
8) ***	Vestibule Touchscreen (482S1)	D	1	0		
9) ***	Maintenance Server	D	1	0		
10) ***	Switching Nodes	D	25	0		

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26. FIRE PROTECTION

Sequence No.	Item	1	2	3	4	Change Bar
1.	Portable Fire Extinguishers	D	-	-	Any in excess of those required by 14 CFR may be inoperative or missing provided: a) Inoperative fire extinguisher is tagged inoperative, removed from the installed location, and placed out of sight so it cannot be mistaken for a functional unit, and b) Required distribution is maintained.	
2.	Wing Overheat Warning Systems	C	2	0	Except for ER operations, may be inoperative provided: a) Wing Anti-Ice is not used, and b) Airplane is not operated in known or forecast icing conditions.	
3.	APU Fire Detection System	C	1	0	Except for ER operations, may be inoperative provided: a) APU is not used, and b) APU CONT #1 LEER C-13 and APU CONT #2 REER C-11 circuit breakers are pulled and collared.	

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26. FIRE PROTECTION

Sequence No.	Item	1	2	3	4	Change Bar
4.	Rear Baggage Compartment Smoke Detector Systems	C	-	0	May be inoperative provided: a) Internal baggage door remains OPEN, and b) Airplane is operated at or below FL 400.	
		C	-	0	May be inoperative provided: a) Rear baggage compartment is not used, b) Internal baggage door remains CLOSED, c) Flightcrew investigates baggage compartment for possible fire in the event the "BAG EER HOT" message displays, and d) Airplane is operated in accordance with AFM Limitations.	
5. ***	Lavatory Smoke Detection Systems	C	-	-	For each lavatory, the lavatory smoke detection system may be inoperative provided: a) Lavatory waste receptacle is empty, b) Associated lavatory door is LOCKED, CLOSED, and placarded "INOPERATIVE – DO NOT ENTER", and c) Lavatory is used only by crewmembers. NOTE 1: These provisos are not intended to prohibit lavatory use or inspections by crewmembers. NOTE 2: Lavatory smoke detection system is not required for all-cargo operations.	

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26. FIRE PROTECTION

Sequence No.	Item	1	2	3	4	Change Bar
6. ***	Lavatory Fire Extinguisher Systems	C	-	-	For each lavatory, the lavatory fire extinguisher system may be inoperative provided Lavatory Smoke Detector system is operative.	
		C	-	-	(M)(O) For each lavatory, the lavatory fire extinguisher system may be inoperative provided: a) Lavatory waste receptacle is empty, b) Associated lavatory door is LOCKED, CLOSED, and placarded "INOPERATIVE – DO NOT ENTER", and c) Lavatory is used only by crewmembers. NOTE 1: These provisos are not intended to prohibit lavatory use or inspections by crewmembers. NOTE 2: A lavatory fire extinguisher system is not required for all-cargo operations.	
7. ***	Galley Smoke Detection Systems	D	-	0		
8. ***	Galley Fire Extinguishing Systems	D	-	0		
9. ***	Engine Fire Detection Systems	C	2	1	Except for ER operations, one complete loop (A or B) may be inoperative provided the Fault Switch/Light is pressed to isolate the faulty loop and illuminate the OFF portion of the switch light.	
10. ***	Flame Detectors	D	-	-		

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26. FIRE PROTECTION

Sequence No.	Item	1	2	3	4	Change Bar
11.	Electronic Equipment Rack Overheat Warning System	C	-	0		
12. ***	Passenger Compartment Closet Smoke Detectors	D	-	0	May be inoperative provided door remains OPEN for visual check from crew stations.	
13. ***	Entranceway Baggage Compartment Smoke Detectors	D	-	-	May be inoperative provided door remains OPEN for visual check from crew stations.	
14. ***	Cargo Compartment Fire Detection/ Suppression Systems	C	-	0	May be inoperative provided procedures are established and used to ensure the associated cargo compartment remains empty or is verified to contain only empty cargo handling equipment, ballast (ballast may be loaded in ULDs), and/or fly away kits. NOTE 1: Operators MELs should define which items are approved for inclusion in the fly away kits and which materials can be used as ballast. NOTE 2: Class E cargo compartments require only the installation of smoke or fire detection system (not suppression).	
15. ***	APU Fire Bottle	C	1	0	(O) Except for ER operations, may be inoperative provided: a) APU is considered inoperative, b) Both engine driven generators are operative, c) Standby electrical system is operative, and d) APU CONT #1 LEER C-13 and APU CONT #2 REER C-11 circuit breakers are pulled and collared.	

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27. FLIGHT CONTROLS

Sequence No.	Item	1	2	3	4	Change Bar
1.	Rudder Limit Indication System	C	1	0	May be inoperative provided Single Rudder Indication System is operative.	
2.	Single Rudder Indication System	C	1	0	May be inoperative provided Rudder Limit Indication System is operative.	
3.	Automatic Ground Spoiler System	C	1	0	(O) May be inoperative provided airplane is operated in accordance with AFM Limitations.	
4.	Electric Elevator Trim System	C	1	0	(O) May be inoperative provided: a) Electric Elevator Trim remains OFF, b) Both Flap/Stabilizer Control Channels are operative, and c) Airplane is operated in accordance with AFM Limitations.	
5.	Control Wheel Elevator Trim Switches	C	2	1	(O) May be inoperative provided pilot flying has operative switch.	
6.	Flap/Stabilizer Control Channels	B	2	1	Channel may be inoperative provided: a) Electric Pitch Trim System is operative, and b) Alternate control is verified to be operative before each departure.	
7.	Single Speed Brake Indication System	C	1	0	May be inoperative provided Single Rudder Indication System is operative.	

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27. FLIGHT CONTROLS

Sequence No.	Item	1	2	3	4	Change Bar
8. ***	Elevator Trim Actuator Heater Systems	C	2	0	May be inoperative provided affected circuit breaker(s) is pulled and collared: <ul style="list-style-type: none"> • L ELEV TRIM HEAT REER E-16, and • R ELEV TRIM HEAT REER F-16. 	
9.	Autopilot Elevator Servos	C	2	1	May be inoperative provided the inoperative servo circuit breaker(s) is pulled and collared: <ul style="list-style-type: none"> • ELEV SERVO #1 POP D-4, and • ELEV SERVO #2 CPOP D-4. 	
10.	Autopilot Pitch Trim Servos	C	2	1	May be inoperative provided the inoperative servo circuit breaker(s) is pulled and collared: <ul style="list-style-type: none"> • PITCH TRIM SERVO #1 POP E-2, and • PITCH TRIM SERVO #2 CPOP E-1. 	
11.	Autopilot Aileron Servos	C	2	1	May be inoperative provided the inoperative servo circuit breaker(s) is pulled and collared: <ul style="list-style-type: none"> • AIL SERVO #1 POP D-5, and • AIL SERVO #2 CPOP D-5. 	
12.	Autopilot Yaw Damper	C	2	1	May be inoperative provided the inoperative servo circuit breaker(s) is pulled and collared: <ul style="list-style-type: none"> • YAW DAMP SERVO #1 POP D-6, and • YAW DAMP SERVO #2 CPOP D-6. 	

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27. FLIGHT CONTROLS

Sequence No.	Item	1	2	3	4	Change Bar
13.	Stall Barrier Systems	A	2	1	(O) May be inoperative provided: a) Angle of Attack indication is available on both PFDs, b) Inoperative circuit breakers for the Stall Barrier Valve and Stick Shaker associated with the failed system are pulled and collared: • STALL BARR VALVE #1 POP E-5, • SHAKER #1 POP E-6, • STALL BARR VALVE #2 CPOP E-5, • SHAKER #2 CPOP E-6, c) Alternate procedures are established and used, d) The inoperative stall barrier system is electrically disabled, and e) Repairs are made within 2 flight days.	
14.	Flight Control Synoptic Display	C	-	0	May be inoperative provided the affected control surface is visually checked for full, free, and correct movement prior to each flight.	
15.	Gust Lock	C	1	0	(O) May be inoperative provided flight controls are secured in an alternate manner.	
		C	1	0	(O) May be inoperative provided airplane is parked in sheltered area unaffected by atmospheric conditions.	

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28. FUEL

Sequence No.	Item	1	2	3	4	Change Bar
1.	Fuel Tank Temperature System	C	1	0	(O) May be inoperative provided: a) Total Air Temperature is used as an indication of fuel temperature, and b) Airplane is operated in accordance with AFM Limitations.	
2.	MCDU Fuel Quantity Indicating Systems	C	2	1	(M) May be inoperative provided: a) Associated Standby Fuel Quantity Indicating System or EICAS Fuel Quantity Indicating System is operative, and b) Either the primary or the standby fuel quantity indication displays Left and Right Fuel Quantity.	
		C	2	1	(M) Except for ER operations, either Left or Right Fuel Quantity display may be inoperative provided: a) Both tanks are completely filled using overwing refueling, b) Both fuel flow meters are operative, c) After takeoff, power is set by matching fuel flow indications on both engines, and d) Flightcrew maintains a log of fuel burned. NOTE 1: Failure to display either Left or Right Fuel Quantity exists in both the primary and secondary fuel quantity indications. NOTE 2: Total fuel indication will be invalid with an inoperative indicator.	

