

**ROBINSON HELICOPTER COMPANY**  
**Types R22/R44/R66**  
**MASTER MINIMUM EQUIPMENT LIST (MMEL)**

**ORIGINAL: 17 November 2015**

## **MASTER MINIMUM EQUIPMENT LIST**

Types:

Robinson Helicopter Company

R22, R44, and R66 including all sub-variants

ORIGINAL ISSUE: 17 November 2015

This Master Minimum Equipment List (MMEL) is issued by Robinson Helicopter Company at the above revision and is approved by the European Aviation Safety Agency (EASA) as the basis for the preparation and approval of individual operator's Minimum Equipment List (MEL) for aircraft of this model, as certified by and operated under the jurisdiction of EASA Member States' national authorities.

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Signed by:

## GENERAL

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**ORIGINAL ISSUE:** 17 November 2015

## PREAMBLE

### Introduction

The following is applicable for operators under European air operations regulations (Part-CAT, Part-NCO, Part-SPO). Paragraph 1.c.2 of Annex I to Article 5 (Essential requirements for airworthiness) of Regulation (EC) No 216/2008 (hereinafter referred to as the 'Basic Regulation') requires that all equipment installed on a helicopter required for type certification or by operating rules shall be operative. However, paragraph 2.a.3 of Annex IV to Article 8 (Essential requirements for air operations) of the Basic Regulation also allows the use of a Minimum Equipment List (MEL) where compliance with certain equipment requirements is not necessary in the interest of safety under all operating conditions. Experience has shown that with the various levels of redundancy designed into helicopters, operation of every system or installed items may not be necessary when the remaining operative equipment can provide an acceptable level of safety.

### Purpose and limitations

This Master Minimum Equipment List (MMEL) is developed by the Type Certificate Holder or the Supplemental Type Certificate Holder and approved by the Agency. This MMEL includes those items related to airworthiness and air operations regulations, and other items the Agency 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. In order to maintain an acceptable level of safety, the MMEL establishes limitations on the duration of and conditions for operation with inoperative items. Unless specifically permitted by this MMEL, an inoperative item may not be removed from the helicopter.

### Utilisation

The MMEL is the basis for the development of the individual operator's MEL which takes into consideration the operator's particular helicopter equipment configuration and operational conditions.

An operator's MEL may differ in format from the MMEL, but shall not be less restrictive than the MMEL. The individual operator's MEL, when approved or declared as applicable, allows operation of the helicopter with inoperative items for a certain period of time until rectification can be accomplished.

The MEL cannot deviate from Airworthiness Directives or any other additional mandatory requirements. It is important to remember that all items related to airworthiness and operational regulations of the helicopter not listed on the MMEL shall be operative.

Suitable conditions and limitations in the form of placards, maintenance procedures, crew operating procedures and other restrictions as prescribed in this MMEL shall be specified in the MEL to ensure that an acceptable level of safety is maintained. It is important that rectifications be accomplished at the earliest opportunity.

When an item is discovered to be inoperative, it is reported by making an entry in the continuing airworthiness record system or the operator's technical log as applicable. Following sufficient fault identification, the item is then either rectified or may be deferred following the MEL or other approved means of compliance acceptable to the competent authority and the Agency prior to further operation. MEL conditions and limitations do not relieve the operator from determining that the helicopter is in a condition for safe operation with items inoperative.

Prior to operation, any inoperative item should be made known to the crew in accordance with the continuing airworthiness requirements. For commercial air transport, acceptance by the crew is required.

Operators shall establish a controlled and sound rectification programme including the parts, personnel, facilities, procedures and schedules to ensure timely rectification.

Operators should include guidance in the MEL to deal with any failures which occur between the commencement of the flight and the start of the take-off.

When developing the MEL, compliance with the stated intent of the preamble, definitions and the conditions and limitations specified in this MMEL is required.

### **Multiple inoperative items**

Operators are responsible for exercising the necessary operational control to ensure that an acceptable level of safety is maintained. The exposure to additional failures during continued operation with inoperative items shall also be considered. Wherever possible, account has been taken in this MMEL of multiple inoperative items. However, it is unlikely that all possible combinations of this nature have been accounted for. Therefore, when operating with multiple inoperative items, the inter-relationships between those items and the effect on helicopter operation and crew workload shall be considered.

### **Rectification intervals**

For commercial operations under Part-CAT or Part-SPO, the operators may be allowed by their competent authority a one-time extension of the applicable rectification intervals B, C or D for the same duration as that specified in their MEL.

This extension policy is only applicable when the applicant has taken it into account during the development of this document.

For operations under Part-NCO, the rectification intervals indicated in the item list are only recommended and should be taken as guidelines as the maximum period of time during which an item would remain inoperative. It is important that repairs be accomplished at the earliest opportunity.



## DEFINITIONS AND EXPLANATORY NOTES

- (a) The systems in the MMEL are described and identified in accordance with the numbering system used in the helicopter manufacturer's documentation.
- (b) The MMEL item list provides the list of pieces of equipment/system/function which may be inoperative prior to dispatch. Items are gathered by relevant chapter and provided under a table format. The structure of the MMEL item list table is as follows:

- (1) **System and sequence numbers item** — column No 1 — details equipment, system, component or function listed.

The applicability for each item may vary based on the type of operation, and is given, when needed, as follows:

(CAT): for Commercial Air Transport, regulated by Part-CAT;

(SPO): for Specialised Operations, regulated by Part-SPO;

(NCO): for Non-Commercial Operations, regulated by Part-NCO; and

(ALL): for all above types of operations.

- (2) **Rectification interval** — column No 2 — Inoperative items or components, deferred in accordance with the MEL, must be rectified at or prior to the rectification intervals established by the following letter designators:

### Category A

No standard interval is specified, however, items in this category shall be rectified in accordance with the conditions stated in the MMEL.

Where a time period is specified in days, the interval excludes the day of discovery.

Where a time period is specified in other than days, it shall start at the point when the defect is deferred in accordance with the operator's approved MEL.

### Category B

Items in this category shall be rectified within three (3) calendar days, excluding the day of discovery.

### Category C

Items in this category shall be rectified within ten (10) calendar days, excluding the day of discovery.

### Category D

Items in this category shall be rectified within one hundred and twenty (120) calendar days, excluding the day of discovery.

- (3) **Number installed** — column No 3 — is the number (quantity) of items normally installed in the helicopter. This number represents the helicopter configuration considered in developing this MMEL. Should the number be a variable or not applicable, a number is not required; a '-' is then inserted.

Where the MMEL shows a variable number installed, the MEL should reflect the actual number installed, if applicable.

- (4) **Number required for dispatch** — column No 4 — is the minimum number (quantity) of items required for operation provided the conditions specified are met. Should the number be a variable or not applicable, a number is not required; a ‘-’ is then inserted.

