

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Revision: 0 b
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M A S T E R M I N I M U M E Q U I P M E N T L I S T

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Log of Revisions

REV.NO.	DATE	PAGE NUMBERS	INITIALS
0a	04/15/1991	HIGHLIGHTS OF REV.	
0a	04/15/1991	23-1	
0b	04/02/1998	HIGHLIGHTS OF REV., DEFINITIONS	
0b	04/02/1998	GUIDELINES	
0b	04/02/1998	21-1, 21-2, 22-1, 23-1, 23-2	
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MASTER MINIMUM EQUIPMENT LIST

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Control Page

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	VI	6	01/31/1995
	VII	6	01/31/1995
	VIII	6	01/31/1995
	IX	6	01/31/1995
	X	6	01/31/1995
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Preamble	XIII	2	06/14/1989
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Guidelines for (O) & (M) Procedures	XV	0 b	04/02/1998
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21	21-1	0 b	04/02/1998
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32	32-1	0 b	04/02/1998
33	33-1	0 b	04/02/1998
	33-2	0 b	04/02/1998
34	34-1	0 b	04/02/1998
	34-2	0 b	04/02/1998
	34-3	0 b	04/02/1998
	34-4	0 b	04/02/1998
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Highlights of Change

All asterisks referencing placarding requirements have been removed in accordance with Policy Letter 61 designated as Global Change 8. See Definitions Section for placarding requirements.

- 23-2 Changed proviso in accordance with Policy Letter 9 designated as Global Change 13.
- 23-5 Added relief for Boom Microphones in accordance with Policy Letter 58 designated as Global Change 14.
- 25-3 Added relief for Flotation Devices.
- 25-4 Added relief for First Aid Kits in accordance with Policy Letter 73 designated as Global Change 52.
- 26-1 Changed relief for Portable Fire Extinguishers in accordance with Policy Letter 75 designated as Global Change 53.
- 31-3 Deleted requirement for Operations procedure.
- 33-2 Changed relief for Cockpit Instrument Lighting System in accordance with Policy Letter 77 designated as Global Change 63.
- 34-3 Changed relief for ATC Transponders in accordance with Policy Letter 76 designated as Global Change 47.
- 34-13 Added relief for TCAS I in accordance with Policy Letter 32 designated as Global Change 44.
- 34-14 Added relief for TCAS II in accordance with Policy Letter 32 designated as Global Change 44.
- 34-15 Added relief for Ground Proximity Warning System in accordance with Policy Letter 54 designated as Global Change 42.

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Definitions

1. System Definitions.

System numbers are based on the Air Transport Association (ATA) Specification Number 100 and items are numbered sequentially.

- a. "Item" (Column 1) means the equipment, system, component, or function listed in the "Item" column.
- b. "Number Installed" (Column 2) is the number (quantity) of items normally installed in the aircraft. This number represents the aircraft configuration considered in developing this MMEL. Should the number be a variable (e.g., passenger cabin items) a number is not required.
- c. "Number Required for Dispatch" (Column 3) is the minimum number (quantity) of items required for operation provided the conditions specified in Column 4 are met.

NOTE: Where the MMEL shows a variable number required for dispatch, the MEL must reflect the actual number required for dispatch or an alternate means of configuration control approved by the Administrator.

- d. "Remarks or Exceptions" (Column 4) in this column includes a statement either prohibiting or permitting operation with a specific number of items inoperative, provisos (conditions and limitations) for such operation, and appropriate notes.
- e. A vertical bar (change bar) in the margin indicates a change, addition or deletion in the adjacent text for the current revision of that page only. The change bar is dropped at the next revision of that page.

2. "Airplane/Rotorcraft Flight Manual" (AFM/RFM) is the document required for type certification and approved by the responsible FAA Aircraft Certification Office. The FAA approved AFM/RFM for the specific aircraft is listed on the applicable Type

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Certificate Data Sheet.