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28. FUEL

Sequence No.	Item	1	2	3	4	Change Bar
2.	MCDU Fuel Quantity Indicating Systems (Cont'd)	C	2	1	(M) Except for ER operations, either Left or Right Fuel Quantity display may be inoperative provided: <ul style="list-style-type: none"> a) Affected tank is defueled before each refueling, b) Affected tank is fueled with a known quantity of fuel, c) Both fuel flow meters are operative, d) After takeoff, power is set by matching fuel flow indications on both engines, and e) Flightcrew maintains a log of fuel burned. NOTE 1: Failure to display either Left or Right Fuel Quantity exists in both the primary and secondary fuel quantity indications. NOTE 2: Total fuel indication will be invalid with an inoperative indicator.	
3.	Fuel Low Quantity Warning Systems	C	2	0	May be inoperative provided: <ul style="list-style-type: none"> a) Both Fuel Quantity Indicating Systems are operative, b) All Fuel Boost Pumps are operative, and c) Fuel Crossflow Valve is OPENED when either wing tank contains 2,000 lbs. or less fuel. 	

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28. FUEL

Sequence No.	Item	1	2	3	4	Change Bar
4.	Fuel Boost Pumps	C	4	3	Except for ER operations, may be inoperative provided: a) Fuel Crossflow Valve is operative, b) Fuel Intertank Valve is operative, c) Both Fuel Low Quantity Warning Systems are operative, and d) Airplane is operated in accordance with AFM Limitations.	
5.	Fuel Intertank Valve	C	1	0	(M) Except for ER operations, may be inoperative provided: a) All Fuel Boost Pumps are operative, b) Fuel Crossflow Valve is operative, c) Fuel Quantity Indicating System is operative, and d) Intertank Valve is verified CLOSED and electrically deactivated.	
6.	Fuel Boost Pump Warning Systems	C	4	3	(O) Except for ER operations, may be inoperative provided: a) Fuel Crossflow Valve is operative, b) Fuel Intertank Valve is operative, and c) Airplane is operated in accordance with AFM Limitations.	

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28. FUEL

Sequence No.	Item	1	2	3	4	Change Bar
7.	Fuel Crossflow Valve					
1)	Failed CLOSED	C	1	0	(O) Except for ER operations, may be inoperative provided: a) All Fuel Boost Pumps are operative, b) Fuel Intertank Valve is operative, c) Fuel Quantity Indicating System is operative, d) Fuel Intertank Valve is OPEN when either wing tank contains 2,000 lbs or less fuel, and e) Airplane is operated in accordance with AFM Limitations. NOTE: Avoid uncoordinated maneuvers when Fuel Intertank Valve is OPEN.	
2)	Failed OPEN	C	1	0	Except for ER operations, may be inoperative provided: a) All Fuel Boost Pumps are operative, b) Fuel Intertank Valve is operative, c) Fuel Quantity Indicating System is operative, d) Airplane is operated in accordance with AFM Limitations, and e) Fuel tank temperature system must be operative. NOTE: Avoid uncoordinated maneuvers when Fuel Intertank Valve is OPEN.	

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28. FUEL

Sequence No.	Item	1	2	3	4	Change Bar
8.	Pressure Fueling System (Single Point Refueling)	D	1	0	(M) May be inoperative provided procedures are established to deactivate Pressure Fueling System.	
9.	Ground Service Control Panel	D	1	0		
10.	Automatic Fueling System	D	1	0		
11.	Fuel Cap Chains	D	-	0		
12.	Single Point Refueling Cap	C	1	0		May be inoperative or missing provided the single point refueling receptacle is checked for leaks before every takeoff.

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29. HYDRAULIC POWER

Sequence No.	Item	1	2	3	4	Change Bar
1.	Brake Accumulator Pressure Gauge (Nose Wheelwell)	D	1	0		
2.	Auxiliary Hydraulic Pump Pressure Indication	C	1	0	May be inoperative provided cockpit Brake Accumulator pressure gauge is operative.	
3.	Power Transfer Unit (PTU) Hydraulic Pressure Indication	C	1	0	(O) May be inoperative provided: a) Left Hydraulic Pressure Indication is operative, b) PTU Hydraulic system is operative, and c) Before left engine start, HMG operational check is performed.	
4.	PTU Hydraulic Pump (Auto Mode)	C	1	0	May be inoperative provided manual mode is verified to be operative before every flight.	
5.	Auxiliary Hydraulic Pump (Auto Mode)	C	1	0	May be inoperative provided Auxiliary pump is selected ON for takeoff and landing.	
6.	Left Hydraulic System Quantity Gauge (Ground Service Control Panel – Aft Equipment Area)	D	1	0	May be inoperative provided quantity is checked by reservoir indicator or using hydraulic quantity indication on hydraulic synoptic before each departure.	
7.	Right Hydraulic System Quantity Gauge (Ground Service Control Panel – Aft Equipment Area)	D	1	0	May be inoperative provided quantity is checked by reservoir indicator or using hydraulic quantity indication on hydraulic synoptic before each departure.	

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29. HYDRAULIC POWER

Sequence No.	Item	1	2	3	4	Change Bar
8.	Left Hydraulic System Quantity Indication (EICAS)	C	1	0	May be inoperative provided quantity is checked by reservoir indicator or Ground Service Control Panel Left Hydraulic Quantity gauges before each departure.	
9.	Right Hydraulic System Quantity Indication (EICAS)	C	1	0	May be inoperative provided quantity is checked by reservoir indicator or Ground Service Control Panel Right Hydraulic Quantity gauges before each departure.	
10.	Hydraulic Reservoir Temperature Sensors	C	2	0	NOTE: Accuracy of hydraulic quantity indication will be degraded during long flights in cold soak conditions. If Right Hydraulic System (R SYS) sensor has failed in flight, there is no protection against overheating R SYS pumps during Power Transfer Unit (PTU) operation. In flight, with either or both sensors failed, there is no warning of hot hydraulic system temperatures.	
11.	Hydraulic Reservoir Replenishing System	D	1	0	(M) May be inoperative provided hydraulic reservoirs are replenished as needed using approved servicing techniques.	

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29. HYDRAULIC POWER

Sequence No.	Item	1	2	3	4	Change Bar
12.	Brake Accumulator Pressure Gauge (Cockpit Dial)	C	1	0	May be inoperative provided the Brake Synoptic Page Accumulator Pressure Indication is operative.	
		C	1	0	May be inoperative provided: a) Brake accumulator gauge in the nose wheelwell is operative and checked before each takeoff, and b) Auxiliary hydraulic pump is on and running for every takeoff and landing.	
13.	Brake Synoptic Page Accumulator Pressure Indication	C	1	0	May be inoperative provided the Brake Accumulator Pressure Gauge (cockpit dial) is operative.	
		C	1	0	May be inoperative provided: a) Brake accumulator gauge in the nose wheelwell is operative and checked before each takeoff, and b) Auxiliary hydraulic pump is on and running for every takeoff and landing.	

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30. ICE AND RAIN PROTECTION

Sequence No.	Item	1	2	3	4	Change Bar
1.	Cowl Anti-Ice Pressure Indication Systems	B	2	0	Except for ER operations, may be inoperative provided both EICAS Cowl Anti-Ice Indications are operative.	
		B	2	0	Except for ER operations, may be inoperative provided airplane is operated at greater than +10 degrees C SAT.	
		B	2	0	Except for ER operations, may be inoperative provided: a) Airplane is operated in VMC, and b) Airplane is not operated in visible moisture.	
2.	Wing Anti-Ice Systems	C	2	0	Except for ER operations, may be inoperative provided airplane is not operated in known or forecast icing conditions.	
3.	Windshield Heat Systems	C	2	1	Except for ER operations, may be inoperative provided airplane is not operated in known or forecast icing conditions.	

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30. ICE AND RAIN PROTECTION

Sequence No.	Item	1	2	3	4	Change Bar
4.	Side Window Heat Systems	C	2	0		
1)	Side Window Heat Sensors	D	4	2	One Side Window Heat Sensor may be inoperative for each Side Window Heat System.	
		C	4	0		
5.	Anti-Ice Heater Switch Lights	B	4	0	(M)(O) May be inoperative provided all other elements of the anti-ice heater indicating system are verified to operate normally.	
6.	Pitot Heaters	B	3	2	(O) Except for ER operations, may be inoperative provided airplane is not operated in visible moisture or known or forecast icing conditions.	
7.	Ice Detection Systems	C	2	0	(O) May be inoperative provided airplane is operated in accordance with alternate AFM procedures.	
					NOTE: With Ice Detection Systems inoperative, automatic anti-ice is not available.	