Where the MMEL shows a variable number required for dispatch, the MEL should reflect the actual number required for dispatch, as applicable, or an alternate means of configuration control approved by the competent authority.

- (5) **Remarks or exceptions** — column No 5 — include statements either prohibiting or permitting operation with a specific number of items inoperative, provisos (conditions and limitations), notes, (M) and/or (O) symbols, as appropriate for such operation.

‘(M)’ 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 authorised to perform certain functions. 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 MEL or other documentation, endorsed by the operator and made available to the person(s) authorised to perform the task(s).

‘(O)’ 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 authorised to perform certain functions. The satisfactory accomplishment of all procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as a part of the operator’s MEL or other documentation, endorsed by the operator and made available to the person(s) authorised to perform the task(s).

‘Notes’ provide additional information for flight crew 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 dispatch conditions.

**Placarding:** each inoperative item must be placarded, as applicable, to inform and remind crew members and maintenance personnel of the items’ condition. 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. These placards do not relieve the operator from the obligation of writing an inoperative item entry into the appropriate document, such as a logbook.

- (c) A vertical bar (change bar) in the margin indicates a modification in the adjacent text for the current revision of that section only. The change bar is dropped at the next revision of that page.
- (d) Applicability: when a variant of page is required for certain helicopters, the special applicability is indicated at the lower part of the relevant page as well as in the list of effective pages.
- (e) Definitions for the purpose of this MMEL:

‘**Helicopter Flight Manual (AFM)**’ is the document required for type certification and approved by the Agency.

‘**Alternate procedures are established and used**’ or similar statement, shall be taken to mean that alternate procedures (if applicable) to the affected process must be drawn up by the operator as part of the MEL approval process, so that they have been established before the MEL document has been approved. Such alternate procedures are normally included in the associated operations (O) procedure.

**‘Any in excess of those required by regulations’** means that the item required by applicable legislation (e.g. Regulation Air Operations, Single European Sky legislation or applicable airspace requirements) must be operative, and only excess equipment may be inoperative. When the item is not required, it may be inoperative for the time specified by its rectification interval category. Whenever this condition is used in the MMEL, the applicable regulations for the intended flight routes and the resulting dispatching restrictions need to be clarified at operator’s MEL level.

**‘As required by (operational) regulations’** means that the listed item is subject to certain provisions (restrictive or permissive) expressed in the applicable legislation (Regulation Air Operations, Single European Sky legislation or applicable airspace requirements). When the item is not required, it may be inoperative for the time specified by its rectification interval category.

**‘Calendar day’**: a 24-hour period from midnight to midnight based on either UTC or local time, as selected by the operator. All calendar days are considered to run consecutively.

**‘Commencement of flight’** is the point when an helicopter begins to move under its own power for the purpose of preparing for take-off.

**‘Considered inoperative’**, as used in the dispatch conditions, means that the item must be treated for dispatch, taxi and flight purposes as though it were inoperative. The item shall not be used or operated until the original deferred item is repaired. Additional actions include: documenting the item on the dispatch release (if applicable), placarding, and complying with all remarks, exceptions, and related MMEL provisions, including any (M) and (O) procedures, and observing the rectification interval.

**‘Daylight’** corresponds to the period between the beginning of morning civil twilight and the end of evening civil twilight relevant to the local aeronautical airspace; or such other period, as may be prescribed by the appropriate authority.

**‘Day of discovery’** means the calendar day that a malfunction was recorded in the helicopter maintenance record/logbook.

**‘Flight’** (for the purposes of this MMEL): a flight is the period of time between the moment when an helicopter begins to move by its own means, for the purpose of preparing for take-off, until the moment the helicopter comes to complete stop on its parking area, after the first landing.

**‘Icing conditions’** means an atmospheric environment that may cause ice to form on the helicopter or in the engine(s) as defined in the AFM.

**‘If installed’** means that the item is either optional or is not required to be installed on all helicopters covered by the MMEL.

**‘Inoperative’** means that the item does not accomplish its intended purpose or does not consistently function within its approved operating limits or tolerances.

**‘Intended flight route’** corresponds to any point on the route, including diversions to reach alternate aerodromes required to be selected by the operational rules.

**‘Is not used’** in the dispatch conditions, remarks or exceptions for an MMEL item may specify that another item relieved in the MMEL ‘is not used’. In such cases, crew members should not activate, actuate, or otherwise utilise that item under normal operations. It is not necessary for the operators to accomplish the (M) procedures associated with the item. However, operations-related provisions, (O) procedures and rectification interval must be complied with. An additional placard must be affixed, to the extent practical, adjacent to the control or indicator for the item that is not used to inform crew members that an item is not to be used under normal operations.

**'Item'** means component, instrument, equipment, system, or function.

**'Master Minimum Equipment List (MMEL)'** means a document approved by the Agency that establishes the helicopter items allowed to be inoperative under conditions specified therein for a specific type of helicopter.

**'Minimum Equipment List (MEL)'** means a document approved by or declared to the competent authority, as applicable, that authorizes an operator to dispatch an helicopter with helicopter items inoperative under the conditions specified therein.

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

ATA CHAPTER: 21 Air conditioning				PAGE: 21-1	
(1) System & sequence numbers		(2) Rectification Interval			
item		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>21-20-1</b>	<b>Fresh air ventilation outlets</b>				
21-21-1A	(ALL)	C	-	1	Any in excess of 1 may be inoperative.
<b>21-40-1</b>	<b>Heating system</b>				
21-40-1A	(CAT/SPO)	C	-	0	May be inoperative
21-40-1B	(NCO)	D	-	0	May be inoperative
<b>21-50-1</b>	<b>Air conditioning system</b>				
21-50-1A	(CAT/SPO)	C	1	0	(M) May be inoperative provided: (a) there is no damage to compressor belt or compressor belt is removed, and (b) power is removed from system by pulling and tagging circuit breaker
21-50-1B	(NCO)	D	1	0	(M) May be inoperative provided: (a) there is no damage to compressor belt or compressor belt is removed, and (b) power is removed from system by pulling and tagging circuit breaker

ATA CHAPTER: 22 Auto-flight				PAGE: 22-1	
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>22-10-1</b>	<b>Autopilot</b>				
22-10-1A	(SPO/NCO)	D	-	0	(M) (O) May be inoperative provided: (a) autopilot is deactivated as applicable, (b) AFM limitations are observed, and (c) operations do not depend on its use (M) Deactivate autopilot by pulling and tagging circuit breaker. (O) No additional restrictions.
22-10-1B	(CAT)	B	-	0	(M) (O) May be inoperative provided: (a) autopilot is deactivated as applicable, (b) the flight is conducted under VFR for single pilot operations, (c) AFM limitations are observed, and (d) Operations do not depend on its use. (M) Deactivate autopilot by pulling and tagging circuit breaker. (O) No additional restrictions.