3. "As required by FAR" means that the listed item is subject to certain provisions (restrictive or permissive) expressed in the Federal Aviation Regulations operating rules. The number of items required by the FAR must be operative. When the listed item is not required by FAR it may be inoperative for time specified by repair category.

4. Each inoperative item must be placarded to inform and remind the crewmembers and maintenance personnel of the equipment condition.

NOTE: To the extent practical, placards should be located adjacent to the control or indicator for the item affected; however, unless otherwise specified, placard wording and location will be determined by the operator.

5. "-" symbol in Column 2 and/or Column 3 indicates a variable number (quantity) of the item installed.

6. "Deleted" in the remarks column after a sequence item indicates that the item was previously listed but is now required to be operative if installed in the aircraft.

7. "ER" refers to extended range operations of a two-engine airplane which has a type design approval for ER operations and complies with the provisions of Advisory Circular 120-42A.

8. "Federal Aviation Regulations" (FAR) means the applicable portions of the Federal Aviation Act and Federal Aviation Regulations.

9. "Flight Day" means a 24 hour period (from midnight to midnight) either Universal Coordinated Time (UCT) or local time, as established by the operator, during which at least one flight is initiated for the affected aircraft.

10. "Icing Conditions" means an atmospheric environment that may cause ice to form on the aircraft or in the engine(s).

11. Alphabetical symbol in Column 4 indicates a proviso (condition or limitation) that must be complied with for

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operation with the listed item inoperative.

12. "Inoperative" means a system and/or component malfunction to the extent that it does not accomplish its intended purpose and/or is not consistently functioning normally within its approved operating limit(s) or tolerance(s).

13. "Notes:" in Column 4 provides additional information for crewmember or maintenance consideration. Notes are used to identify applicable material which is intended to assist with compliance, but do not relieve the operator of the responsibility for compliance with all applicable requirements. Notes are not a part of the provisos.

14. Inoperative components of an inoperative system:
Inoperative items which are components of a system which is inoperative are usually considered components directly associated with and having no other function than to support that system. (Warning/caution systems associated with the inoperative system must be operative unless relief is specifically authorized per the MMEL).

15. "(M)" symbol indicates a requirement for a specific maintenance procedure which must be accomplished prior to operation with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel; however, other personnel may be qualified and authorized to perform certain functions. Procedures requiring specialized knowledge or skill, or requiring the use of tools or test equipment should be accomplished by maintenance personnel. The satisfactory accomplishment of all maintenance procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as part of the operator's manual or MEL.

16. "(O)" symbol indicates a requirement for a specific operations procedure which must be accomplished in planning for and/or operating with the listed item inoperative. Normally these procedures are accomplished by the flight crew; however, other personnel may be qualified and authorized to perform certain functions. The satisfactory accomplishment of all procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are

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required to be published as a part of the operator's manual or MEL.

NOTE: The (M) and (O) symbols are required in the operator's MEL unless otherwise authorized by the Administrator.

17. "Deactivated" and "Secured" means that the specified component must be put into an acceptable condition for safe flight. An acceptable method of securing or deactivating will be established by the operator.

18. "Visual Flight Rules" (VFR) is as defined in FAR Part 91. This precludes a pilot from filing an Instrument Flight Rules (IFR) flight plan.

19. "Visual Meteorological Conditions" (VMC) means the atmospheric environment is such that would allow a flight to proceed under the visual flight rules applicable to the flight. This does not preclude operating under Instrument Flight Rules.

20. "Visible Moisture" means an atmospheric environment containing water in any form that can be seen in natural or artificial light; for example, clouds, fog, rain, sleet, hail, or snow.

21. "Passenger Convenience Items" means those items related to passenger convenience, comfort or entertainment such as, but not limited to, galley equipment, movie equipment, ash trays, stereo equipment, overhead reading lamps, etc.

22. Repair Intervals: All users of an MEL approved under FAR 121, 125, 129 and 135 must effect repairs of inoperative systems or components, deferred in accordance with the MEL, at or prior to the repair times established by the following letter designators:

Category A. Items in this category shall be repaired within the time interval specified in the remarks column of the operator's approved MEL.