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Sequence No.	Item	1	2	3	4	Change Bar
8.	Cowl Anti-Ice Systems	C	2	0	(M) Except for ER operations, may be inoperative provided: a) Affected Valve(s) are verified CLOSED, and b) Airplane is not operated in known or forecast icing conditions.	
		C	2	1	(M) May be inoperative provided: a) Affected Valve is verified OPEN, b) All components of both HP Bleed Air Systems are operative, c) Both Environmental Control Systems (ECS) Packs are operative, d) Performance Computer is initialized with COWL ANTI-ICE selected ON for either takeoff or landing when COWL ANTI-ICE valve is pressurized, and e) Airplane is operated in accordance with AFM Limitations and Performance.	
1)	Automatic Functions	C	2	0	May be inoperative provided airplane is operated in accordance with alternate AFM procedures.	
9.	Cowl Pressure Differential Indication System	C	1	0	May be inoperative provided Cowl Anti-Ice Pressure Indications are operative.	

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30. ICE AND RAIN PROTECTION

Sequence No.	Item	1	2	3	4	Change Bar
10. ***	Windshield Blower System	D	1	0	May be inoperative provided the Surface Seal coating has been checked to be serviceable in accordance with the Maintenance Manual within the last 12 months or 500 flight-hours, whichever occurs first.	
		D	1	0	May be inoperative provided the Surface Seal coating is checked to be serviceable in accordance with the Maintenance Manual.	
		D	1	0	May be inoperative provided there is no precipitation falling on the departure and arrival airport at the time of taxi, takeoff, and landing.	
1)	Windshield Surface Seal Protection Systems	D	2	0	May be inoperative provided airplane is not operated in precipitation within 5 NM of the airport of takeoff or intended landing.	
11.	Cabin Window Heat System	D	1	0	(M) May be inoperative provided: a) Cabin Window Heat switch is selected OFF, and b) Cabin Window Heat System circuit breakers are pulled and collared.	
1)	Cabin Window Heating Elements	D	-	0	(M) May be inoperative provided the associated Window Heat circuit breakers are pulled and collared.	

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31. INDICATING/RECORDING SYSTEMS

Sequence No.	Item	1	2	3	4	Change Bar
1.	Clocks (Cockpit)	D	-	1		
2.	Flight Data Recorder (FDR) Systems (Includes FDR function of Combined Voice and Flight Data Recorder (CVFDR))	C A	- -	1 0	Any in excess of those required by 14 CFR may be inoperative. May be inoperative provided: a) Cockpit Voice Recorder (CVR) is operative, b) Airplane is not dispatched from a designated airport as listed in the operator's MEL unless: 1) The FDR failure occurs after pushback but before takeoff, or 2) The FDR repair was attempted but was not successful. c) In those cases where repair is attempted but not successful, the airplane may be dispatched on a flight or series of flights until the next designated airport where repair must be accomplished prior to dispatch, and d) Repairs are made within 3 flight days.	
	FDR Recording Parameters Required by 14 CFR	A	-	-	Up to three recording parameters may be inoperative provided: a) Cockpit Voice Recorder (CVR) is operative, and b) Repairs are made within 20 calendar-days.	
	FDR Recording Parameters Not Required by 14 CFR	A	-	-	May be inoperative provided repairs are made before the completion of the next heavy maintenance visit.	
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31. INDICATING/RECORDING SYSTEMS

Sequence No.	Item	1	2	3	4	Change Bar
2.	Flight Data Recorder (FDR) Systems (Cont'd)					
	Flight Data Recorder (FDR) Systems (Operator Other Than a Holder of an Air Carrier of Commercial Operator Certificate)	C	-	1	Any in excess of those required by 14 CFR may be inoperative.	
		A	-	0	May be inoperative provided repairs are made in accordance with applicable 14 CFRs.	
3.	Brake Temperature Monitoring System (BTMS)	C	1	0	May be inoperative provided airplane is operated in accordance with AFM Appendix on Brake Kinetic Energy and Carbon Brake Cooling. NOTE: This item includes the BTMS displayed on the brakes synoptic page.	
4.	G Monitor System	D	1	0		
5.	Electronic Checklists	C	1	0	May be inoperative provided the current AFM is carried on board the airplane.	
6. ***	Security Systems	D	1	0		
7. ***	Engine Cowl Open Indicating System	D	1	0	May be inoperative provided right engine cowl is visually confirmed CLOSED before starting APU on the ground.	

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31. INDICATING/RECORDING SYSTEMS

Sequence No.	Item	1	2	3	4	Change Bar
8.	Airplane Personality Modules (APM)	C	4	3		
9.	Plastic Guard Switch Covers	D	-	1	May be inoperative provided APU fire bottle switch cover is installed and operative.	
10.	Configuration Management Systems	C	2	1		
11. ***	Infrared Counter Measures System (IRCM) or Directional Infrared Counter Measures System (DIRCM)	D	1	0		
12. ***	Quick Access Recorder (QAR)	D	1	0		
13. ***	XM Weather Receiver	D	1	0		
14.	Modular Avionics Unit (MAU) Channels	A	6	5	(O) May be inoperative provided: a) Failed channel is not MAU 1A or MAU 2B, b) No other failures exist in the Avionics System, c) Associated MAU circuit breakers are pulled and collared: • MAU 1B PRI CPOP A-9, • MAU 1B SEC POP A-9, • MAU 2A PRI CPOP A-8, • MAU 2A SEC POP A-8, • MAU 3A PRI POP A-6, • MAU 3A SEC CPOP A-6, • MAU 3B PRI POP A-5, • MAU 3B SEC CPOP A-5, d) Alternate procedures are established and used, and e) Repairs are made within 2 flight days.	

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32. LANDING GEAR

Sequence No.	Item	1	2	3	4	Change Bar
1.	Anti-Skid System	C	1	0	(O) May be inoperative provided airplane is operated in accordance with AFM Limitations.	
2.	Rudder Pedal Steering System	C	1	0	May be inoperative provided Nose Wheel Tiller Steering System is operative.	
3.	Variable Gain Nose Wheel Steering	C	1	0	(O) May be inoperative provided the fixed gain steering mode is operative.	
4.	Nosewheel Steering Accessory Hardware (Torque Link Lanyards)	D	-	0	May be inoperative or missing.	
5.	Emergency Landing Gear Extension Bottle Pressure Gauge (Nose Wheelwell)	B	1	0	May be inoperative provided Emergency Landing Gear Extension Bottle Pressure Cockpit CAS Indication (Summary Page) is operative and checked prior to each flight.	
6.	Emergency Landing Gear Extension Bottle Pressure Cockpit CAS Indication (Summary Page)	B	1	0	May be inoperative provided Emergency Landing Gear Extension Bottle Pressure Gauge (Nose Wheelwell) is operative and checked prior to each flight.	

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32. LANDING GEAR

Sequence No.	Item	1	2	3	4	Change Bar
7.	Landing Gear Extension/Retraction System (Includes Dump Valve, Gear Handle, and Blow Down Bottle)	A	1	0	(O) May be inoperative provided: a) Airplane is operated with the landing gear in the extended position, b) Landing gear handle remains in the down position, c) Ground lock pins are installed to ensure that all three landing gears are LOCKED down throughout flight, d) Both pilots use cockpit headsets, e) Operations are not conducted in known or forecasted icing conditions, f) Extended over water operations are prohibited, g) Flight is conducted in accordance with AFM Supplement No. GIV-2009-01, h) Category II operations are prohibited, i) EFVS operations below 200 feet above touchdown zone elevation are prohibited, and j) Repairs are made within 1 flight day.	

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33. LIGHTS

Sequence No.	Item	1	2	3	4	Change Bar
1.	Cockpit/Flight Deck/ Flight Compartment and Instrument Lighting Systems (Excluding EFIS and EICAS)	C	-	-	Individual lights may be inoperative provided: a) Remaining Lighting System lights are sufficient to clearly illuminate all required instruments, controls, and other devices for which they are provided, b) Remaining Lighting System lights are positioned so that direct rays are shielded from flightcrew members' eyes, c) Lighting configuration and intensity is acceptable to the flightcrew, d) Emergency flight deck lighting is operative, and e) Cockpit flood or flashlights can be utilized to illuminate the panel, if required. NOTE 1: Individual button/switch lights and/or annunciations/indications are excluded from this relief. NOTE 2: Unaided operation (without NVGs) may be permitted with inoperative NVG supplemental lights; cracked or missing filters.	
1)	Inter Tank Valve Switchlight	C	1	0	May be inoperative if switch position is verified by the synoptic page and CAS.	
2)	Crossflow Valve Switchlight	C	1	0	May be inoperative if switch position is verified by the synoptic page and CAS.	

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33. LIGHTS

Sequence No.	Item	1	2	3	4	Change Bar
2.	Passenger Cabin Interior Illumination Systems	D	-	-	May be inoperative provided: a) Cabin emergency lighting is operative, b) Sufficient lighting is operative for crew to perform required duties, and c) Lighting configuration at dispatch is acceptable to flightcrew.	
3.	Passenger Lighted Information Signs The following pertains only to operations involving aircraft certified with 19 or less passenger seats, wherein certification or operating rules do not require a public address system or flight attendant.					
1)	Passenger Lighted Information Signs	C	-	-	May be inoperative provided alternate procedures are established and used to notify cabin occupants.	
4.	Position Light Bulbs	C	6	3	May be inoperative provided one light bulb is operative at each position.	
		C	6	0	May be inoperative provided airplane is not operated at night.	
5.	Beacon Light	C	1	0	May be inoperative provided airplane is not operated at night.	
		C	1	0	May be inoperative provided Strobes are installed and operative.	

