

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

Revision: 7  
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WASHINGTON, D.C.

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

BELL HELICOPTER  
212, 412 SERIES

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Log of Revisions

REV.NO.	DATE	PAGE NUMBERS	INITIALS
1	11/30/1981	Complete Revision	
2	03/30/1982	Pages i, I, and 22-1	
3	06/15/1984	Complete Revision	
3L	02/14/1986	Letter Change Pg. III & 22-1	
4	05/19/1989	ALL PAGES	
5	06/22/1989	HIGHLIGHTS OF CHANGE	
5a	10/01/1991	HIGHLIGHTS OF REV., DEFINITIONS	
5a	10/01/1991	23-1, 25-1, 31-1	
5b	12/28/1992	HIGHLIGHTS OF REV., GUIDELINES	
5b	12/28/1992	21-1	
5c	11/17/1993	HIGHLIGHTS OF REV., DEFINITIONS	
5c	11/17/1993	21-1, 22-1, 23-1, 24-1, 25-1	
5c	11/17/1993	26-1, 27-1, 28-1, 30-1, 31-1	
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5d	02/02/2001	HIGHLIGHTS OF REV., DEFINITIONS	
5d	02/02/2001	21-1, 22-1, 31-1, 34-1	
5e	09/17/2002	HIGHLIGHTS OF REV., DEFINITIONS	
5e	09/17/2002	23-1, 31-1	
6	06/04/2003	HIGHLIGHTS OF REV., DEFINITIONS	
6	06/04/2003	GUIDELINES	
6	06/04/2003	23-1, 23-2, 34-1	
7	02/06/2006	HIGHLIGHTS OF REV., DEFINITIONS	
7	02/06/2006	GUIDELINES	
7	02/06/2006	21-1, 22-1, 23-1, 23-2, 24-1	
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## Control Page

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	VI	7	02/06/2006
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	25-2	7	02/06/2006
26	26-1	5 c	11/17/1993
27	27-1	7	02/06/2006
28	28-1	7	02/06/2006
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35	35-1	5 c	11/17/1993
52	52-1	5 c	11/17/1993
65	65-1	5 c	11/17/1993

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	65-2	5 c	11/17/1993
73	73-1	5 c	11/17/1993
77	77-1	5 c	11/17/1993

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## Highlights of Change

- ATA 21 Item 1, 1) & 2) Changed provisos.
- ATA 21 Item 3 Added (M) procedure.
- ATA 21 Item 4 Added (M) procedure.
- ATA 23 Item 2 Changed to comply with Policy Letter 29.
- ATA 23 Item 3 Moved to ATA 31.
- ATA 23 Item 4, 1) Added relief for Pre-recorded Passenger Announcement System.
- ATA 23 Item 4, 2) Changed repair interval from "B" to "D" to comply with Policy Letter 9.
- ATA 23 Item 5 Provided relief for Crew Interphone System.
- ATA 24 Item 2 Editorial change.
- ATA 24 Item 5, 1), 2) & 3) Removed asterisks in the provisos.
- ATA 25 Item 6 Added proviso.
- ATA 25 Item 11 Changed proviso.
- ATA 25 Item 13 Provided relief for Passenger Steps (Electrically Actuated).
- ATA 27 Item 1 Changed acronym in proviso from "VMC" to "VFR".
- ATA 27 Item 2 Provided relief for Cyclic Stick Centering Indicator.
- ATA 28 Item 5 Provided relief for Auxiliary Fuel System.
- ATA 30 Item 4 Added proviso.
- ATA 31 Item 5 Moved to ATA 23.
- ATA 31 Item 6 Complied with Policy Letter 87.
- ATA 33 Item 6 Deleted. Item not installed.

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Highlights of Change

- ATA 34 Item 1 Provided relief for co-pilot's Airspeed Indicator.
- ATA 34 Item 2 Provided relief for co-pilot's Altimeter.
- ATA 34 Item 3 Provided relief for co-pilot's Magnetic Direction Indicator.
- ATA 34 Item 4 Provided relief for co-pilot's Slip-Skid Indicator.
- ATA 34 Item 5 Provided relief for co-pilot's Gyroscopic Bank and Pitch Indicator.
- ATA 34 Item 6 Provided relief for co-pilot's Gyroscopic Direction Indicator.
- ATA 34 Item 7 Provided relief for co-pilot's Vertical Speed Indicator.
- ATA 34 Item 8 Changed Proviso.
- ATA 34 Item 9 Changed name of Item.
- ATA 34 Item 10 Changed relief and provisos to comply with Policy Letter 111.
- ATA 34 Item 12 Changed relief and provisos to comply with Policy Letter 76.
- ATA 34 Item 13 Changed relief and provisos to comply with Policy Letter 3.
- ATA 34 Item 14 Changed name of Item.
- ATA 34 Item 15 Changed name of the Item and listed it as optional equipment.
- ATA 34 Item 16 Listed Item as optional equipment.
- ATA 34 Item 19 Changed proviso to comply with Policy Letter 32.