ATA CHAPTER: 22 Auto-flight				PAGE: 22-2	
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>22-10-2</b>	<b>Autopilot disconnect functions – Quick release controls</b>				
22-10-2A	(ALL)	C	-	1	(O) Any in excess of one may be inoperative provided:  (a) the operative one is on the pilot flying side, and  (b) approach and landing minima do not require the use of the autopilot.  (O) No additional restrictions.
22-10-2B	(ALL)	B	-	0	May be inoperative provided autopilot is not used (refer to item 22-10-1).

ATA CHAPTER: 23 Communications		PAGE: 23-1			
(1) System & sequence numbers item	(2) Rectification Interval				
		(3) Number installed			
			(4) Number required for dispatch		
				(5) Remarks or exceptions	
<b>23-10-1</b>	<b>Headsets</b>				
23-10-1A	(NCO)	D	-	0	May be inoperative or missing provided procedures do not depend on its use.
23-10-1B	(ALL)	D	-	-	Any in excess of one for each flight crew member may be inoperative or missing.  <u>Note:</u> A headset consists of a communication device which includes two earphones to receive and a microphone to transmit audio signals to the helicopter's communication system



ATA CHAPTER: 23 Communications				PAGE: 23-2	
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>23-10-2</b>	<b>Audio Selector Panels</b>				
23-10-2A	(ALL)	D	-	-	Any in excess of one for each flight crewmember may be inoperative or missing.
23-10-2B	(ALL)	D	-	0	<p>(O) May be inoperative provided:</p> <p>(a) the flight is conducted under VFR, and</p> <p>(b) alternate procedures are established and used for ensuring required communication.</p> <p>(O) Verify direct connection from pilot flying to primary COM radio (audio panel emergency bypass) prior to takeoff or avoid flight in airspace requiring 2-way radio communication.</p> <p>Audio selector panel provides warning tones for autopilot, radar altimeter, and EFIS. Audio selector panel must be operative if any of these items are installed.</p>

ATA CHAPTER: 23 Communications				PAGE: 23-3	
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>23-11-1</b>	<b>Long range communication systems</b>				
23-11-1A	(ALL)	D	-	-	Any in excess of those required may be inoperative.
<b>23-12-1</b>	<b>VHF communication systems</b>				
23-12-1A	(ALL)	D	-	-	Any in excess of those required may be inoperative.
<b>23-20-1</b>	<b>Datalink</b>				
23-20-1A	(ALL)	D	-	0	May be inoperative provided that procedures do not require its use.
<b>23-30-1</b>	<b>Public address system</b>				
23-30-1A	(ALL)	D	1	0	May be inoperative provided procedures do not depend on its use.
23-30-1B	(ALL)	C	1	0	(O) May be inoperative provided alternate procedures are established and used.  (O) At flight RPM prior to takeoff, verify all passengers can understand pilot verbal instructions with headsets removed.
<b>23-40-1</b>	<b>Flight crew interphone system</b>				
23-40-1 (ALL)		D	-	-	Any in excess of those required may be inoperative.

ATA CHAPTER: 24 Electrical				PAGE: 24-1	
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>24-30-1</b>	<b>Alternator or generator light</b>				
24-30-1A	(ALL)	B	1	-	<p>(O) May be inoperative provided ammeter is operative, voltmeter (if installed) is operative, and alternate procedures are used to monitor electrical system.</p> <p>(O) Use ammeter and/or voltmeter to verify proper charging system function before takeoff. Monitor ammeter and/or voltmeter frequently during flight.</p> <p>Note: Aircraft tachometers require electrical power. Loss of alternator or generator followed by draining of battery will result in loss of tachometer indication</p>
<b>24-40-1</b>	<b>External power system</b>				
24-40-1A	(ALL)	D	1	0	May be inoperative

ATA CHAPTER: 25 Equipment and furnishings				PAGE: 25-1	
(1) System & sequence numbers item	(2) Rectification Interval				
		(3) Number installed			
			(4) Number required for dispatch		
				(5) Remarks or exceptions	
<b>25-00-1 Electronic News Gathering (E.N.G.) equipment</b>					
25-00-1A (ALL)	D	-	-	May be inoperative provided system is deactivated and secured. (M) and/or (O) procedures may be required and included in the operator's appropriate document.	
<b>25-00-2 Police equipment</b>					
25-00-2A (ALL)	D	-	-	May be inoperative provided system is deactivated and secured. (M) and/or (O) procedures may be required and included in the operator's appropriate document.	
<b>25-11-1 Flight crew compartment seats</b>					
<b>25-11-1-1 Power adjustments</b>					
25-11-1-1A (ALL)	D	-	0	May be inoperative	
<b>25-11-1-2 Manual adjustments</b>					
25-11-1-2-1 Horizontal					
25-11-1-2-1A (ALL)	C	-	0	(M) May be inoperative provided: (a) the affected seat is secured and locked, (b) the position is acceptable to the flight crewmember and, (c) the seat position when the seat is used allows a full travel of the flight controls (M) Seats are fixed. No maintenance action required.	

ATA CHAPTER: 25 Equipment and furnishings				PAGE: 25-2
(1) System & sequence numbers item	(2) Rectification Interval			
		(3) Number installed		
		(4) Number required for dispatch		
		(5) Remarks or exceptions		
25-11-1-2-2 Vertical				
25-11-1-2-1A (ALL)	C	-	0	May be inoperative provided the associated power adjustment of the affected seat is operative.
25-11-1-2-1B (ALL)	C	-	0	(M) May be inoperative provided: (a) the affected seat is secured or locked and, (b) the position is acceptable to the flight crewmember. (M) Seats are fixed. No maintenance action required.

ATA CHAPTER: 25 Equipment and furnishings		PAGE: 25-3	
(1) System & sequence numbers item	(2) Rectification Interval		
	(3) Number installed		
	(4) Number required for dispatch		
	(5) Remarks or exceptions		
<b>25-11-1-3      Other adjustments except horizontal and vertical adjustments</b>			
25-11-1-3A    (ALL)	C	-	0
	(M) May be inoperative provided: <ul style="list-style-type: none"> <li>(a) the affected seat is secured or locked and,</li> <li>(b) the position is acceptable to the flight crewmember.</li> </ul> <p><u>Note:</u> If an inoperative armrest hinders an emergency evacuation or any other flight crewmember compartment duties, it should be removed.</p> <p>(M) Seats are fixed. No maintenance action required.</p>		

ATA CHAPTER: 25 Equipment and furnishings				PAGE: 25-4	
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>25-11-1-4</b>	<b>Safety harnesses</b>				
25-11-1-4A	(ALL)	C	-	1	Any in excess of one may be inoperative provided:  (a) the flight is conducted in single pilot operations, and  (b) the affected seat is not occupied.
<b>25-11-1-5</b>	<b>Crew seat armrest</b>				
25-11-1-5A	(ALL)	C	-	1	Any in excess of one may be inoperative provided:  (a) it doesn't hinder emergency egress, and  (b) it doesn't block access to the flight controls or restrict any other flight deck duties.  (M) No armrests installed. No maintenance action required.