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Sequence No.	Item	1	2	3	4	Change Bar
6.	Strobes (Anti-Collision Lights)	C	6	3	Bulbs may be inoperative provided one bulb is operative at each position (wingtip and tail).	
		C	6	2	May be inoperative provided: a) At least one bulb is operative at wingtip, and b) Airplane is not operated at night.	
7.	Wing Inspection Lights (Airplanes With Wing Critical Surfaces Not Visible From Flight Deck)	C	2	0	May be inoperative provided ground deicing procedures do not require their use.	
8.	Landing Lights	B	2	1	May be inoperative provided all three bulbs of the taxi light are operative.	
		C	2	0	May be inoperative provided airplane is not operated at night.	
9.	Taxi Light System	C	1	0		
1) 10. ***	Individual Light Bulbs Wing Tip Taxi Light System	C	3	0		
11. ***	Floor Proximity Emergency Escape Path Marking System Lights	C	-	-	One lamp in each of the solid red light assembly pairs and two lamps of the five lamp floodlight and exit sign emergency floor path lighting assemblies may be inoperative.	

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33. LIGHTS

Sequence No.	Item	1	2	3	4	Change Bar
12. ***	Pulse Light Systems (Identification Lights)	D	-	0		
13. ***	Recognition Lights System	D	1	0		
14. ***	Logo Lights System	D	1	0		
15. ***	Ramp Lights Systems	D	-	0		
16. ***	Flashlight Charging Systems	D	-	0		
17.	Aft Compartment Lights (Boiler Room)	D	-	0		
18. ***	Cargo Compartment Light	D	1	0	May be inoperative provided no emergency equipment is carried in Cargo Compartment.	
		D	1	0	May be inoperative provided an operative flashlight is installed in Cargo Compartment.	
19. ***	Pylon Mounted Exterior Baggage Loading Light Systems	D	-	0		
20.	Wheel Well Lights	D	3	0		
21.	Exterior Emergency Evacuation Lighting System	C	1	0	May be inoperative provided airplane is not operated at night.	
1)	Exterior Emergency Evacuation Lighting System Bulbs	B	12	6	One Bulb may be inoperative in each recess.	
22.	Service Door Lights	D	3	0		

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33. LIGHTS

Sequence No.	Item	1	2	3	4	Change Bar
23.	Dim and Test Annunciator Channels	C	-	-	May be inoperative provided the switch capsule is not used in an emergency procedure where the actuation of the switch is not displayed elsewhere in the cockpit. NOTE: The following switches may not be inoperative: 1) GPWS/Ground Spoiler Override, 2) CPCS Panel Flight/Landing (2), and 3) Door Safety.	
24.	Airstair Lights	D	-	0	May be inoperative provided an alternate means (e.g., flashlight) is used to illuminate the airstairs.	
25.	Dome Light	D	-	0	May be inoperative provided an alternate means (e.g., flashlight) is used to illuminate the vestibule area.	
26.	Baggage Compartment Light	D	1	0	May be inoperative provided no emergency equipment is carried in the Baggage Compartment.	
		D	1	0	May be inoperative provided an operative flashlight is installed in Baggage Compartment.	
27.	Cockpit Flashlights	C	-	1	May be inoperative provided the operative flashlight is in good working order in accordance with the applicable 14 CFR.	
28. ***	Wingtip Position Light LED Element Banks	C	4	2	One may be inoperative per wingtip position.	
		C	4	0	May be inoperative provided airplane is not operated at night.	

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Sequence No.	Item	1	2	3	4	Change Bar
29. ***	Tail Position Light LED Element Banks	C	2	1		
		C	2	0	May be inoperative provided airplane is not operated at night.	
30. ***	LoPresti Boom Beam HID Landing Light System STC No. ST02893AT/ LSM-500-126	C	2	0	May be inoperative provided airplane is not operated at night.	
1) ***	LoPresti Boom Beam HID Landing Light Elements	C	6	3	May be inoperative provided all factory installed taxi lights are operative.	
2) ***	LoPresti Boom Beam HID Landing Light Elements With LoPresti Boom Beam Taxi Lights Installed	C	6	0	May be inoperative provided Boom Beam taxi lights are operative.	
31. ***	LoPresti Boom Beam HID Taxi Light System STC No. ST02893AT/ LSM-500-125	C	1	0	May be inoperative for night operations provided landing lights are operative.	
1) ***	LoPresti Boom Beam HID Taxi Light Elements	C	3	1	Up to two elements may be inoperative.	

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Sequence No.	Item	1	2	3	4	Change Bar
1.	Directional Compass Reference Sensors	B	3	2	(O) May be inoperative provided both PFD Heading Indicating Systems operate independently.	
2.	Attitude Reference Sensors	B	3	2	(O) May be inoperative provided: a) Both PFD Attitude Indicating Systems operate independently, and b) Standby Attitude Indicator is operative.	
3.	Standby Flight Displays	C	-	0	Except for ER operations, may be inoperative provided not required by 14 CFR.	
1) ***	Standby Attitude Indicator (Electro-Mechanical Gyro Horizon)	B	-	0	May be inoperative provided: a) Operations are conducted in Day VMC only, and b) Operations are not conducted into known or forecast VFR-on-Top conditions.	
a) ***	Glideslope/Localizer Indicator	C	1	0		
2) ***	Standby Altimeter/Airspeed Indicator (Combined Unit)	C	1	0	May be inoperative provided airplane is operated in Day VMC only.	

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Sequence No.	Item	1	2	3	4	Change Bar
3.	Standby Flight Displays (Cont'd)					
3) ***	4-in-1 Standby Attitude, Altitude, Airspeed Indicator Heading (Color Video Display)	C	-	0	Except for ER operations, the Attitude position indicator may be inoperative provided not required by 14 CFR.	
		B	-	0	Attitude position indicator may be inoperative provided: a) Operations are conducted in Day VMC only, and b) Operations are not conducted into known or forecast VFR-on-Top conditions.	
	a) *** Standby Air Data Unit (Altitude and Airspeed Function)	C	1	0	May be inoperative provided the airplane is operated in Day VMC only.	
	b) *** Standby Heading Display	C	1	0	May be inoperative provided all three Heading Reference Systems are operative.	
	c) *** Glideslope/Localizer Function	C	1	0		
	d) *** DME Displays	C	-	0		
	e) *** FMS Navigation Functions	C	1	0		
4.	Weather Radar Systems	C	-	-	Except for ER operations, as required by 14 CFR.	
5.	VOR/ILS Navigation Systems	C	-	-	As required by 14 CFR, and no relief may be provided to an inoperative systems or components if powered by an Emergency Bus.	

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Sequence No.	Item	1	2	3	4	Change Bar
6.	Marker Beacon Systems	C	3	0	May be inoperative provided approach procedures do not require its use.	
7.	Automatic Direction Finding Systems	C	2	-	As required by 14 CFR.	
8.	ATC Transponder and Automatic Altitude Reporting Systems	B	-	0	May be inoperative provided: a) Operations do not require its use, and b) Before flight, approval is obtained from ATC facilities having jurisdiction over planned route of flight.	
		D	-	1	Any in excess of those required by 14 CFR may be inoperative. NOTE 1: Flight Director, Autopilot, and Transponder must use the same Air Data source for flight into RVSM airspace. NOTE 2: Transponder and altitude reporting capability must be operative for flight into RVSM airspace.	
1) ***	Elementary and Enhanced Downlink Airplane Reportable Parameters Not Required by 14 CFR	A	-	0	May be inoperative provided: a) Operations do not require its use, and b) Repairs are made before completion of the next heavy maintenance visit.	
2) ***	ADS-B Squitter Transmissions	A	-	0	May be inoperative provided: a) Operations do not require its use, and b) Repairs are made before completion of next heavy maintenance visit.	

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Sequence No.	Item	1	2	3	4	Change Bar
9.	Distance Measuring Equipment (DME) Systems	D	-	-	Except where en route operations or approach minimums require its use, any in excess of those required by 14 CFR may be inoperative.	
10. ***	Electronic Bearing/ Distance Indicator (EBDI)	C	1	0	May be inoperative provided all three IRSs are operative.	
11.	Radio Altimeter Systems	C	2	0	May be inoperative provided: a) Landing weather minimums or operating procedures do not require its use, and b) Other systems affected (EGPWS, TCAS, Flight Director, Autopilot, Autothrottle, Altimeter Ground Awareness Display, Synthetic Vision Primary Flight Display) are considered.	
12.	Long Range Navigation Systems (IRS, GPS, and GNSSU)	C	-	-	May be inoperative except where en route operations or approach minimums require the use of GPS or GNSSU.	
		C	-	-	As required by 14 CFR. NOTE: IRS Navigation Function only. See Attitude Reference Sensors for IRS Attitude Function.	