Category B. Items in this category shall be repaired within three (3) consecutive calendar days (72 hours), excluding the day the malfunction was recorded in the aircraft maintenance

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record/logbook. For example, if it were recorded at 10 a.m. on January 26th, the three day interval would begin at midnight the 26th and end at midnight the 29th.

Category C. Items in this category shall be repaired within ten (10) consecutive calendar days (240 hours), excluding the day the malfunction was recorded in the aircraft maintenance record/logbook. For example, if it were recorded at 10 a.m. on January 26th, the 10 day interval would begin at midnight the 26th and end at midnight February 5th.

Category D. Items in this category shall be repaired within one hundred and twenty (120) consecutive calendar days (2880 hours), excluding the day the malfunction was recorded in the aircraft maintenance log and/or record.

The letter designators are inserted adjacent to Column 2.

23. Electronic fault alerting system - General

New generation aircraft display system fault indications to the flight crew by use of computerized display systems. Each aircraft manufacturer has incorporated individual design philosophies in determining the data that would be represented. The following are customized definitions (specific to each manufacturer) to help determine the level of messages affecting the aircraft's dispatch status. When preparing the MEL document, operators are to select the proper Definition No. 23 for their aircraft, if appropriate.

a. BOEING (B-757/767, B-747-400, B-777)

Boeing airplanes equipped with Engine Indicating and Crew Alerting Systems (EICAS), provide different priority levels of system messages (WARNING, CAUTION, ADVISORY, STATUS and MAINTENANCE). Any messages that affects airplane dispatch status will be displayed at a STATUS message level or higher. The absence of an EICAS STATUS or higher level (WARNING, CAUTION, ADVISORY) indicates that the system/component is operating within its approved operating limits or tolerances.

System conditions that result only in a maintenance level message, i.e. no correlation with a higher level EICAS message,

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do not affect dispatch and do not require action other than as addressed within an operators standard maintenance program.

b. DOUGLAS (MD-11)

Some Douglas aircraft are equipped with an alerting function which is a subsystem within the Electronic Instrument System (EIS). The alerting function provides various levels of system condition alerts (WARNING, CAUTION, ADVISORY, MAINTENANCE and STATUS).

Alerts that affect aircraft dispatch will include WARNING, CAUTION, STATUS or MAINTENANCE level. MAINTENANCE alerts are displayed on the status page of the EIS display panel under the maintenance heading.

A MAINTENANCE alert on the EIS indicates the presence of a system fault which can be identified by the Central Fault Display System (CFDS) interrogation. The systems are designed to be fault tolerant, however, for any MAINTENANCE alert, the MEL must be verified for dispatch purposes.

c. AIRBUS (A-300-600, A-310, A-320/319/321, A-330, A-340)

Airbus aircraft equipped with Electronic Centralized Aircraft Monitoring (ECAM) provide different levels of system condition messages (WARNING, CAUTION, STATUS, and ADVISORY). A-320/319/321, A-330, and A-340 also provide MAINTENANCE status messages.

Any message that effects airplane dispatchability will normally be at the WARNING, CAUTION or STATUS level. MAINTENANCE messages (A-320/319/321, A-330, and A-340 only) are also indicated on ECAM Status Page below the white Maintenance label.

A MAINTENANCE status (Class II) message on ECAM indicates the presence of a system fault which can be identified by CFDS (A-320/319/321) or CMS (A-330/A-340) interrogation. The systems are designed to be fault tolerant, however for any MAINTENANCE status (Class II) message, the A-320/319/321 MEL must be verified for dispatch capability. For the A-330 and A-340, MAINTENANCE status messages do not affect dispatch.

d. FOKKER (FK-100)

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Fokker aircraft are equipped with Multi Function Display System (MFDS) which provides electronic message referring to the different priority levels of system information (WARNING (red), CAUTION (amber), AWARENESS (cyan) AND STATUS (white). Any messages that affects aircraft dispatch will be at the WARNING, CAUTION or AWARENESS level. In these cases the MEL must be verified for dispatch capability and maintenance may be required.