ATA CHAPTER: 25 Equipment and furnishings				PAGE: 25-5	
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>25-21-1</b>	<b>Passenger Seats</b>				
25-21-1A	(ALL)	D	-	-	<p>(M) May be inoperative provided:</p> <p>(a) inoperative seat does not block an emergency exit,</p> <p>(b) inoperative seat does not restrict any passenger from access to the main helicopter aisle, and</p> <p>(c) affected seat(s) are blocked and placarded 'DO NOT OCCUPY'.</p> <p><u>Note:</u> A seat with an inoperative or missing occupant restraint system (seat belt safety harness, as applicable) is considered inoperative.</p> <p>(M) Seats with missing or damaged bottom or back cushions or damaged hinge assemblies for seat bottoms are considered inoperative. Seats may be placarded inoperative by placing masking tape so-labeled across seat.</p>
25-21-1-1	Recline Functions				
25-21-1-1A	(ALL)	D	-	-	<p>(M) May be inoperative and seat occupied provided the seat is secured in the take-off and landing position.</p> <p>(M) Seats are fixed. No maintenance action required.</p>
25-21-1-1B	(ALL)	C	-	-	<p>May be inoperative provided the seat back is immovable in the take-off and landing position.</p>



ATA CHAPTER: 25 Equipment and furnishings		PAGE: 25-6		
(1) System & sequence numbers item	(2) Rectification Interval			
		(3) Number installed		
			(4) Number required for dispatch	
				(5) Remarks or exceptions
25-21-1-2 Under seat baggage restraining bars				
25-21-1-2A (ALL)	D	-	-	May be inoperative provided: (a) baggage is not stowed under associated seat, and (b) associated seat is placarded 'DO NOT STOW BAGGAGE UNDER THIS SEAT'. (c) affected seat(s) are blocked and placarded 'DO NOT OCCUPY'.
25-21-1-3 Passenger seat armrests with recline control mechanism				
25-21-1-3A (ALL)	D	-	-	(M) May be inoperative, damaged, or missing, provided that: (a) armrest does not block an emergency exit, (b) armrest is not in such a position that it restricts any passengers from accessing the helicopter's aisle, and (c) if the armrest is missing, associated seat is secured in full upright position.  (M) Seats are fixed. No maintenance action required.

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(1) System & sequence numbers item	(2) Rectification Interval				
			(3) Number installed		
			(4) Number required for dispatch		
				(5) Remarks or exceptions	
25-21-1-4	Passenger seat armrests without recline control mechanism				
25-21-1-4A	(ALL)	D	-	-	(M) May be inoperative, damaged, or missing, provided that:  (a) armrest does not block an emergency exit and,  (b) armrest is not in such a position that it restricts any passengers from accessing the helicopter's aisle.  (M) No armrests installed. No maintenance action required.
25-21-1-5	Swivel/travel mechanisms				
25-21-1-5A	(ALL)	D	-	-	(M) May be inoperative provided:  (a) associated seat is secured in the takeoff and landing position, and  (b) associated seat does not block emergency egress.  (M) Seats are fixed. No maintenance action required.
25-21-1-5B	(ALL)	C	-	-	May be inoperative provided the associated seat is immovable in the take-off and landing position.

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(1) System & sequence numbers		(2) Rectification Interval			
item		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>25-50-1</b>	<b>Cargo suspension system</b>				
25-50-1A	(ALL)	D	-	0	(O) Alternate means of securing cargo must be used if shifting cargo could cause damage.  (O) Acceptable alternate means include elastic cords and arrangement of cargo to minimize shifting.
<b>25-60-1</b>	<b>Electrical torches/flashlights (incl. holders)</b>				
25-60-1A	(SPO/NCO)	D	-	0	May be inoperative or missing for daylight operations.
25-60-1B	(ALL)	C	-	-	Any in excess of those required for the intended flight may be inoperative or missing.
<b>25-60-2</b>	<b>Life rafts</b>				
25-60-2A	(ALL)	D	-	-	(M) Any in excess of those required for the intended flight may be inoperative or missing provided the inoperative unit is removed from the helicopter, and its installed location is placarded inoperative; or removed from the installed location, secured out of sight, and the inoperative unit and its installed location are placarded inoperative.  (M) Placards may be fashioned out of masking tape and placed across unit and installation location. Stowage under seats or in main baggage compartment constitutes "secured out of sight"

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(1) System & sequence numbers item	(2) Rectification Interval			
		(3) Number installed		
			(4) Number required for dispatch	
				(5) Remarks or exceptions
<b>25-60-3</b>	<b>Survival Equipment</b>			
25-60-3A	(ALL)	D	-	-
				<p>(M) Any in excess of those required for the intended flight may be inoperative or missing provided the inoperative unit is removed from the helicopter, and its installed location is placarded inoperative; or removed from the installed location, secured out of sight, and the inoperative unit and its installed location are placarded inoperative.</p> <p>(M) Placards may be fashioned out of masking tape and placed across unit and installation location. Stowage under seats or in main baggage compartment constitutes "secured out of sight"</p>

ATA CHAPTER: 25 Equipment and furnishings					PAGE: 25-10
(1) System & sequence numbers		(2) Rectification Interval			
item		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>25-60-7</b>	<b>Emergency floatation equipment</b>				
25-60-7A	(OTHER THAN CAT)	D	-	0	Any in excess of those required may be inoperative.
25-60-7B	(ALL)	D	-	0	May be inoperative for flights over land (including take-off and landing)
25-60-7C	(Performance Class 1)	C	-	0	May be inoperative for flights over water at a distance from land not beyond 10 minutes flying time, at normal cruise speed.
25-60-7D	(Performance Class 2)	C	-	0	(M) May be inoperative provided:  (a) Take-off and landing are not performed over water, and  (b) En route operations are not conducted over water at a distance from land beyond 10 minutes flying time, at normal cruise speed.
25-60-7E	(Performance Class 3)	C	-	0	(M) May be inoperative provided:  (a) Take-off and landing are not performed over water, and  (b) Flight is not conducted over water beyond safe forced landing distance
<b>25-61-1</b>	<b>Crash axes and crowbars</b>				
25-61-1A	(ALL)	D	-	-	Any in excess of those required may be inoperative or missing.

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(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>25-62-1</b>	<b>First-aid kits</b>				
25-62-1A	(ALL)	D	-	1	Any in excess of one may be incomplete or missing.
<b>25-63</b>	<b>Emergency locator transmitters</b>				
<b>25-63-1</b>	<b>Automatic emergency locator transmitters ELT(AF) / ELT(AP) / ELT(AD)</b>				
25-63-1A	(ALL)	D	-	-	Any in excess of those required may be inoperative.
25-63-1B	(ALL)	A	-	0	May be inoperative for a maximum of 6 flights or 25 flight hours, whichever occurs first.