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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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## Definitions

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) &amp; (M) Procedures

The FOEB has identified a need for certain procedures to provide an adequate level of safety while providing relief for some items. Those procedures must be established by the operator. The following guidelines specify the objectives of the required procedures:

- 21-3 (M) Procedure to deactivate and secure the System. |
- 21-4 (M) Procedure to determine condition of the freon compressor and ensure that the compressor drive is safe for continued flight.
- 23-4 1(O) Procedure to establish normal and emergency procedures and/or operating restrictions.
- 2) (O) Procedure to operate in Cargo configuration.
- 24-2 (M) Procedure to meet proviso b).
- 25-13 (M) Procedure to deactivate and secure Passenger Steps. |
- 28-2 (O) Alternate procedure to gauge fuel quantity.
- 28-5 (M) Procedure to secure and check for leaks in the Auxiliary Fuel System. |
- 33-8 (O) Alternate procedure to notify passengers.
- 34-19 (O) Procedure to insure TCAS is not required. |
- 34-19 (M) Procedure to deactivate and secure the TCAS. |
- 65-1 (M) Procedure to inspect, deactivate, and secure system.
- 77-5 (O) Alternate procedure to identify failed engine.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED		4. REMARKS OR EXCEPTIONS
				3. NUMBER REQUIRED FOR DISPATCH	
21	AIR CONDITIONING				
1.	Cockpit Vent Blowers				
	1) Pilot's	C	1	0	May be inoperative provided Heated Windshield (Item 30-4) is installed and operative. OR Other approved windshield defogging system is installed and operative.
	2) Copilot's	C	1	0	May be inoperative provided Heated Windshield (Item 30-4) is installed and operative. OR Other approved windshield defogging system is installed and operative.
2.	Bleed Air Heater	C	1	0	May be inoperative above +5 degrees C outside air temperature provided Pilot's Cockpit Vent Blower (Item 21-1.1) is operative.
3.	Bleed Air Cooling *** System	C	-	0	(M) May be inoperative provided system is deactivated and secured.
4.	Freon Cooling *** System	C	-	0	(M) May be inoperative provided system is deactivated and secured.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22	AUTO FLIGHT				

1.	Automatic Flight Control Systems (AFCS)	C	-	0	May be inoperative for VFR provided RFM limitations are complied with.
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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23	COMMUNICATIONS				
1.	Communications Systems (FM, HF, UHF, VHF, etc.)	D	-	-	Any in excess of those required by FAR 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.
2.	Cockpit Voice Recorder (CVR)	A	1	0	May be inoperative provided: a) Flight Data Recorder (FDR) operates normally, and b) Repairs are made within three flight days.
	Cockpit Voice Recorder (CVR) without Flight Data Recorder installed.	A	1	0	May be inoperative provided repairs are made within three flight days.
	Cockpit Voice Recorder (CVR) installed for an 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 FARs.
3.	Flight Data *** Recorder (FDR) System				Moved to ATA 31.
4.	Cabin Public Address System				
1)	Passenger config. (Including Pre-recorded Passenger Announcement System)	B	-	0	(0) May be inoperative provided: Alternate normal and emergency procedures and/or operating restrictions are established and used.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
23	COMMUNICATIONS				

2) Cargo config.

D

-

0

(0) May be inoperative unless  
procedures require its use.

5. Crew Interphone  
System (ICS)

B

1

0

Co-pilot's station ICS may be  
inoperative for single pilot VFR  
operations.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
24	ELECTRICAL POWER				
1.	Deleted				
2.	Starter/Generator	B	2	1	(M)One generator may be inoperative for day VMC provided: a) All Inverters (Item 24-5) are operative, and b) Starter/Generator checked for security of mounting and burned or arced connections in the area.
3.	and 4.				Deleted
5.	Inverters				
1)	Model 212 SN 30 504 thru 30 553	B	2	1	One may be inoperative for day VMC provided both Generators (Item 24-2) are operative.
2)	Model 212 SN 30 554 and subsequent	B	3	2	One may be inoperative for day VMC provided both Generators (Item 24-2) are operative.
3)	Model 412	B	2	1	One may be inoperative for day VMC provided both Generators (Item 24-2) are operative.