System conditions that only require maintenance are not presented on the flight deck. These maintenance indications/messages may be presented on the Maintenance & Test Panel (MAP) or the Centralized Fault Display Unit (CFDU) and by dedicated Built In Test Evaluation (BITE) of systems.

24. "Administrative control item" means an item listed by the operator in the MEL for tracking and informational purposes. It may be added to an operator's MEL by approval of the Principal Operations Inspector provided no relief is granted, or provided conditions and limitations are contained in an approved document (i.e. Structural Repair Manual, airworthiness directive, etc.). If relief other than that granted by an approved document is sought for an administrative control item, a request must be submitted to the Administrator. If the request results in review and approval by the FOEB, the item becomes an MMEL item rather than an administrative control item.

25. "****" symbol in Column 1 indicates an item which is not required by regulation but which may have been installed on some models of aircraft covered by this MMEL. This item may be included on the operator's MEL after the approving office has determined that the item has been installed on one or more of the operator's aircraft. The symbol, however, shall not be carried forward into the operator's MEL. It should be noted that neither this policy nor the use of this symbol provide authority to install or remove an item from an aircraft.

26. "Excess Items" means those items that have been installed that are redundant to the requirements of the FARs.

27. "Day of Discovery" is the calendar day an equipment/instrument malfunction was recorded in the aircraft

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maintenance log and or record. This day is excluded from the calendar days or flight days specified in the MMEL for the repair of an inoperative item of equipment. This provision is applicable to all MMEL items, i.e., categories "A, B, C, and D."

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Preamble
(Effective 6/14/89)

The following is applicable for authorized certificate holders operating under Federal Aviation Regulations (FAR) Parts 121, 125, 129, 135: The FAR require that all equipment installed on an aircraft in compliance with the Airworthiness Standards and the Operating Rules must be operative. However, the Rules also permit the publication of a Minimum Equipment List (MEL) where compliance with certain equipment requirements is not necessary in the interests of safety under all operating conditions. Experience has shown that with the various levels of redundancy designed into aircraft, operation of every system or installed component may not be necessary when the remaining operative equipment can provide an acceptable level of safety. A Master Minimum Equipment List (MMEL) is developed by the FAA, with participation by the aviation industry, to improve aircraft utilization and thereby provide more convenient and economic air transportation for the public. The FAA approved MMEL includes those items of equipment related to airworthiness and operating regulations and other items of equipment which the Administrator finds may be inoperative and yet maintain an acceptable level of safety by appropriate conditions and limitations; it does not contain obviously required items such as wings, flaps, and rudders. The MMEL is the basis for development of individual operator MELs which take into consideration the operator's particular aircraft equipment configuration and operational conditions. Operator MELs, for administrative control, may include items not contained in the MMEL; however, relief for administrative control items must be approved by the Administrator. An operator's MEL may differ in format from the MMEL, but cannot be less restrictive than the MMEL. The individual operator's MEL, when approved and authorized, permits operation of the aircraft with inoperative equipment.

Equipment not required by the operation being conducted and equipment in excess of FAR requirements are included in the MEL with appropriate conditions and limitations. The MEL must not deviate from the Aircraft Flight Manual Limitations, Emergency Procedures or with Airworthiness Directives. It is important to remember that all equipment related to the airworthiness and the operating regulations of the aircraft not listed on the MMEL must be operative.

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Preamble
(Effective 6/14/89)

Suitable conditions and limitations in the form of placards, maintenance procedures, crew operating procedures and other restrictions as necessary are specified in the MEL to ensure that an acceptable level of safety is maintained.

The MEL is intended to permit operation with inoperative items of equipment for a period of time until repairs can be accomplished. It is important that repairs be accomplished at the earliest opportunity. In order to maintain an acceptable level of safety and reliability the MMEL establishes limitations on the duration of and conditions for operation with inoperative equipment. The MEL provides for release of the aircraft for flight with inoperative equipment. When an item of equipment is discovered to be inoperative, it is reported by making an entry in the Aircraft Maintenance Record/Logbook as prescribed by FAR. The item is then either repaired or may be deferred per the MEL or other approved means acceptable to the Administrator prior to further operation. MEL conditions and limitations, do not relieve the operator from determining that the aircraft is in condition for safe operation with items of equipment inoperative.