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(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>25-63-2</b>	<b>Survival emergency locator transmitters ELT(S)</b>				
25-63-2A	(NCO)	D	-	0	Any in excess of those required may be inoperative or missing.
25-63-2B	(CAT/SPO)	D	-	-	(M) Any in excess of those required for the intended flight may be inoperative or missing provided the inoperative unit is removed from the helicopter and its installed location is placarded inoperative; or removed from the installed location, secured out of sight, and the inoperative unit and its installed location are placarded inoperative.  (M) Placards may be fashioned out of masking tape and placed across unit and installation location. Stowage under seats or in main baggage compartment constitutes "secured out of sight"

ATA CHAPTER: 25 Equipment and furnishings				PAGE: 25-13	
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>25-63-2</b>	<b>Automatically deployable emergency locator transmitter ELT(AD)</b>				
25-63-2A	(ALL)	D	-	-	Any in excess of those required may be inoperative.
25-63-2C	(ALL)	C	-	0	May be inoperative for overland operations or overwater operations at a distance from land not beyond 10 minutes flying time at normal cruise speed.
<b>25-63-3</b>	<b>Personal locator beacons (PLB)</b>				
25-63-3A	(NCO)	D	-	-	Any in excess of those required may be inoperative.
25-63-3B	(NCO)	A	-	0	May be inoperative for a maximum of 6 flights or 25 flight hours, whichever occurs first.



ATA CHAPTER: 25 Equipment and furnishings		PAGE: 25-14	
(1) System & sequence numbers item	(2) Rectification Interval		
		(3) Number installed	
			(4) Number required for dispatch
			(5) Remarks or exceptions
<b>25-64-1</b>	<b>Life jackets (or equivalent individual floatation devices)</b>		
25-64-1A	(ALL)	D	-
			-
			(M) Any in excess of those required for the intended flight may be inoperative or missing provided:
			(a) required distribution of operative units is maintained throughout the helicopter, and
			(b) the inoperative unit is removed from the helicopter and its installed location is placarded inoperative; or removed from the installed location, secured out of sight, and the inoperative unit and its installed location are placarded inoperative.
			(M) Placards may be fashioned out of masking tape and placed across unit and installation location. Stowage under seats or in main baggage compartment constitutes "secured out of sight"

ATA CHAPTER: 26 Fire protection		PAGE: 26-1		
(1) System & sequence numbers item	(2) Rectification Interval			
		(3) Number installed		
			(4) Number required for dispatch	
				(5) Remarks or exceptions
<b>26-24-1</b>	<b>Hand fire extinguishers</b>			
26-24-1A	(ALL)	D	-	-
				Any in excess of those required by the operating rules may be inoperative or missing.

ATA CHAPTER: 28 Fuel				PAGE: 28-1	
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>28-10-1</b>	<b>Auxiliary fuel system</b>				
28-10-1A	(ALL)	C	-	1	<p>Applies to R66 only            (M) May be inoperative provided:</p> <ul style="list-style-type: none"> <li>a) There are no fuel leaks,</li> <li>b) There is no damage to the mechanical installation provisions for securing the tank or the tank is removed from the aircraft,</li> <li>c) Power is removed from the system, and</li> <li>d) Cockpit control and indicating panel for aux fuel system is placarded</li> </ul> <p>(M) Visual inspection is acceptable for verifying no leaks or damage. Maintenance Manual provides tank removal instructions. Power may be removed by pulling and tagging CB.</p>
<b>28-40-1</b>	<b>Fuel quantity indication</b>				
28-40-1A	(ALL)	C	-	1	<p>(O) Any in excess of one may be inoperative provided a reliable means is established to determine that fuel quantity on board meets the regulatory requirements for flight.</p> <p>(O) Acceptable means of determining fuel on board are visual verification of full tanks, adding fuel via a dispenser with known calibration, and measurement using a Robinson factory-supplied measuring device.</p>

ATA CHAPTER: 30 Ice & rain protection				PAGE: 30-1	
(1) System & sequence numbers		(2) Rectification Interval			
item		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>30-31-1</b>	<b>Pitot heating system</b>				
30-31-1A	(CAT)	B	-	1	<p>(O) Any in excess of one may be inoperative provided:</p> <p>(a) operations are conducted under day VMC,</p> <p>(b) operations are not conducted in visible moisture or into known or forecasted icing conditions, and</p> <p>(c) the operative pitot heater is verified operative prior to each flight.</p> <p>(O) Pitot heater is operative if pitot becomes warm to touch when power is switched on. Use caution as pitot can cause burns if left on more than a few seconds.</p>
30-31-1B	(CAT)	B	-	0	<p>One or more may be inoperative provided:</p> <p>(a) operations are conducted under day VFR, and</p> <p>(b) operations are not conducted in visible moisture or into known or forecasted icing conditions, and</p>
30-31-1C	(NCO/SPO)	B	-	0	<p>One or more may be inoperative provided:</p> <p>(a) operations are conducted under VFR, and</p> <p>(b) operations are not conducted in visible moisture or into known or forecasted icing conditions, and</p>

ATA CHAPTER: 30 Ice & rain protection				PAGE: 30-2	
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>30-31-3</b>	<b>Static port heating system</b>				
30-31-3A	(CAT)	C	-	0	May be inoperative provided: (a) operations are conducted under day VFR, and (b) operations are not conducted in known or forecasted icing conditions.
30-31-3B	(CAT)	B	-	1	(O) Any in excess of one may be inoperative provided: (a) operations are conducted under day VMC, (b) operations are not conducted in visible moisture or into known or forecasted icing conditions, and (c) the operative static heater is verified operative prior to each flight.  (O) R22/R44/R66 helicopters do not incorporate static port heaters. Use standard pre-flight visual inspection to verify ports are free of obstructions or moisture.
30-31-3C	(NCO/SPO)	C	-	0	One or more may be inoperative provided: (a) operations are conducted under VFR and, (b) operations are not conducted in known or forecasted icing conditions.