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Sequence No.	Item	1	2	3	4	Change Bar
13.	Terrain Awareness and Warning System (TAWS)					
	Class A TAWS Equipment Required					
1)	GPWS	A	1	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Repairs are made within 2 flight days.	
a)	Modes 1–4	A	4	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Repairs are made within 2 flight days.	
b)	Test Mode	A	1	0	May be inoperative provided: a) GPWS is considered inoperative, and b) Repairs are made within 2 flight days.	
c)	Glideslope Deviation(s) Mode 5	C	-	1		
		B	-	0		
d)	Advisory Callouts	B	-	0	(O) May be inoperative provided alternate procedures are established and used.	
***		C	-	0	(O) May be inoperative provided: a) Advisory callout not required by 14 CFR, and b) Alternate procedures are established and used.	
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Sequence No.	Item	1	2	3	4	Change Bar
13.	Terrain Awareness and Warning System (TAWS) (Cont'd)					
e) ***	Windshear Mode (Reactive)	B	1	0	(O) May be inoperative provided alternate procedures are established and used. NOTE: Operator's alternate procedures should include reviewing windshear avoidance and windshear recovery procedures.	
2)	Terrain System – Forward Looking Terrain Avoidance (FLTA) and Premature Descent Alert (PDA) Functions	C	1	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Windshear Detection and Avoidance System (Predictive) is operative.	
3) ***	Terrain Displays	C	-	1		
4) ***	Runway Awareness and Advisory System (RAAS)	B	-	0		
		C	1	0		
(Continued)						

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Sequence No.	Item	1	2	3	4	Change Bar
13.	Terrain Awareness and Warning System (TAWS) (Cont'd)					
	Class B TAWS Equipment Required					
1)	GPWS	A	1	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Repairs are made within 2 flight days.	
a)	Modes 1 and 3	A	2	0	(O) May be inoperative provided: a) Alternate procedures are established and used, and b) Repairs are made within 2 flight days.	
b)	Test Mode	A	1	0	May be inoperative provided: a) GPWS is considered inoperative, and b) Repairs are made within 2 flight days.	
c) ***	Modes 2, 4, and 5	C	3	0		
d) ***	Advisory Callouts	B	-	0	(O) May be inoperative provided alternate procedures are established and used.	
		C	-	0	(O) May be inoperative provided: a) Advisory callout not required by 14 CFR, and b) Alternate procedures are established and used.	
e) ***	Windshear Mode (Reactive)	C	1	0	(O) May be inoperative provided alternate procedures are established and used.	
(Continued)						

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Sequence No.	Item	1	2	3	4	Change Bar
13.	Terrain Awareness and Warning System (TAWS) (Cont'd)					
2)	Terrain System – Forward Looking Terrain Avoidance (FLTA) and Premature Descent Alert (PDA) Functions	B	1	0		
3) ***	Terrain Displays	C	-	0		
4) ***	Runway Awareness and Advisory System (RAAS)	C	1	0		
	Class C TAWS Equipment					
1) ***	TAWS/GPWS	C	1	0	(O) May be inoperative provided alternate procedures are established and used.	
					NOTE: Any mode that is operative may be used.	

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Sequence No.	Item	1	2	3	4	Change Bar
14. ***	Navigation Management System	B	-	0	Except where en route operations or approach minimums require its use, may be inoperative provided: a) Affected system is not required for IRS alignment, b) Long Range Navigation is not dependent on its use, c) Procedures do not require its use, and d) Both RFMUs are operative. NOTE: Two systems are required for dispatch into MNPS or RNP-10 airspace. One system is required in PRNAV, BRNAV, RNAV 1, and RNAV 2 airspace.	
1)	Navigation Databases	C	-	-	(O) Except where en route operations or approach minimums require a current database, may be out of currency provided: a) Current Aeronautical Charts are used to verify Navigation fixes before dispatch, b) Procedures are established and used to verify status and suitability of Navigation Facilities used to define route of flight, and c) Approach Navigation Radios are manually tuned and identified.	
15. ***	Lightning Sensor Systems (LSS)	D	-	0		
16. ***	Stormscope	D	-	0		

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Sequence No.	Item	1	2	3	4	Change Bar
17.	Traffic Alert and Collision Avoidance System (TCAS I)	B	-	0	(M) May be inoperative provided: a) System is deactivated and secured, and b) En route or approach procedures do not require its use.	
		C	-	0	(M) May be inoperative provided: a) Not required by 14 CFR, b) System is deactivated and secured, and c) En route or approach procedures do not require its use.	
	Traffic Alert and Collision Avoidance System (TCAS II)	B	-	0	(M) May be inoperative provided: a) System is deactivated and secured, and b) En route or approach procedures do not require its use.	
		C	-	0	(M) May be inoperative provided: a) Not required by 14 CFR, b) System is deactivated and secured, and c) En route or approach procedures do not require its use.	
1)	Combined Traffic Alert (TA) and Resolution Advisory (RA) Dual Display System(s)	C	2	1	May be inoperative on the non-flying pilot side provided: a) TA and RA visual display is operative on the flying pilot side, and b) TA and RA audio function is operative on the flying pilot side.	

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Sequence No.	Item	1	2	3	4	Change Bar
17.	Traffic Alert and Collision Avoidance System (TCAS I) (Cont'd)					
2)	Resolution Advisory (RA) Display System(s)	C	2	1	May be inoperative on the non-flying pilot side.	
		C	-	0	(O) May be inoperative provided: a) Traffic Alert (TA) visual display and audio functions are operative, b) TA only mode is selected by the crew, and c) En route or approach procedures do not require its use.	
3)	Traffic Alert Display System(s)	C	-	0	(O) May be inoperative provided: a) RA visual display and audio functions are operative, and b) En route or approach procedures do not require its use.	
4)	Audio Functions	B	1	0	May be inoperative provided en route or approach procedures do not require use of TCAS.	
5) ***	Airspace Selection Function (Above/Normal/Below)	C	-	0		
18. ***	Microwave Landing Systems (MLS)	D	-	-	As required by 14 CFR.	

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Sequence No.	Item	1	2	3	4	Change Bar
19.	Guidance Panel Digital Indications and Mode Select Indications					
1)	Speed Display	C	1	0	May be inoperative provided the associated value is available in the Primary Flight Display.	
2)	Heading Display	C	1	0	May be inoperative provided the associated value is available in the Primary Flight Display.	
3)	VS/FPA Display	C	1	0	May be inoperative provided the associated value is available in the Primary Flight Display.	
4)	Altitude Select Display	C	1	0	May be inoperative provided the associated value is available in the Primary Flight Display.	
5)	LNAV	C	1	0	May be inoperative provided the associated value is available in the Primary Flight Display.	
6)	VNAV	C	1	0	May be inoperative provided the associated value is available in the Primary Flight Display.	
7)	FLCH	C	1	0	May be inoperative provided the associated value is available in the Primary Flight Display.	
8)	Manual Speed	C	1	0	May be inoperative provided the associated value is available in the Primary Flight Display.	
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Sequence No.	Item	1	2	3	4	Change Bar
19.	Guidance Panel Digital Indications and Mode Select Indications (Cont'd)					
9)	Bank Select	C	1	0	May be inoperative provided the associated value is available in the Primary Flight Display.	
10)	BC Select	C	1	0	May be inoperative provided the associated value is available in the Primary Flight Display.	
11)	Heading Select	C	1	0	May be inoperative provided the associated value is available in the Primary Flight Display.	
12)	VS/FPA Select	C	1	0	May be inoperative provided the associated value is available in the Primary Flight Display.	
13)	Alt Hold Select	C	1	0	May be inoperative provided the associated value is available in the Primary Flight Display.	
14)	Approach	C	1	0	May be inoperative provided the associated value is available in the Primary Flight Display.	
15)	PFD Command L/R	C	1	0	(O) May be inoperative provided the associated value is available in the Primary Flight Display.	
16)	APR Switch	C	1	0	May be inoperative provided the associated value is available in the Primary Flight Display.	

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Sequence No.	Item	1	2	3	4	Change Bar
20.	Altitude Alerting System	A	-	0	(O) May be inoperative provided: a) Autopilot with altitude hold and altitude capture operates normally, b) En route operations (i.e., RVSM) do not require its use, c) Airplane does not depart from a designated airport (as listed in the operator's MEL) where repair or replacement can be made, and d) Repairs are made within 3 flight days.	
1)	Aural Alert	C	-	0	May be inoperative provided: a) Visual alert operates normally, and b) Autopilot with altitude hold and altitude capture operates normally.	
2)	Visual Alert	C	-	0	May be inoperative provided: a) Aural alert operates normally, and b) Autopilot with altitude hold and altitude capture operates normally.	
21.	Display Units	C	4	3	(O) May be inoperative provided: a) The unit is located in the DU #3 position, and b) The pilot in the left seat flies the airplane.	