When these requirements are met, an Airworthiness Release, Aircraft Maintenance Record/Logbook entry, or other approved documentation is issued as prescribed by FAR. Such documentation is required prior to operation with any item of equipment inoperative.

Operators are responsible for exercising the necessary operational control to ensure that an acceptable level of safety is maintained. When operating with multiple inoperative items, the interrelationships between those items and the effect on aircraft operation and crew workload will be considered.

Operators are to establish a controlled and sound repair program including the parts, personnel, facilities, procedures, and schedules to ensure timely repair.

WHEN USING THE MEL, COMPLIANCE WITH THE STATED INTENT OF THE PREAMBLE, DEFINITIONS, AND THE CONDITIONS AND LIMITATIONS SPECIFIED IN THE MEL IS REQUIRED.

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Guidelines for (O) & (M) Procedures

The FOEB has identified a need for certain procedures to provide an adequate level of safety while providing relief for the following items. These procedures must be established by the operator. The following guidelines are to help establish these required procedures.

- 21-1 (O) Operations procedure to operate the aircraft unpressurized.
- 21-2 (O) Operations procedure to operate the aircraft unpressurized.
- 21-3 (O) Operations procedure to operate the aircraft unpressurized.
- 21-4 (O) Operations procedure to operate the aircraft unpressurized.
- 21-5 (O) Operations procedure to operate the aircraft unpressurized.
- 21-6 (O) Operations procedure to ensure Bleed Air Valve is closed.
- 21-7 (M) Maintenance procedure to ensure malfunction does not adversely effect engine operation.
- 22-1 (M) Maintenance procedure to ensure no electrical or mechanical fault exists that will have an adverse effect on any flight control function.
- 22-2 (M) Maintenance procedure to ensure no electrical or mechanical fault exists that will have an adverse effect on any flight control function.
- 23-2 (O) Operations procedure to ensure passengers are briefed.
- 30-1 (M) Maintenance procedure to ensure there is no binding and vanes operate full travel on remaining motor.
- 31-1 (O) Operations procedure for recording flight time.
- 33-3 (O) Operations procedure to ensure passengers are briefed.

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Guidelines for (O) & (M) Procedures

- 34-13 (M) Maintenance procedure to secure and deactivate the system.
- 34-14-1 (M) Maintenance procedure to secure and deactivate the system.
- 14-2 (O) Operations procedure to ensure TA and RA display is visible to the non-flying pilot and audio functions are operative on flying pilot side.
- 14-3 (O) Operations procedure to ensure non-flying pilot monitors pilot's display.
 - (O) Operations procedure to ensure TA ONLY mode is selected and all TA functions/elements are operative.
- 14-4 (O) Operations procedure to ensure all RA display functions are operative.
- 34-15-1 (O) Operations procedure to ensure pilot awareness of altitude and terrain.
- 15-4 (O) Operations procedure to ensure pilot awareness of altitude and terrain.
- 15-5 (O) Operations procedure to establish alternate windshear alert awareness.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21	AIR CONDITIONING				
1.	Cabin Altitude High Annunciator	C	1	0	(O)May be inoperative for unpressurized flight.
		C	1	0	OR May be inoperative for pressurized flight at or below 10,000 ft. msl.
2.	Cabin Differential High Annunciator	C	1	0	(O)May be inoperative for unpressurized flight.
3.	Cabin Altitude/ Pressure Differential Indicator	C	1	0	(O)May be inoperative for unpressurized flight.
4.	Cabin Rate-of-Climb Indicator	C	1	0	May be inoperative for pressurized flight provided Cabin Altitude/ Pressure Differential Indicator is operative.
		C	1	0	OR (O)May be inoperative for unpressurized flight.
5.	Automatic Pressure Controller	C	1	0	(O)May be inoperative for unpressurized flight.
6.	Bleed Air Fail Annunciators	C	2	1	(O)One may be inoperative provided: a) Bleed Air Valve is closed on inoperative side. b) Aircraft is not operated above FL 250 and c) Aircraft is not operated in known or forecast icing conditions.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
21	AIR CONDITIONING				
7.	Air Conditioner	C	1	0	(M)May be inoperative provided: a) Cabin temperature remains within limits as stated in AFM and b) High windshield heat is available for defogging.