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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. thru 3. Deleted					
4.	Helicopter Flotation System	C	-	0	As required by FAR.
5.	Passenger Seat Belts	C	-	0	One for each occupied seat. If belt is inoperative or missing, seat must be blocked and placarded.
6.	Crewmember Shoulder Harness	B	-	0	AS required by FAR.
7. Deleted					
8.	Cargo Suspension System	C	-	0	
9.	Hoist System	C	-	0	
10.	Emergency Locator Transmitter (ELT)	C	-	0	
11.	EMS Equipment	C	-	0	May be inoperative provided system is deactivated and secured. (M) and/or (O) procedures may be required and included in the air carrier's appropriate document.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
25	EQUIPMENT/FURNISHINGS				

12.	Passenger Convenience Item(s)	-	0	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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13.	Passenger Steps *** (Electrically Actuated)	C	-	0	(M) May be inoperative provided: a) Steps are in the stowed (down) position, and b) System is deactivated and secured.
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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
26	FIRE PROTECTION				
1.	Baggage Compartment Smoke Detector System	C	1	0	May be inoperative if compartment is empty.
2.	thru 4. Deleted				

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED		4. REMARKS OR EXCEPTIONS
			3. NUMBER REQUIRED FOR DISPATCH		
27	FLIGHT CONTROLS				
1.	Force Trim System C	1	0		May be inoperative for VFR.
2.	Cyclic Stick Centering Indicator B	2	0		Refer to RFM for limitations.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
28	FUEL				
1.	Deleted				
2.	Multiple Indicator B Fuel Quantity Gauge	1	0	(O)May be inoperative provided: a) Approved alternate preflight gauging method is used to determine total fuel quantity, and b) Aircraft shall not depart airport where repairs or replacements can be made.	
3.	and 4. Deleted				
5.	Auxiliary Fuel *** System	D	-	0	May be inoperative provided: a) Flight is not predicated on the use of the system, AND b) Any fuel in the Auxiliary Fuel System is calculated in the weight and balance.
					(M) Insure Auxiliary Fuel System valve(s) are closed and insure there are no fuel leaks. OR Auxiliary Fuel System is empty.

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SYSTEM & SEQUENCE NUMBERS	ITEM	2. NUMBER INSTALLED		4. REMARKS OR EXCEPTIONS
		1.	3. NUMBER REQUIRED FOR DISPATCH	
30	ICE AND RAIN PROTECTION			
1.	Heated Pitot Tube	B	2   0	May be inoperative for VFR.
2.	Windshield Wipers	C	2   0	May be inoperative for VFR provided operations are not conducted in precipitation.
3.	Static Port Heaters	C	4   0	May be inoperative for VFR.
4.	Heated Windshield	C	-   0	May be inoperative provided: a) Blower Fan (Item 21-1) is operative, and b) Defogging vents are not obstructed.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
31	INDICATING/RECORDING SYSTEMS				
1.	Clock Displaying Hours, Minutes, and Seconds with Sweep-Second Pointer or Digital Presentation	C	-	1	Operative clock must be located on the instrument panel in a position that makes it plainly visible to, and usable by, any pilot at the pilot's station.
		C	-	0	May be inoperative for VFR provided Elapsed Timer is installed and operative.
2.	Elapsed Timer ***	C	-	0	May be inoperative provided Clock is operative.
3.	Hour Meter ***	C	-	0	
4.	Aircraft/Engine *** Monitoring System	C	-	0	
5.	Cockpit Voice Recorder				Moved to chapter 23 Item 2.
6.	Flight Data Recorder (FDR)	C	-	-	Any in excess of those required by FAR may be inoperative.
		A	-	0	May be inoperative provided: a) Cockpit Voice Recorder (CVR) operates normally, b) Aircraft is not dispatched from a designated airport as listed in the operator's MEL unless: 1. The FDR failure occurs after block out but prior to takeoff, or 2. The FDR repair was attempted but was not successful.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
31	INDICATING/RECORDING SYSTEMS				
	FDR (continued)				c) In those cases where repair is attempted but not successful, the aircraft 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 three flight days.
	FDR Recording Parameters required by FAR	A	-	-	May be inoperative provided: a) Cockpit Voice Recorder (CVR) operates normally, and b) Repairs are made within 20 calendar days.
	FDR Recording Parameters not required by FAR	A	-	-	May be inoperative provided repairs are made prior to the completion of the next heavy maintenance visit.
	Flight Data recorder (FDR) installed for an operator other than a holder of an Air Carrier or Commercial Operator Certificate				
	Flight Data Recorder (FDR) System	C	-	1	Any in excess of those required by FAR may be inoperative.
		A	-	0	May be inoperative provided repairs are made in accordance with applicable FARs.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
31	INDICATING/RECORDING SYSTEMS				