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Sequence No.	Item	1	2	3	4	Change Bar
22. ***	Magnetometer	C	1	0	May be inoperative provided all three IRSs are operative.	
23. ***	Non-Stabilized Magnetic Compass	B	1	0	May be inoperative provided any combinations of three Gyro or INS (IRU) Stabilized Compass Systems are operative.	
		B	1	0	May be inoperative provided: a) Any combination of two Gyro or INS (IRU) Stabilized Compass Systems are operative, and b) Airplane is operated with Dual Independent Navigation Capability and under Positive Radar Control by ATC on the en route portion of the flight.	
		B	1	0	May be inoperative for flights that are entirely within areas of magnetic unreliability provided at least two Stabilized Directional Gyro Systems are installed, operative, and used in conjunction with accepted Free Gyro Navigation Techniques.	
24. ***	Head-Up Display System	D	1	0	May be inoperative provided landing weather minimums or operating procedures do not require its use.	

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Sequence No.	Item	1	2	3	4	Change Bar
25. ***	Airborne Flight Information System (AFIS)	D	-	0		
1)	AFIS Printer	D	-	0		
26.	Slip-Skid Indicator	B	2	1	May be inoperative provided: a) Third attitude indicator is installed and operative, and b) An operative slip indication is obtained by selecting another IRS source via the Display Controller.	
27.	Data Management Unit (DMU)	D	-	0		
28.	Air Data Systems (ADS)	C	3	2	(M) May be inoperative provided: a) Manual Pressurization Control System is operative, b) Cabin Altitude and Differential Pressure Indicators are operative, c) Cabin Rate of Climb Indicator is operative, d) Autopilot is operative, and e) Airplane is operated in accordance with AFM Limitations. NOTE 1: Two systems are required for operation in RVSM airspace. NOTE 2: If ADS 2 is failed, the WOW indications on the copilot's flight control synoptic will be crosshatched. Dispatch is still allowed if the WOW indications on the pilot's flight control synoptic are shown as valid.	

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Sequence No.	Item	1	2	3	4	Change Bar
29. ***	Airshow Controller System	D	-	0		
1) ***	Cockpit Airshow Display System	D	-	0		
2) ***	Cabin Airshow Display System	D	-	0		
30. ***	Windshear Warning and Flight Guidance System (Reactive)	C	-	0	(O) May be inoperative provided alternate procedures are established and used.	
31. ***	Windshear Detection and Avoidance System (Predictive)	C	-	0	(O) May be inoperative provided alternate procedures are established and used.	
32. ***	Cockpit Video Monitors	D	-	0		
33. ***	Heads-Up Checklist	D	-	0		
34. ***	Enhanced Vision System (EVS)	D	1	0		
1) ***	EVS Window Heat	D	1	0		
2) ***	Secondary (Non-HUD) EVS Display Repeater	D	1	0	May be inoperative provided procedures are not dependent on its use.	
35.	Terrain Server Function/EGPWM Modules	C	2	0		
					NOTE: Synthetic Vision PFD synthetic terrain will not be available with dual Terrain Server failures, but the full PFD may be used without restriction.	

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Sequence No.	Item	1	2	3	4	Change Bar
36.	Advanced Graphics Module (AGM)	C	4	3	(M)(O) May be inoperative provided: a) The inoperative AGM is located in the AGM 3 position, and b) Crew actions for subsequent failures are established.	
	Advanced Graphics Module (ASC 904 - Cert Charlie and ASC 905 - Cert Charlie II and Any Later Revision to the Operating Software)	C	4	3	(O) May be inoperative provided: a) The inoperative AGM is electronically switched to the AGM 3 position resulting in DU 3 Red Xing, and b) Crew actions for subsequent failures are established.	
37.	Cockpit Printer	D	1	0		
38.	Cursor Control Devices	C	2	0	May be inoperative provided: a) Both Display Controllers, Weather Radar Controllers, and two MCDUs are operative, and b) Terminal charts for the origin, destination, and alternate airports are verified to be current and on board the aircraft.	

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Sequence No.	Item	1	2	3	4	Change Bar
39.	Multifunction Control Display Units (MCDU)	C	3	2	(M) May be inoperative provided: a) The FMS functions and Radio Tuning functions are operative on the remaining MCDUs, and b) The inoperative MCDU is located in the No. 2 position. NOTE: MCDU 3 has Backup Radio Tuning functions.	
1)	Flight Management System (FMS) Function	B	3	1	Except where en route operations or approach minimums require its use, may be inoperative provided: a) Affected system is not required for IRS alignment, b) Long Range Navigation is not dependent on its use, and c) Procedures do not require its use. NOTE: Two systems are required for dispatch into MNPS or RNP-10 airspace. RNP RNAV, including PRNAV and BRNAV, only require a single FMS.	
a)	Navigation Databases	C	-	-	Except where en route operations or minimums require a current database, may be out of currency provided: a) Current Aeronautical Charts are used to verify Navigation fixes before dispatch, b) Procedures are established and used to verify status and suitability of Navigation Facilities used to define route of flight, and c) Approach Navigation Radios are manually tuned.	
2)	Radio Tuning Functions	B	3	2		

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Sequence No.	Item	1	2	3	4	Change Bar
40.	Advanced Graphics Module (AGM) Databases	C	-	0	May be out of currency provided: a) Current IFR/VFR Aeronautical Charts or appropriate airport information charts are used to verify the information before dispatch, b) Procedures are established and used to verify the status and suitability of Navigation Facilities used to define the route of flight, and c) Approach Navigation Radios are manually tuned and identified.	
41.	Charts Function	D	2	0	May be inoperative provided current aeronautical charts are carried on board the airplane and available to the flightcrew.	
1)	Charts Database	C	4	0	May be out of currency provided the terminal charts for the origin, destination, and alternate airports are verified to be current and on board using either paper charts or an EFB.	
		C	4	0	May be out of currency provided the terminal charts for the origin, destination, and alternate airports are verified to be current and on board.	
42.	Video Function	D	1	0	Any video presented on Display Units 1, 2, 3, and 4 may be inoperative. NOTE: Some Enhanced Flight Vision System (EVS) operations may require the use of the EVS video display.	

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Sequence No.	Item	1	2	3	4	Change Bar
43. ***	Automatic Dependent Surveillance-Broadcast (ADS-B) System	D	-	0	May be inoperative provided it is not required by 14 CFR. NOTE: If ADS-B is installed in lieu of or as a replacement for 14 CFR required equipment, the repair category in the operator's MEL will be the same as that of the 14 CFR required equipment.	
1) ***	Cockpit Display and Traffic Information (CDTI)	D	-	0	NOTE: Cockpit Display Traffic Information (CDTI) display of data from other airplane systems may be used.	
2) ***	CDTI Control Panel	D	-	0	May be inoperative provided: a) Flight ID can be set, and b) Screen display is acceptable to the flightcrew.	
3) ***	Data Link Transmitter(s)	D	-	0	NOTE: In some airplanes, the Data Link Transmission is an integral part of the transponder, and relief is provided in that section.	
4) ***	Data Link Receivers	D	-	0		
5) ***	ADS-B Applications	D	-	0		

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Sequence No.	Item	1	2	3	4	Change Bar
44.	Right Side Display Controller	A	1	0	May be inoperative provided: a) FMS is the navigation source on both PFDs, b) Destination and alternate airports have either LPV, GPS, or FMS overlay approaches available without NOTAM restrictions for airplanes not equipped with Enhanced Navigation Package, c) Destination and alternate airports have either LPV, GPS, FMS overlay, or ILS approach available without NOTAM restrictions for airplanes equipped with Enhanced Navigation Package, d) No other display system failures exist, e) Display Controller DISP CONT #2: REER, C-2 circuit breaker is pulled and collared, f) Alternate procedures are established and used, and g) Repairs are made within 2 flight days.	
45. ***	Synthetic Vision Primary Flight Display (SV-PFD) Functions	D	2	0		
46. ***	GNSSU WAAS (Wide Area Augmentation System or SBAS – Space-Based Augmentation System) Function	D	2	0	WAAS function may be inoperative provided en route and approach procedures do not require its use.	
47.	CAS Scroll Switches	D	2	0	May be inoperative provided both CCDs are operative.	

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35. OXYGEN

Sequence No.	Item	1	2	3	4	Change Bar
1.	Passenger Oxygen System and Supply	B	-	-	As required by 14 CFR.	
2.	Cabin Oxygen ON Warning Systems	C	1	0	May be inoperative provided: a) Cabin Altitude and Differential Pressure Indicators are operative, and b) Cabin Altitude Pressure Warning System is operative.	
		C	1	0	(O) May be inoperative provided airplane is operated in unpressurized configuration.	
3.	Oxygen Service Panel Pressure Gauges	D	2	0	May be inoperative provided associated cockpit gauge is operative and monitored.	
4. ***	Portable Oxygen Dispensing Units (Bottle and Mask)	B	-	-	Any in excess of those required by 14 CFR may be inoperative or missing provided required distribution is maintained throughout airplane. NOTE: Any bottle not properly serviced is considered inoperative and should be removed.	
5.	Oxygen Supply Warning Systems	C	2	0	May be inoperative provided associated cockpit gauge is operative and monitored.	