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SYSTEM & SEQUENCE NUMBERS		1. ITEM	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22		AUTO FLIGHT			
1.	Autopilot System	C	1	0	(M)May be inoperative for two pilot operations. Must be operative for single pilot operations.
2.	Yaw Damper	C	1	0	(M)May be inoperative for flights not requiring an autopilot.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED		4. REMARKS OR EXCEPTIONS
			3. NUMBER REQUIRED FOR DISPATCH		
23	COMMUNICATIONS				
1.	Communications Systems (VHF, HF, UHF)	C	-	-	As required by FAR
2.	Passenger Address System				
	1) Passenger	B	1	0	(0)May be inoperative provided alternate normal and emergency procedures and/or operating restrictions are established and used.
	2) Cargo Configuration	D	1	0	
3.	Static Discharge Wicks	C	18	-	One wick may be missing or damaged on each control surface.
4.	Cockpit Voice Recorder (CVR) System	A	1	0	May be inoperative provided repairs are made within three flight days.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23	COMMUNICATIONS				
5.	Boom Microphones				
***	(CVR and FDR installations)				
1)	Cockpit Voice Recorder Equipped to Record Boom Microphone per FAR 135.151(d)	A	- 0		May be inoperative provided: a) Flight Data Recorder (FDR) operates normally and b) Repairs are made within three flight days.
2)	Cockpit Voice Recorder Not Equipped to Record Boom Microphone	D	- 0		
	Boom Microphones				
***	(CVR installation only)				
1)	Cockpit Voice Recorder Equipped to Record Boom Microphone per FAR 135.151(d)	A	- 0		May be inoperative provided repairs are made within three flight days.
2)	Cockpit Voice Recorder Not Equipped to Record Boom Microphone	D	- 0		

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25	EQUIPMENT/FURNISHINGS				
1.	Passenger Seat	C	- 0	0	All may be inoperative provided: a) Affected seat does not block emergency egress to an aisle or exit and b) Affected seat is blocked and placarded "DO NOT OCCUPY". NOTE: 1. A seat with an inoperative seatbelt or shoulder harness is considered to be inoperative. 2. A seat with an inoperative recline mechanism is considered to be inoperative if the seat back cannot be secured in the upright position.
2.	Emergency Locator Transmitter (ELT)	C	1	0	As required by FAR OR
		C	1	0	May be inoperative for published scheduled flights in scheduled air carrier service.
3.	Flotation Devices	D	-	0	Any in excess of those required by FAR may be missing or inoperative.
4.	First Aid Kits	D	-	-	Any in excess of those required by FAR may be incomplete or missing provided required distribution is maintained.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25	EQUIPMENT/FURNISHINGS				
5.	Passenger Convenience Item(s)	-	-		Passenger convenience items, as expressed in this MMEL are those related to passenger convenience, comfort, or entertainment such as, but not limited to, galley equipment, movie equipment, ash trays, stereo equipment, overhead reading lamps, etc. Items addressed elsewhere in this document shall not be included. (M) and (O) procedures may be required and included in the air carrier's appropriate document.