7.	Health and Usage *** Monitoring System (HUMS)	B	-	0	
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8.	Health and Usage *** Monitoring System (HUMS) (non credit system)	C	-	0	
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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED		3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
1.	Position Lighting System	C	1	0	0	May be inoperative for day operations.
2.	Anti-Collision Light System	B	1	0	0	May be inoperative for day operations.
3.	Landing Light System	C	1	0	0	May be inoperative for day operations.
4.	Search Light	C	1	0	0	
5.	Cockpit Instrument Lighting System	B	-	0	0	May be inoperative provided: a) Sufficient lighting is operative to make each required instrument, control, and other device for which it is provided easily readable, b) Direct rays and reflections do not impair visibility either inside or outside the aircraft, c) Lighting intensity can be controlled or preset to a satisfactory level for the expected flight conditions, and d) Lighting configuration at dispatch is acceptable to the flight crew. OR e) Copilot station instrument lights may be inoperative for single pilot operations.
6.	Cabin Emergency Lights					Deleted. Not installed.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
7.	Cabin Lighting System	C	-	0	May be inoperative provided: a) For day operations. OR b) Inoperative lights do not exceed fifty (50) percent of the total installed.
8.	Passenger Notice System (Fasten Seat Belt-No Smoking)	B	-	0	(O)May be inoperative provided: a) Passengers are not carried. OR b) Alternate procedures are used for passenger notification. OR c) Public address system is installed and operative.
9.	Strobe Light System	C	-	0	
10.	External Utility Light(s)	C	-	0	
11.	Supplemental Lighting System	C	-	0	

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED		4. REMARKS OR EXCEPTIONS
			3. NUMBER REQUIRED FOR DISPATCH		
34	NAVIGATION				
1.	Airspeed Indicator	B	2	1	Copilot's may be inoperative for single pilot VFR, provided two pilots are not required by FAR.
2.	Sensitive Altimeter Adjustable for Barometric Pressure	B	2	1	Copilot's may be inoperative for single pilot VFR, provided two pilots are not required by FAR.
3.	Magnetic Direction Indicator	B	2	1	Copilot's may be inoperative for single pilot VFR, provided two pilots are not required by FAR.
4.	Slip-Skid Indicator	B	2	1	Copilot's may be inoperative for single pilot VFR, provided two pilots are not required by FAR.
5.	Gyroscopic Bank and Pitch Indicator	B	2	1	Copilot's may be inoperative for single pilot VFR, provided two pilots are not required by FAR.
6.	Gyroscopic Direction Indicator	B	2	1	Copilot's may be inoperative for single pilot VFR, provided two pilots are not required by FAR.
7.	Vertical Speed Indicator	B	2	1	Copilot's may be inoperative for single pilot VFR, provided two pilots are not required by FAR.
8.	Gyroscopic Rate-of-Turn Indicator	B	-	0	As required by FAR.
9.	OAT/Free Air Temperature Indicator	C	1	0	May be inoperative provided approved alternate onboard OAT source is installed and operative.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34	NAVIGATION				
10.	Standby Attitude Indicator	C	-	0	May be inoperative provided not required by FAR.
		B	-	0	May be inoperative provided: a) Operations are conducted in day VMC only, and b) Operations are not conducted into known or forecast over-the-top conditions.
11.	Navigation Systems (VOR, ILS, ADF, Long Range, etc.)	C	-	0	As required by FAR.
12.	ATC Transponders and Automatic Reporting Systems	B	-	0	May be inoperative provided: a) Enroute operations do not require its use, and b) Prior to flight, approval is obtained from ATC facilities having jurisdiction over the planned route of flight.
		D	-	1	Any in excess of those required by FAR may be inoperative.
	1) Elementary and Enhanced Downlink Aircraft Reportable Parameters not Required by FAR	A	-	0	May be inoperative provided: a) Enroute operations do not require its use, and b) Repairs are made prior to completion of the next heavy maintenance visit.
13.	DME	D	-	-	Any in excess of those required by FAR may be inoperative.
14.	Radio/Radar *** Altimeter System	C	-	0	As required by FAR.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34	NAVIGATION				
15. ***	Thunderstorm Detection System	C	-	0	As required by FAR.
16. ***	Flight Director	C	-	0	
17.	Marker Beacon	C	-	0	May be inoperative provided approach is not predicated on its use.
18.	Alternate Source of Static Pressure for Altimeter, A/S and Vertical Speed	B	-	0	May be inoperative for VFR.
19. ***	Traffic Collision Alert Systems (i.e., TCAS, TCAD, etc.	C	-	0	(M) (O) May be inoperative provided: a) Not required by FAR, b) System is deactivated and secured, and Enroute or approach procedures do not require its use.