ATA CHAPTER: 31 Indicating/Recording systems				PAGE: 31-1	
(1) System & sequence numbers		(2) Rectification Interval			
item		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>31-21-1</b>	<b>Clock</b>				
31-21-1A	(ALL)	C	-	0	<p>May be inoperative provided an accurate timepiece is operative on the flight crew compartment indicating the time in hours, minutes, and seconds.</p> <p><u>Note:</u> On the basis that the timepiece does not need to be approved, an accurate pilot's wristwatch which indicates hours, minutes, and seconds is acceptable.</p>
<b>31-22-1</b>	<b>Hour meter</b>				
31-22-1A	(ALL)	D	1	0	<p>(O) May be inoperative provided a procedure is established to record flight time.</p> <p>(O) On board clock or pilot wristwatch may be used to record flight time. For R22 helicopters, record engine start to engine stop as flight time. For R44 and R66 helicopters record skids up to skids down as flight time.</p>
<b>31-30-1</b>	<b>Engine Monitoring Unit</b>				
31-30-1A	(ALL)	A	1	0	<p>May be inoperative for up to 25 flight hours. Follow engine manufacturer's instructions for recording engine operation with inoperative EMU.</p>

ATA CHAPTER: 33 Lights		PAGE: 33-1		
(1) System & sequence numbers item	(2) Rectification Interval			
	(3) Number installed			
	(4) Number required for dispatch			
	(5) Remarks or exceptions			
<b>33-00-1</b>	<b>NVG compatible lighting system</b>			
33-00-1A	(ALL)	C	-	-
				<p>Unaided operation (without NVG's) may be permitted with inoperative NVG supplemental lights; cracked or missing filters; provided the remaining lights are:</p> <ul style="list-style-type: none"> <li>(a) Sufficient to clearly illuminate all required instruments, controls, and other devices for which they are provided,</li> <li>(b) Positioned so that direct rays are shielded from flight crew-members eyes, and</li> <li>(c) Lighting configuration and intensity is acceptable to the flight crew.</li> </ul>

ATA CHAPTER: 33 Lights			PAGE: 33-2		
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>33-10-1</b>	<b>Flight crew compartment lighting</b> (Excluding internally lighted buttons/switches, emergency lights and annunciations)				
33-10-1A	(ALL)	C	-	0	May be inoperative for daylight operations.
33-10-1B	(ALL)	C	-	-	Individual lights 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, and  (b) lighting configuration at dispatch is acceptable to the flight crew.
<b>33-20-1</b>	<b>Passenger compartment lighting</b>				
33-20-1A	(ALL)	D	-	0	May be inoperative provided passengers are not carried when operating at night.
33-20-1B	(ALL)	C	-	-	Individual lights may be inoperative provided lighting configuration at dispatch is acceptable to the flight crew.



ATA CHAPTER: 33 Lights				PAGE: 33-3	
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>33-20-2</b>	<b>Cabin signs (Fasten seat belt/No smoking)</b>				
33-20-2A	(ALL)	C	-	0	(O) May be inoperative provided alternate procedures are established and used for briefing passengers.
33-20-2B	(ALL)	D	-	0	May be inoperative provided no passenger is carried.
<b>33-41-1</b>	<b>Navigation / Position lights</b>				
33-41-1A	(ALL)	C	-	0	One or more may be inoperative for daylight operations.
33-41-1B	(ALL)	C	-	-	Any in excess of those required may be inoperative for night operations.
<b>33-42-1</b>	<b>Anti-collision light system</b>				
33-42-1A	(CAT/NCO/SPO)	C	-	1	Any in excess of one may be inoperative.

ATA CHAPTER: 33 Lights		PAGE: 33-4			
(1) System & sequence numbers item	(2) Rectification Interval				
	(3) Number installed				
	(4) Number required for dispatch				
	(5) Remarks or exceptions				
<b>33-44-1</b>	<b>Landing lights</b>				
33-44-1B	(ALL)	C	-	0	One or more may be inoperative for daylight operations.
33-44-1C	(ALL)	C	-	1	(O) Any in excess of one adjustable landing light may be inoperative for night operations.
<b>33-45-1</b>	<b>Search light</b>				
33-45-1A	(ALL)	C	-	0	May be inoperative provided that procedures do not require its use.

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(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>34-10-1</b>	<b>Primary airspeed indication</b>				
34-10-1A	(CAT)	C	-	-	<p><u>Note:</u> Standby airspeed indication is not considered as a primary airspeed indication by this guidance.</p> <p>May be inoperative provided:</p> <p>(a) a primary independent airspeed indication is available at each required pilot's station.</p> <p>(b) a standby airspeed indication is available.</p>
34-10-1B	(NCO/SPO)	C	-	1	<p>Any in excess of one available at pilot's station may be inoperative, provided it is not associated with emergency procedures.</p>

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(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>34-10-2</b>	<b>Primary altitude indication</b>				
34-10-2A	(CAT)	B	-	-	<p><u>Note:</u> A secondary/standby altitude indication is not considered as a primary altitude indication.</p> <p>May be inoperative provided:</p> <ul style="list-style-type: none"> <li>(a) flight is conducted under VFR,</li> <li>(b) an independent altitude indication is available at each required pilot's station, and</li> <li>(c) an additional independent altitude indication is operative for single pilot operations</li> </ul> <p><u>Note:</u> For single pilot operations, a secondary/standby or off-side indication may satisfy condition (b) or (c) if visibility requirements are met.</p>
34-10-2B	(CAT)	B	-	-	<p>May be inoperative provided:</p> <ul style="list-style-type: none"> <li>(a) flight is conducted under VFR in sight of the surface, and</li> <li>(b) a primary altitude indication is available at each required pilot's station.</li> </ul>
34-10-2C	(NCO/SPO)	C	-	-	<p>May be inoperative provided:</p> <ul style="list-style-type: none"> <li>(a) Flight is conducted under VFR, and</li> <li>(b) an altitude indication is available at each required pilot's station.</li> </ul> <p><u>Note:</u> For single pilot operations, a secondary/standby or off-side indication may satisfy condition (b) if visibility requirements are met.</p>

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(1) System & sequence numbers item	(2) Rectification Interval			
		(3) Number installed		
			(4) Number required for dispatch	
				(5) Remarks or exceptions
<b>34-10-3</b>	<b>Turn and slip indicator</b>			
34-10-3-1	<b>Turn indication</b>			
34-10-3-1A	(ALL)	C	-	0
				May be inoperative provided at least one slip indication is operative as per CS-GEN-MMEL 34-10-3-2A.

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(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
34-10-3-2	<b>Slip indicator</b>				
34-10-3-2A	(ALL)	C	-	1	Any in excess of one may be inoperative provided the operative slip indicator is on the pilot flying side.
<b>34-10-4</b>	<b>Vertical speed indicator</b>				
34-10-4A	(CAT)	C	-	1	Any in excess of one may be inoperative provided the operative VSI is on the pilot flying side.
34-10-4B	(NCO/SPO)	C	-	0	May be inoperative for day VFR operation.
<b>34-15-1</b>	<b>Altitude alerting system</b>				
34-15-1A	(ALL)	C	-	0	(O) May be inoperative provided the altitude alerting system is not part of the equipment required for the intended operation.  (O) Altitude alerting function is not required for any normal R22/R44/R66 VFR operation. Follow individual operational guidelines for special operations.
<b>34-15-2</b>	<b>Radio altimeter</b>				
34-15-2A	(ALL)	C	-	0	May be inoperative provided approach minima or operating procedures are not dependent upon its use.