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26	FIRE PROTECTION				
1.	Portable Fire Extinguishers	D	-	-	Any in excess of those required by FAR may be inoperative or missing provided: a) The inoperative fire extinguisher is tagged inoperative, removed from the installed location, and placed out of sight so it can not be mistaken for a functional unit and b) Required distribution is maintained.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
27	FLIGHT CONTROLS				
1.	Flap/Forward Wing Extend/Transit Annunciator	C	1	0	May be inoperative provided: a) Flaps and Forward Wing are checked for full range of operation and b) EICAS Flap Monitor Fail message is not illuminated.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED		4. REMARKS OR EXCEPTIONS
			3. NUMBER REQUIRED FOR DISPATCH		
28	FUEL				
1.	Fuel Low Level Annunciator	C	2	0	May be inoperative provided: a) Associated Stand-by Fuel Pump is in the ON position and b) During two-engine operations fuel cross-transfer in flight is prohibited.
2.	Fuel Temperature Indicator	C	1	0	May be inoperative provided: a) Fuel has not been exposed to temperatures below limits specified in AFM within the past 12 hours and b) Aircraft is operated in OAT higher than fuel temperature limit as specified in AFM.

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SYSTEM & SEQUENCE NUMBERS		1. ITEM	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30	ICE AND RAIN PROTECTION				
1.	Engine Anti-Ice Actuator Motors	C	4	2	(M)Either main or standby motor on each side may be inoperative.
2.	Fuel Vent Heaters	C	2	0	May be inoperative provided aircraft is not operated in known or forecast icing conditions.
3.	Pitot/Static Heaters	B	2	0	Left Pitot tube must be operative for IFR passenger carrying and for flights into known or forecast icing conditions. NOTE: Two heated pitot tubes are required for these conditions if a second airspeed indicator is installed and operative.
4.	Stall Warning Heat	C	2	0	May be inoperative provided aircraft is not operated in known or forecast icing conditions.
5.	Windshield Wipers	C	2	0	May be inoperative provided aircraft is not operated in precipitation within 5 nautical miles of the airport of takeoff or intended landing.
6.	Windshield Heaters	C	2	0	High heat may be inoperative provided: a) Aircraft is not operated in known or forecast icing conditions and b) Air Conditioning is operative.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
30	ICE AND RAIN PROTECTION				
7.	Pilot's Windshield Control	C	2	1	Standby position may be inoperative provided flight is not conducted in known or forecast icing conditions. NOTE: Normal position must be operative.
8.	Airfoil Deice System	C	1	0	May be inoperative provided aircraft is not operated in known or forecast icing conditions.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED		4. REMARKS OR EXCEPTIONS
			3.	NUMBER REQUIRED FOR DISPATCH	
31	INDICATING/RECORDING SYSTEMS				
1.	Flight Hour Recorder	C	1	0	(0)
2.	Flight Data *** Recorder (FDR)	B	1	0	May be inoperative provided Cockpit Voice Recorder is operative.
3.	Electric Digital Clocks	C	2	1	Co-pilot's clock may be inoperative for IFR operations.
		C	2	0	OR May be inoperative for VFR operations.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
32	LANDING GEAR				
1.	Landing Gear Handle Lights	C	2	1	One bulb may be inoperative.
2.	Anti-Skid System	C	1	0	May be inoperative provided: a) Anti-Skid is turned OFF and b) Anti-Skid OFF performance data is observed.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED		4. REMARKS OR EXCEPTIONS
			3.	NUMBER REQUIRED FOR DISPATCH	
33	LIGHTS				
1.	Cabin Light System	C	1	0	May be inoperative provided lighting configuration is acceptable to the flight crew.
2.	Cockpit/ Flight Deck/ Flight Compartment and Instrument Lighting System	C	-	-	Individual lights may be inoperative provided remaining lights are: a) Sufficient to clearly illuminate all required instruments, controls and other devices for which it is provided, b) Positioned so that direct rays are shielded from flight crewmembers eyes and c) Lighting configuration and intensity is acceptable to the flight crew.
3.	Passenger Notice (Fasten Seat Belt - No Smoking Signs)	C	-	0	(O)May be inoperative provided appropriate verbal briefings are given to passengers.
4.	Position Light System	C	1	0	May be inoperative for day operations.
5.	Anti-collision Light System	B	1	0	May be inoperative for day operations.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED		4. REMARKS OR EXCEPTIONS	
			3.	NUMBER REQUIRED FOR DISPATCH		
33. LIGHTS						
6.	Taxi Light	C	1	0	May be inoperative for day operations.	
					OR	
			C	1	0	May be inoperative for night operations provided the Nose Landing Light is operative.
7.	Wing Ice Light	C	-	0	May be inoperative provided a portable lamp/light of adequate capacity for wing and/or control surface inspection is available for night operations in icing conditions.	
8.	Wing Landing Lights	C	2	0	May be inoperative for day operations.	
					OR	
			C	2	0	May be inoperative for night operations provided Nose Landing Light is operative.
9.	Nose Landing Light	C	1	0	May be inoperative for day operations.	
					OR	
			C	1	0	May be inoperative for night operations provided wing landing lights are operative.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED		4. REMARKS OR EXCEPTIONS
			3.	NUMBER REQUIRED FOR DISPATCH	
34	NAVIGATION				
1.	Weather Radar/ Thunderstorm Detection Equipment	C	1	0	As required by FAR.
2.	Navigation Equipment (VOR/ILS Loran, Omega/VLF, INS, Doppler, RNAV, GPS)	C	-	-	As required by FAR.
3.	ATC Transponders and Automatic Altitude Reporting Systems	D	-	-	Any in excess of those required by FAR may be inoperative.
4.	Marker Beacons	C	2	-	May be inoperative provided approach procedure does not require its use.
5.	Radar Altimeter	C	1	0	
4.	Altitude Encoder				Combined with ATA 34-3.
7.	Altitude Alerter	C	1	0	
8.	DME	C	2	0	As required by FAR.
9.	ADF	C	1	0	As required by FAR.
10.	Sensor Display Unit (SDU)	B	2	1	Right side may be inoperative.
11.	Flight Management System	C	1	0	