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35. OXYGEN

Sequence No.	Item	1	2	3	4	Change Bar
6. ***	Protective Breathing Equipment (PBE)	D	-	-	Any in excess of those required by 14 CFR may be inoperative or removed provided location placarding is removed or obscured.	
7. ***	Electronic Equipment Rack Oxygen Pressure Gauges	D	-	0	May be inoperative provided cockpit gauges are operative.	
8.	Cockpit Oxygen Pressure Indications	C	-	0	May be inoperative provided: a) Oxygen Service Panel Pressure Gauges are operative and checked before every takeoff, and b) Crew Oxygen Off and Passenger Oxygen Off messages are not displayed on the CAS prior to every takeoff.	
9.	Therapeutic Oxygen	D	-	-	May be inoperative or missing.	
10. ***	High Landing Field Elevation Passenger Oxygen Controller High Altitude Switch	D	1	0	May be inoperative provided the maximum Landing Field Elevation does not exceed 14,500 feet.	
1) ***	High Altitude Switch Light	D	1	0	May be inoperative provided the switch position is verified to be depressed in whenever the Landing Field Elevation exceeds 14,500 feet.	

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36. PNEUMATIC

Sequence No.	Item	1	2	3	4	Change Bar
1.	Bleed Air Systems					
1)	Pressurized Configuration	C	2	1	Except for ER operations, may be inoperative provided: <ul style="list-style-type: none"> a) Inoperative Bleed Control Valve is CLOSED and deactivated electrically when associated Engine Bleed Air System is selected OFF, b) Opposite Engine Bleed Air System is operative, c) Isolation Valve is verified to be operative and selected OPEN, d) Airplane is not operated in forecast or known icing conditions, and e) Airplane is operated in accordance with AFM Limitations. NOTE: Autothrottle will be inoperative with Isolation Valve OPEN.	
2)	Unpressurized Configuration	C	2	0	(O) Except for ER operations, may be inoperative provided: <ul style="list-style-type: none"> a) Affected Valve(s) is verified CLOSED, b) Airplane is not operated in known or forecast icing conditions, and c) Airplane is operated in accordance with AFM Limitations. NOTE: Autothrottle will be inoperative with Isolation Valve OPEN.	

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36. PNEUMATIC

Sequence No.	Item	1	2	3	4	Change Bar
2.	Bleed Air Hot Warning Systems					
1)	Pressurized Configuration	C	2	1	Except for ER operations, may be inoperative provided: <ul style="list-style-type: none"> a) Associated Bleed Control Valve is CLOSED and deactivated electrically when associated Engine Bleed Air System is selected OFF, b) Opposite Engine Bleed Air System is operative, c) Isolation Valve is verified to be operative and selected OPEN, d) Airplane is not operated in known or forecast icing conditions, and e) Airplane is operated in accordance with AFM Limitations. NOTE: Autothrottle will be inoperative with Isolation Valve OPEN.	
2)	Unpressurized Configuration	C	2	0	(O) Except for ER operations, may be inoperative provided: <ul style="list-style-type: none"> a) Associated Bleed Control Valve is CLOSED and deactivated electrically when associated Engine Bleed Air System is selected OFF, b) Airplane is not operated in forecast or known icing conditions, and c) Airplane is operated in accordance with AFM Limitations. 	

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36. PNEUMATIC

Sequence No.	Item	1	2	3	4	Change Bar
3.	Isolation Valve	C	1	0	(M) May be inoperative provided: <ul style="list-style-type: none"> a) Both Bleed Air Systems are operative, b) Both Environmental Control System (ECS) Packs are operative, c) Isolation Valve is electrically deactivated, d) Isolation Valve is verified CLOSED, and e) Airplane is operated in accordance with AFM Limitations. <p>NOTE: Valve must be OPENED manually during left engine start.</p>	
4.	Bleed Air System Switch Capsule Lights	C	4	0	May be inoperative provided Bleed Air System indications are available on the Synoptic display.	

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38. WATER/WASTE

Sequence No.	Item	1	2	3	4	Change Bar
1.	Potable Water Systems	C	-	-	(M) Individual components may be inoperative provided: a) Associated components are deactivated or isolated, b) Associated system components are verified not to have leaks, and c) Passengers are advised of the inoperative water system. NOTE: Any portion of system which operates normally may be used.	
		C	-	-	(M) May be inoperative provided: a) System is drained, and b) Procedures are established to ensure that system is not serviced.	
2.	Lavatory Waste Systems	C	-	-	(M) Individual components may be inoperative provided: a) Associated components are deactivated or isolated, and b) Associated system components are verified not to have leaks. NOTE: Any portion of system which operates normally may be used.	
		C	-	-	(M) Associated lavatory system(s) may be inoperative provided: a) Associated components are deactivated or isolated to prevent leaks, and b) Associated lavatory door is secured CLOSED and placarded "INOPERATIVE – DO NOT ENTER". NOTE: These provisos are not intended to prohibit inspections by crewmembers.	

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38. WATER/WASTE

Sequence No.	Item	1	2	3	4	Change Bar
3.	Lavatory Dump/Drain System	C	-	-	May be inoperative provided: a) Dump valve is secured in the CLOSED and LOCKED position, and b) System is checked for leaks before every flight.	
4.	Vacuum Toilet Holding Tank Indicator	D	1	0	May be inoperative provided: a) Tank is verified to be serviced before first flight of the day, and b) Tank is serviced after the last flight of the day.	

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45. CENTRAL MAINTENANCE SYSTEM

Sequence No.	Item	1	2	3	4	Change Bar
1.	Central Maintenance Computer (CMC)	C	1	0	May be inoperative provided all faults are recorded after each flight.	
		C	1	0	May be inoperative or missing provided: a) All faults are recorded after each flight, and b) The CMC module is replaced with an Airflow Blockage Module (ABM) if the CMC module is removed from the MAU.	

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46. INFORMATION SYSTEMS

Sequence No.	Item	1	2	3	4	Change Bar
1. ***	Electronic Flight Bag Systems (EFBs)					
1) ***	Class 3 EFBs	C	-	-	(O) May be inoperative provided alternate procedures are established and used. NOTE: Any function, program, or document which operates normally may be used.	
		D	-	0	May be inoperative provided procedures do not require its use.	
2) ***	Data Connectivity (Class 2)	C	-	-	(O) May be inoperative provided alternate procedures are established and used.	
		D	-	0	May be inoperative provided procedures do not require its use.	
3) ***	Power Connection (Class 1 and 2)	C	-	-	(O) May be inoperative provided alternate procedures are established and used.	
		D	-	-	May be inoperative provided procedures do not require its use.	
4) ***	Mounting Device (Class 2)	C	-	0	(M)(O) May be inoperative provided: a) Associated EFB and hardware is secured by an alternate means or removed from airplane, and b) Alternate procedures are established and used.	
		D	-	0	(M) May be inoperative provided: a) Associated EFB and hardware is secured by an alternate means or removed from airplane, and b) Procedures do not require its use.	

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49. AIRBORNE AUXILIARY POWER

Sequence No.	Item	1	2	3	4	Change Bar
1.	Auxiliary Power Unit (APU)	C	1	0	Except for ER operations, may be inoperative provided: a) Both Engine Driven generators are operative, b) Standby Electrical System is operative, and c) APU air inlet door is verified fully CLOSED.	
2.	APU EGT Indicators (EICAS and Overhead)	C	2	1		
		C	2	0	Except for ER operations, may be inoperative provided: a) APU is not operated, b) Both Engine Driven generators are operative, and c) Standby Electrical System is operative.	
3.	APU Tachometers (EICAS and Overhead)	C	2	1		
		C	2	0	Except for ER operations, may be inoperative provided: a) APU is not operated, b) Both Engine Driven generators are operative, and c) Standby Electrical System is operative.	
4.	APU "READY" Light System	C	1	0	May be inoperative provided the APU is operated in accordance with AFM Limitations.	
5.	APU Remote Oil Quantity/Service System	C	1	0	May be inoperative provided oil is checked before every flight.	

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49. AIRBORNE AUXILIARY POWER

Sequence No.	Item	1	2	3	4	Change Bar
6. ***	APU Oil Pressure Gauges	D	-	0		
7. ***	APU Oil Temperature Gauges	D	-	0		
8. ***	APU Fuel Pressure Gauges	D	-	0		
9.	APU Start Indicator Light	C	1	0		
10.	APU Air Load Control Valve	C	1	0	(M) May be inoperative provided valve is verified in CLOSED position.	
11.	APU External Fire Warning Alarm (Fire Warning Bell)	C	1	0	May be inoperative provided an APU operation is monitored in cockpit.	
12.	APU Air Inlet Door System	C	1	0	(M) Except for ER operations, may be inoperative provided: a) APU Air inlet door is secured fully CLOSED, b) APU is not operated, c) Both Engine Driven generators are operative, and d) Standby Electrical System is operative.	
13.	Temperature Resistance Bulb (T2)	C	1	0		
14.	APU Hour Meter	C	1	0		
15. ***	APU Start/Engine Cowl Interrupt System	D	1	0		

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52. DOORS

Sequence No.	Item	1	2	3	4	Change Bar
1.	Door Warning Light System	C	1	0	May be inoperative provided a crewmember verifies by visual inspection before each departure that the associated door is CLOSED and LOCKED.	
2. ***	Cargo Door Operating System	C	1	0	May be inoperative provided a crewmember verifies by visual inspection before each departure that the associated door is CLOSED and LOCKED.	
3. ***	Cargo Door Warning Light System	C	1	0	May be inoperative provided a crewmember verifies by visual inspection before each departure that the associated door is CLOSED and LOCKED.	
4. ***	Door Seal Pressure Indicator	D	1	0		
5.	Main Entry Door Normal Operating System	C	1	0	(O) May be inoperative provided: a) Alternate system is operative, and b) Main door is not CLOSED manually.	
6.	Main Entry Door Acoustic Curtain/Door System	D	-	-		
7.	Lavatory Door	D	-	-	May be inoperative provided the affected door is secured OPEN or CLOSED for taxi, takeoff, and landing.	
NOTE: Includes pop-up panels, latches, locks, and handles.						