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(1) System & sequence numbers item	(2) Rectification Interval			
		(3) Number installed		
			(4) Number required for dispatch	
				(5) Remarks or exceptions
<b>34-15-2</b>	<b>Radio altimeter with an audio voice warning (or equivalent)</b>			
34-15-2A	(ALL)	A	-	0
				<p>(O) May be inoperative provided:</p> <ul style="list-style-type: none"> <li>(a) no more than 6 hours shall be flown over water since the radio altimeter was found to be inoperative,</li> <li>(b) a maximum of 24 hours have elapsed since the radio altimeter was found to be inoperative,</li> <li>(c) the helicopter shall not fly over water at an altitude of less than 500 feet except for take-off and landing, and</li> <li>(d) the helicopter shall not descend below 500 feet on approach to landing over water unless the landing site is clearly visible to the pilot.</li> </ul>

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(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>34-20-1</b>	<b>Stabilized direction indication</b>				
34-20-1A	(CAT)	C	-	1	Any in excess of one may be inoperative for single pilot operations provided:  (a) a stabilized direction indication is provided on the pilot flying side, and  (b) magnetic/standby compass is operative.
34-20-1B	(CAT)	B	-	1	(O) Any in excess of one may be inoperative provided:  (a) operations are conducted under day, VFR  (b) the stabilized direction indication is displayed at each required pilot's station, and  (c) magnetic/standby compass is operative.  (O) Functioning stabilized direction indication in center instrument panel is acceptable for either pilot seat.
34-20-1C	(NCO/SPO)	C	-	1	Any in excess of one may be inoperative provided a stabilized direction indication is operative on the pilot flying side.
34-20-1D	(NCO/SPO)	C	-	0	May be inoperative on the pilot flying side for VFR operations, in sight of the surface with adequate external attitude reference.



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(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>34-20-2</b>	<b>Primary attitude indication</b>				
34-20-2A	(CAT)	C	-	1	Note: A secondary/standby attitude indication is not considered as a primary indication. Any in excess of one may be inoperative for single pilot operations provided the primary attitude indication is operative on the pilot flying side.
34-20-2B	(CAT)	B	-	1	(O) Any in excess of one may be inoperative provided: (a) Operations are conducted under VFR, (b) the primary attitude indication is displayed on both pilot's station, and (c) standby attitude indication is working. (O) Functioning primary attitude indication in center instrument panel is acceptable for either pilot seat.
34-20-2C	(NCO/SPO)	C	-	1	Any in excess of one may be inoperative for single pilot operations provided the primary attitude indication is operative on the pilot flying side.
34-20-2D	(NCO/SPO)	B	-	0	May be inoperative provided: (a) operations are conducted under VFR, and (b) standby attitude indication is operative.

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(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
34-20-2E	(CAT)	B	-	0	<p>May be inoperative for single pilot operations provided:</p> <p>(a) operations are conducted under day VFR in sight of surface with adequate external attitude reference, and</p> <p>(b) standby attitude indication is operative.</p>
34-20-2F	(NCO/SPO)	C	-	0	<p>May be inoperative for single pilot operations provided operations are conducted under day VFR and in sight of the surface with adequate external attitude reference.</p>
34-20-2G	(ALL)	C	-	0	<p>May be inoperative provided:</p> <p>(a) operations are conducted under day VFR, and</p> <p>(b) operations are not conducted over water out of sight of the land, and</p> <p>(c) visibility is more than 1500m.</p>

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(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>34-20-3</b>	<b>Standby attitude indication</b>				
34-20-3A	(ALL)	C	-	0	May be inoperative provided the primary attitude indication is not provided through an electronic display indicator.
34-20-3B	(NCO/SPO)	C	-	0	May be inoperative for single pilot operations provided operations are conducted under day VFR and in sight of the surface with adequate external attitude reference.

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(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>34-22-1</b>	<b>Magnetic/Standby compass</b>				
34-22-1A	(ALL)	B	-	0	May be inoperative for single pilot operations provided:  (a) a stabilized direction indication is available on the pilot flying side, and  (b) another source of magnetic heading is available and visible by the pilot flying.
34-22-1B	(ALL)	B	-	0	May be inoperative provided:  (a) operations are conducted under day VFR, and  (b) flight is conducted over routes navigated by reference to visual landmarks.
34-22-1C	(ALL)	B	-	0	May be inoperative provided:  (a) two independent stabilized direction indications are operative, and  (b) flight is conducted over routes navigated by reference to visual landmarks.

ATA CHAPTER: 34 Navigation				PAGE: 34-11	
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>34-31-1</b>	<b>Marker beacon</b>				
34-31-1B	(ALL)	D	-	0	May be inoperative under VFR operations.
<b>34-40-1</b>	<b>Airborne collision avoidance system (ACAS)</b>				
34-40-1A	(CAT)	C	-	0	(O) (M) May be inoperative provided: (a) ACAS is deactivated, and (b) operating procedures do not require its use. (O) Crew must use visual traffic avoidance procedures at all times. (M) ACAS may be deactivated by configuring EFIS to remove traffic display page. See EFIS manufacturer's configuration instructions.
34-40-1B	(NCO/SPO)	D	-	0	(O) (M) May be inoperative provided: (a) ACAS is deactivated, and (b) operations are not conducted in an airspace where ACAS is required. (M) ACAS may be deactivated by configuring EFIS to remove traffic display page. See EFIS manufacturer's configuration instructions.

ATA CHAPTER: 34 Navigation		PAGE: 34-12			
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>34-41-1</b>	<b>Weather detection system</b>				
34-41-1A	(CAT/SPO /NCO)	D	-	0	May be inoperative

ATA CHAPTER: 34 Navigation		PAGE: 34-13		
(1) System & sequence numbers item	(2) Rectification Interval			
	(3) Number installed			
	(4) Number required for dispatch			
	(5) Remarks or exceptions			
<b>34-51-1</b>	<b>Navigation systems (based on VOR, DME, ADF, Global Navigation Satellite System, Inertial Navigation System)</b>			
34-51-1A (CAT)	C	-	-	<p>(O) One or more may be inoperative provided:</p> <p>(a) the navigation systems required for each segment of the intended route of flight are operative, and</p> <p>(b) alternate procedures are established and used, where applicable.</p> <p>(O) Pilotage and dead reckoning are acceptable alternate navigation procedures. Flight crew must accept route and alternate procedures before dispatch.</p>
34-51-1B (NCO/SPO)	D	-	-	<p>(O) One or more may be inoperative provided:</p> <p>(a) the navigation systems required for each segment of the intended route of flight are operative, and</p> <p>(b) alternate procedures are established and used, where applicable.</p> <p>(O) Pilotage and dead reckoning are acceptable alternate navigation procedures. Flight crew must accept route and alternate procedures before dispatch.</p>

ATA CHAPTER: 34 Navigation				PAGE: 34-14	
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>34-54-1</b>	<b>Secondary Surveillance Radar (SSR) transponder mode A/C</b>				
34-51-1A	(ALL)	D	-	-	Any in excess of those required by the airspace may be inoperative.
<b>34-54-2</b>	<b>(SSR) transponder mode S</b>				
34-54-2A	(ALL)	D	-	-	Any in excess of those required for the intended flight route may be inoperative.  <u>Note:</u> An SSR transponder with an operative mode S function is defined as a transponder which can provide, at least, elementary surveillance capability.
34-54-2B	(ALL)	C	-	0	One or more may be inoperative provided permission is obtained from the Air Navigation Service Provider(s) when required for the intended flight route.  <u>Note 1:</u> An SSR transponder with an operative mode S function is defined as a transponder which can provide, at least, elementary surveillance capability.  <u>Note 2:</u> Elementary surveillance (ELS) capability (mode S including helicopter identification and pressure altitude reporting) is required in European mode S designated airspace.