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34	NAVIGATION				
12.	Nonstabilized Magnetic Compass	B	1	0	May be inoperative provided any combination of three gyro or INS (IRU) stabilized compass systems are operative.
					OR
		B	1	0	May be inoperative provided: a) Any combination of two stabilized gyro or INS stabilized compass systems are operative and b) Aircraft is operated with dual independent navigation capability and under positive radar control by ATC on the enroute portion of the flight.
					OR
		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 approved free gyro navigation techniques.

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34		NAVIGATION			
13.	Traffic Alert	C	1	0	(M)May be inoperative provided the system is deactivated and secured.
***	Collision Avoidance System (TCAS I)				
14.	Traffic Alert				
***	Collision Avoidance System (TCAS 2)				
	1) TCAS System	C	-	0	(M)May be inoperative provided the system is deactivated and secured.
	2) Combined TA and RA Dual Displays	C	2	1	(O)One may be inoperative on the non-flying pilot side provided: a) TA and RA elements and audio functions are operative on flying pilot side and b) TA and RA display indications are visible to the non-flying pilot.

	3) Resolution Advisory (RA) Display System(s)	C	2	1	(O)One may be inoperative on non-flying pilot side.
		C	-	0	(O)May be inoperative provided: a) All Traffic Alert (TA) display elements and voice command audio functions are operative and
	4) TA Display System(s)	C	-	0	May be inoperative provided all installed RA display and audio functions are operative.

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34	NAVIGATION				
15.	Ground Proximity *** Warning System				
	1) Modes 1-4	A	-	0	(O)May be inoperative provided: a) Alternate procedures are established, used and b) Repairs are made within two flight days.
	2) Test Mode	A	1	0	May be inoperative provided: a) GPWS is considered inoperative and b) Repairs are made within two flight days.
	3) Glideslope Deviation (Mode 5)	B	2	0	
	4) Advisory *** Callouts	C	-	0	(O)May be inoperative provided alternate procedures are established and used.
	5) Windshear Mode ***	C	-	0	(O)May be inoperative provided alternate procedures are established and used.

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61	PROPELLERS					
1.	Propeller Synchrophaser	C	1	0		
2.	Propeller Synchronization Display	C	1	0		