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52. DOORS

Sequence No.	Item	1	2	3	4	Change Bar
8.	Baggage Door Warning System	C	1	0	May be inoperative provided a crewmember verifies by visual inspection before each departure that the baggage door is CLOSED and LOCKED.	
9.	Main Entry Door Warning System	C	1	0	May be inoperative provided a crewmember verifies by visual inspection before each departure that the Main Entry Door is CLOSED and LOCKED.	
10.	Internal Baggage Door Warning System	C	1	0	May be inoperative in the closed position provided the smoke detector is operative.	
		C	1	0	May be inoperative in the open position provided baggage compartment is empty.	
11.	Interior Pocket Doors	D	-	-	May be inoperative provided the affected door is secured OPEN for taxi, takeoff, and landing. NOTE: Includes pop-up panels, latches, locks, and handles.	
12.	Cabin Over Wing Exit Window Warning System	D	1	0	May be inoperative provided a crewmember verifies by visual inspection before each departure that the cabin exit window internal and external locking (T) handles in the over wing access panels are engaged in their LOCKED position.	

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71. POWERPLANT

Sequence No.	Item	1	2	3	4	Change Bar
1.	EPA Tank Ejector Pump	D	2	0	(M) May be inoperative provided maintenance procedures are established to drain tank: a) Before the first flight of each day, b) After three normal shutdowns, and c) After two false (wet) starts.	

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73. ENGINE FUEL AND CONTROL

Sequence No.	Item	1	2	3	4	Change Bar
1.	Fuel Flow Indication Systems					
1)	EICAS	C	2	1	May be inoperative provided: a) Associated EPR, LP, and HP indicating systems are operative, and b) Fuel quantity indicating systems are operative.	
2)	MCDU	C	2	1	May be inoperative provided: a) Associated EPR, LP, and HP indicating systems are operative, and b) Fuel quantity indicating systems are operative.	
2.	Fuel Low Pressure Warning Systems (EICAS)	C	2	1	May be inoperative provided: a) Associated Fuel Boost Pumps are operative, and b) Airplane is operated at or below FL 250.	
3.	Engine FADEC System	A	2	0	(M)(O) Airplane may be dispatched with Blue "Engine Maintenance STD (###)" and/or "Engine Maintenance LTD" messages displayed on EICAS provided: a) Repairs are made in accordance with times (hours) established by the Tay 611-8C Time Limits Manual, chapter 5 (no extensions are authorized), and b) FADEC faults are reviewed by flightcrew before each takeoff.	
<p>NOTE: GIV-X Blue "Engine Maintenance STD (###)" messages require maintenance action within 150 hours and Blue "Engine Maintenance LTD" messages required maintenance action within 500 hours.</p>						

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74. IGNITION

Sequence No.	Item	1	2	3	4	Change Bar
1.	Ignition Systems (Includes Igniter and/or Ignition Exciter)	A	4	3	May be inoperative provided: a) All three remaining ignition systems are operative, b) Takeoff runway does not have standing water, slush, or snow, and c) Repairs are made within 150 flight-hours.	
		A	4	2	May be inoperative provided: a) Each engine has an operable ignition system, b) Takeoff runway does not have standing water, slush, or snow, and c) Repairs are made within 10 flight days.	
2.	Ignition ON Indicator Systems	C	2	0	(M) May be inoperative provided both airstart ignition systems are verified to be operative before each flight.	

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77. ENGINE INDICATING

Sequence No.	Item	1	2	3	4	Change Bar
1.	HP Tachometer Indications EICAS	C	2	1	May be inoperative on either engine provided associated LP, EPR, and Fuel Flow Indicating Systems (EICAS or Standby) are operative for affected engine. NOTE: Standby HP Indication may also be inoperative on both engines.	
2.	Engine Vibration Monitor Systems Sensors					
1)	Primary Sensors	C	2	0	May be inoperative provided associated secondary sensor system is operative.	
2)	Secondary Sensors	C	2	0	May be inoperative provided associated primary sensor system is operative.	
3.	Standby Engine Instruments On Multifunction Control Display (MCDU)	C	1	0	May be inoperative provided associated EICAS indication is operative.	
4.	Engine Vibration Monitor System	B	1	0	May be inoperative provided: a) Both Ice Detection Systems are operative, b) Operations are not conducted in known or forecast icing conditions, and c) Crew reviews the Abnormal Procedures for engine vibration before each takeoff.	

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78. ENGINE EXHAUST

Sequence No.	Item	1	2	3	4	Change Bar
1.	Thrust Reversers	C	2	0	(M) May be inoperative provided: a) Affected Thrust Reverser is deactivated, stowed, and LOCKED in forward thrust position, and b) Airplane is operated in accordance with AFM Limitation and Procedures.	

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79. ENGINE OIL

Sequence No.	Item	1	2	3	4	Change Bar
1.	Low Oil Pressure Warning System	C	2	1	May be inoperative provided oil pressure indications for both engines are operative.	
2.	Engine Oil Replenishment System	D	1	0		
3.	Impending Oil Filter Bypass Indication	A	2	1		May be inoperative provided: <ul style="list-style-type: none"> a) Associated oil filter bypass pop-up indicator is verified in normal (recessed) position before each engine start, b) The oil filter is changed every flight day or every 15 flight-hours, whichever occurs first, c) The Magnetic Chip Detectors are checked and verified to be free of all debris, d) Procedures are in place to ensure all other DND (Do Not Dispatch) messages are addressed before dispatch, and e) Repairs are made within 3 flight days. NOTE: An amber "Engine Maintenance Required" message will still be displayed on the Crew Alerting System.

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79. ENGINE OIL

Sequence No.	Item	1	2	3	4	Change Bar
4.	Oil Quantity Indication Systems (EICAS/Ground Service Control Panel)	C	2	0	May be inoperative provided the engine oil quantity is verified on the engine oil quantity gauge before each engine start.	
5.	Oil Filter Pressure Switch Fault Indications	C	2	0	<p>May be inoperative provided:</p> <ul style="list-style-type: none"> a) Associated oil filter bypass pop-up indicator is verified in normal (recessed) position before each engine start, b) Oil filter fault is not displayed in CMC, c) Fault is confirmed to be on the indication system, and d) Procedures are in place to ensure all other DND (Do Not Dispatch) messages are addressed before dispatch. <p>NOTE: An amber "Engine Maintenance Required" message will still be displayed on the Crew Alerting System.</p>	

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80. STARTING

Sequence No.	Item	1	2	3	4	Change Bar
1.	Engine Starting System	C	2	0	May be inoperative provided: a) Airstart Ignition System is operative, b) Start Valve has not failed in OPEN position, c) Start Valve is manually OPENED and CLOSED for engine starting, d) Airstart Ignition, Engine Selector, and Start Switches are switched to OFF when engine has reached self-sustaining speed, and e) Engine start is accomplished in accordance with AFM Engine Start Valve Fails To Open Procedure.	
2.	Auto Start System	C	2	0	May be inoperative provided: a) Alternate start system is operative, and b) AFM procedures for alternate engine start are used to start engines.	

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80. STARTING

Sequence No.	Item	1	2	3	4	Change Bar
3.	Start Valve Position Indication	C	2	0	May be inoperative provided: a) Start Valve has not failed in OPEN position as verified by visual means through an access panel, b) Ignition ON indication is operative during engine start, and c) Start Valve is verified CLOSED following engine start by visual means.	
		C	2	0	(O) May be inoperative provided: a) Airstart Ignition System is operative, b) Start Valve has not failed in OPEN position, c) Start Valve is manually OPENED and CLOSED for engine starting, d) Airstart Ignition, Engine Selector, and Start Switches are switched to OFF when engine has reached self-sustaining speed, and e) Engine start is accomplished in accordance with AFM Engine Start Valve Fails To Open Procedure.	
4. ***	Start Valve Position Indicator Lights	C	2	0	May be inoperative provided: a) Start valve has not failed in OPEN position as verified by visual means through an access panel, b) Star valve is manually OPENED and CLOSED for engine starting in accordance with AFM Start Valve Failure procedure, and c) Airstart Ignition, Engine Selector, and Start switches are switched to the OFF position when engine has reached self-sustaining speed.	