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(1) System & sequence numbers  item	(2) Rectification Interval		
	(3) Number installed		
	(4) Number required for dispatch		
	(5) Remarks or exceptions		
	<p><u>Note 3:</u> Altitude reporting, provided by an SSR transponder mode S function, is required for ACAS II operation. Refer to item 34-40-1 for flight with ACAS II inoperative.</p> <p><u>Note 4:</u> Altitude reporting, provided by an SSR transponder mode S function, is required for flight into RVSM airspace.</p>		

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(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
34-54-2-1	<b>Enhanced surveillance functions</b>				
34-54-2-1A	(ALL)	D	-	0	One or more downlinked aircraft parameters (DAPs) which provide enhanced surveillance may be inoperative when not required for the intended flight route.
34-54-2-1A	(ALL)	C	-	0	One or more downlinked aircraft parameters (DAPs) which provide enhanced surveillance may be inoperative when required for the intended flight route.  <u>Note:</u> Enhanced surveillance capability is required in mode S enhanced notified airspace.
34-54-2-2	<b>Extended squitter (ADS-B out) transmissions</b>				
34-54-2-2A	(ALL)	D	-	0	One or more extended squitter transmissions may be inoperative when not required for the intended flight route.
34-54-2-2B	(ALL)	C	-	0	One or more extended squitter transmissions may be inoperative when required for the intended flight route.

ATA CHAPTER: 34 Navigation		PAGE: 34-17				
(1) System & sequence numbers item		(2) Rectification Interval				
		(3) Number installed				
		(4) Number required for dispatch				
		(5) Remarks or exceptions				
34-61-1	<b>Flight management systems</b>					
34-61-1A	(ALL)	C	-	-		(O) May be out of currency provided: (a) Current Aeronautical Charts are used to verify Navigation Fixes prior to 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. (O) Standard preflight planning and paper publications may be used to verify status and suitability of navigation facilities.
34-62-1	<b>Navigation management systems</b>					
34-62-1A	(ALL)	C	-	-		(O) May be out of currency provided: (c) Current Aeronautical Charts are used to verify Navigation Fixes prior to dispatch. (d) 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. (O) Standard preflight planning and paper publications may be used to verify status and suitability of navigation facilities.

ATA CHAPTER: 35 Oxygen		PAGE: 35-1			
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>35-00-1</b>	<b>Supplemental oxygen system, non-pressurized helicopters</b>				
35-00-1A	(ALL)	D	-	-	Any in excess of those required may be inoperative.

ATA CHAPTER: 46 Information systems			PAGE: 46-1		
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>46-20-1</b>	<b>Electronic flight bag (EFB) systems</b>				
46-20-1A	(ALL)	C	-	0	<p>(M) (O) May be inoperative provided alternate procedures are established and used where operating procedures require the use of the affected EFB.</p> <p>(O) Follow RFM checklist and use standard preflight planning. For special operations, follow applicable operational guidelines.</p>
<b>46-20-2</b>	<b>EFB Related Hardware</b>				
46-20-2-1	Mounting device				
46-20-2-1A	(ALL)	C	-	1	<p>(M) (O) Any in excess of one may be inoperative provided the affected EFB is secured by an alternative means.</p> <p>(M) Replacement commercially available mounts are acceptable. Perform short check flight to verify replacement mount does not change equipment vibration characteristics.</p>

ATA CHAPTER: 46 Information systems		PAGE: 46-2		
(1) System & sequence numbers item	(2) Rectification Interval			
		(3) Number installed		
			(4) Number required for dispatch	
				(5) Remarks or exceptions
46-20-2-1B (ALL)	C	-	0	<p>(M) (O) May be inoperative provided:</p> <p>(a) the associated EFB is used in accordance with portable EFB stowage criteria (see AMC 20-26 paragraph 6.2.1.6 Viewable stowage)</p> <p>(b) alternate procedures are established and used where operating procedures require the use of the affected EFB.</p> <p>(M) Stowage under seat or in main baggage compartment is acceptable</p> <p>(O) Follow RFM checklist and use standard preflight planning procedures. For special operations, follow applicable operational guidelines.</p>

ATA CHAPTER: 46 Information systems		PAGE: 46-3			
(1) System & sequence numbers item	(2) Rectification Interval				
				(3) Number installed	
				(4) Number required for dispatch	
					(5) Remarks or exceptions
46-20-2-2	Data connectivity				
46-20-2A	(ALL)	C	-	1	(M) (O) Any in excess of one may be inoperative provided an alternate means of data connectivity is used.
46-20-2B	(ALL)	C	-	0	(M) (O) May be inoperative provided alternate procedures are established and used where operating procedures are dependent upon the use of the affected EFB.  (M) Consult individual equipment manufacturer's documentation for alternate connectivity methods.  (O) Follow RFM checklist and use standard preflight planning procedures. For special operations, follow applicable operational guidelines.

ATA CHAPTER: 46 Information systems			PAGE: 46-4		
(1) System & sequence numbers item		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or exceptions			
<b>46-20-3</b>	<b>Power connection for EFB</b>				
46-20-3A	(ALL)	C	-	1	(M) (O) Any in excess of one may be inoperative provided an alternative power source is available and can be used for the planned duration of use of the affected EFB.
46-20-3B	(ALL)	C	-	0	(M) (O) May be inoperative provided alternate procedures are established and used.  (M) Any on-board USB or cigarette style port may be used for power. Observe voltage and current draw limitations listed on port placards.  (O) Follow RFM checklist and use standard preflight planning procedures. For special operations, follow applicable operational guidelines.



ATA CHAPTER: 63 Main Rotor Drive(s)		PAGE: 63-1		
(1) System & sequence numbers item	(2) Rectification Interval			
		(3) Number installed		
			(4) Number required for dispatch	
				(5) Remarks or exceptions
<b>63-20-1</b>	<b>Rotor Brake System</b>			
63-20-1A	(ALL)	C	-	-
				(M) May be inoperative provided: (a) Maintenance inspection verifies rotors are free to rotate, and (b) System is deactivated and secured.  (M) System may be deactivated by blocking handle with tape and marking tape "Inop".