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35-1

SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
35	OXYGEN				
1.	Oxygen System and Masks (Crew and Passengers)	C	-	0	As required by FAR.

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SYSTEM & SEQUENCE NUMBERS	ITEM	2. NUMBER INSTALLED		4. REMARKS OR EXCEPTIONS	
		1.	3. NUMBER REQUIRED FOR DISPATCH		
52	DOORS				
1.	Door Warning System	C	1	0	May be inoperative provided it is determined by visual check that doors are closed and latched.
2.	Deleted				

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
65	ROTORS				
1.	Rotor Brake System	C	-	0	(M)May be inoperative provided: a) It is determined by visual inspection that pucks are fully retracted, and b) System is deactivated and secured.
2.	Rotor Brake Warning Lights	C	-	0	May be inoperative if rotor brake system is deactivated and secured.
3.	thru 6. Deleted				
7.	Transmission Oil Temperature Indicating System	B	1	0	May be inoperative provided: a) Transmission Oil Temperature Warning Light System (Item 65-9) is operative, b) Transmission Oil Pressure Indicating System (Item 65-8) is operative, and c) Aircraft shall not depart airport where repairs or replacements can be made.
8.	Transmission Oil Pressure Indicating System	B	1	0	May be inoperative provided: a) Transmission Oil Pressure Warning Light System (Item 65-10) is operative, b) Transmission Oil Temperature Indicating System (Item 65-7) is operative, and c) Aircraft shall not depart airport where repairs or replacements can be made.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
65	ROTORS				
9.	Transmission Oil Temperature Warning Light System	B	1	0	May be inoperative provided: a) Transmission Oil Temperature Indicating System (Item 65-7) is operative, b) Transmission Oil Pressure Warning Light System (Item 65-10) is operative, and c) Aircraft shall not depart airport where repairs or replacements can be made.
10.	Transmission Oil Pressure Warning Light System	B	1	0	May be inoperative provided: a) Transmission Oil Pressure Indicating System (Item 65-8) is operative, b) Transmission Oil Temperature Warning Light System (Item 65-9) is operative, and c) Aircraft shall not depart airport where repairs or replacements can be made.

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED		4. REMARKS OR EXCEPTIONS
				3. NUMBER REQUIRED FOR DISPATCH	
73	ENGINE FUEL AND CONTROL				
1.	Engine Fuel Control (Automatic Mode)	B	2	1	One may be inoperative provided: a) For non passenger carrying operations, and b) Aircraft shall not depart airport where repairs or replacements can be made.
	2. and 3. Deleted				

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SYSTEM & SEQUENCE NUMBERS	ITEM	1.	2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
77	ENGINE INDICATING				
					FOR ITEMS 77-1 AND 77-2, OPERATIVE INDICATOR MUST BE AT THE STATION OF PILOT MANIPULATING FLIGHT CONTROLS.
1.	Tachometer, Triple Indicating	C	-	1	
2.	Dual Torque Indicator	C	-	1	
3.	and 4. Deleted				
5.	Engine Out Warning System	B	2	1	(O)One may be inoperative provided: a) Alternate procedures are established and utilized for engine failure identification, and b) Aircraft shall not depart airport where repairs or replacements can be made.
6.	Fuel Flow Indicator System	B	-	0	

