



U.S. Department of Transportation
Federal Aviation Administration
Washington, D.C.

Master Minimum Equipment List (MMEL)

Revision: 3
Date: 09/16/2014

ROBINSON HELICOPTER COMPANY
R22, R22 ALPHA, R22 BETA, R22 MARINER
(H10WE)

R44, R44 II
(H11NM)

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**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
MASTER MINIMUM EQUIPMENT LIST**

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LOG OF REVISIONS

Rev. No.	Date	Revision Description	
Original	10/25/1993	Entry from approval date stamp	
1	2/01/2007	Definitions, guidelines, 21-1, 25-1	
2	11/28/2013	All pages updated to JASC Coding format and incorporation of Global Change (GC) Policy Letters	
3	09/16/2014	Added Global Policy Letter PL-87, added "NOTE:" to Highlights of Change, Page No. IV. Updated Provisos as noted by change bars. Format corrections to the entire document.	I

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CONTROL PAGE

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HIGHLIGHTS OF CHANGE

JASC	Item	Explanation
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		<p>This Master Minimum Equipment List (MMEL) has been reformatted in compliance with the Federal Aviation Administration, Joint Aircraft System/Component (JASC) Code Table, and is available for download or viewing at: http://av-info.faa.gov/sdrx/references.aspx</p> <p>This replaces the former Airline Transport Association (ATA) coding used in previous documents. JASC Coding is a four-digit number format and as the title suggests, it contains a System Code and a Component Code. The first two digits are the System Code which is similar to ATA Coding for their first two numbers. The last two digits in the JASC Code is the Component Code which defines the specific component. The item number is a sequential number given for additional Components with the same JASC Code.</p> <p>NOTE: Revision 2a of this MMEL incorporates updated changes made to entries contained in Columns: 1. Repair Category; 2. Number Installed; and, 3. Number Required for Dispatch, in the applicable Provisos. These columns were updated in accordance with Policy Letter PL-25, Rev. 20, PL-31(GC-171) Rev. 3, POLICY: 9, and PL-116, Rev. 3.</p> <p>For Example: JASC Code 2410, where Code 24 represents the "Electrical Power" system, and Component Code 10, represents the "Alternator-Generator Drive" system.</p>	
2370	-01	Added Global Policy Letter 29, Rev 5, 8/10/2010 (CVR)	
2370	-02	Added Global Policy Letter 29, Rev 5, 8/10/2010 (CVR) Added Global Policy Letter 87, Rev 10, 8/10/2010 (FDR)	
2370	-03	Added Global Policy Letter 29, Rev 5, 8/10/2010 (CVR)	
2500	-03	Added Global Policy Letter 116, Revision 3, dated 12/17/2012 (NEF)	
2562	-01	Added Global Policy Letter 120, Revision 1, dated 1/20/2009 (ELT)	
3300	-01	Added Global Policy Letter 127, Revision 0, dated 6/07/2010 (NVIS)	
3452	-02	Added Global Policy Letter 76, Revision 5, dated 3/24/2008 (IFF)	
3461	-01	Added Global Policy Letter 98, Rev 0, 1/20/1999 (NMS) (Flight Management System)	
3461	-02	Added Global Policy Letter 98, Rev 0, 1/20/1999 (NMS) (Navigation Management System)	

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DEFINITIONS		

The Definitions must be inserted here in each Minimum Equipment List (MEL) from current FAA MMEL Policy Letter PL-25.

The 14 CFR Regulatory requirements applicable to specific MMEL chapters can be found in PL-25, Appendix A. Regulatory requirements must be incorporated into specific MEL relief by the MEL user in accordance with the kinds of operations being conducted by the user.

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PREAMBLE

The applicable preamble must be inserted here in each Minimum Equipment List (MEL) from current FAA MMEL Policy Letter PL-34, MMEL AND MEL PREAMBLE, or FAA MMEL Policy Letter PL-36, 14 CFR PART 91 MEL APPROVAL.

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GUIDELINES FOR (M) & (O) PROCEDURES

JASC	Item	Explanation
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The FOEB has identified a need for certain procedures to provide an adequate level of safety while providing relief for some items. These procedures must be established by the operator and may be based on the aircraft manufacturer's recommended procedures, Supplemental Type Certificate modifier's recommended procedures, or equivalent operator procedures. When recommended procedures are published the operator should comply with these procedures. If recommended procedures are not published, the following guidelines delineate the aspects to be considered by the operator in the development of required procedures:

2140	-01	(M) May be inoperative provided procedure to secure valve in OFF position.	
2340	-01	(O) Procedure for crew and passenger communication.	
2432	-01	(M) Procedures as required by proviso.	
2500	-02	(M) Procedures as required by proviso.	
2562	-01	(M) Procedures as required by proviso.	
2810	-01	(M) Procedures as required by proviso.	
2841	-01	(O) Procedures as required by proviso.	
3121	-01	(O) Procedures as required by proviso.	
3461	-01	(O) Procedures as required by proviso.	
3461	-02	(O) Procedures as required by proviso.	
6321	-01	(O) Procedures as required by proviso.	

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JASC CODE & ITEM NO.	ITEM DESCRIPTION	2. NUMBER INSTALLED	
		3. NUMBER REQUIRED FOR DISPATCH	
		4. REMARKS & EXCEPTIONS	

21. AIR CONDITIONING						
2100-01 ***	Air Conditioner System	C	-	0		
2120-01	Fresh Air Vent	C	1	0	May be inoperative provided the vent is secured open.	
2140-01	Cabin Heating System	C	1	0	(M) May be inoperative provided the valve is secured to the " OFF " position.	

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23. COMMUNICATIONS (Cont'd)						
2300-01	External Loud Speaker	C	-	0	As required by 14 CFR.	
2300-02	Cabin ICS System	C	-	0	As required by 14 CFR.	
2310-01 ***	Communications Systems (HF)	C	-	-	As required by 14 CFR.	
2311-01 ***	Communications Systems (UHF)	C	-	-	As required by 14 CFR.	
2312-01	Communications Systems (VHF)	C	-	0	As required by 14 CFR.	
2312-02 ***	Communications Systems (FM)	C	-	-	As required by 14 CFR.	
2340-01 ***	Cabin ICS System - (Cockpit Crew to Crew and/or Passengers/Crew	C C	- -	- -	(O) May be inoperative provided alternate, normal and emergency procedures, and/or operating restrictions are established and used. May be inoperative for non-passenger/crew carrying operations.	
2370-01 *** (PL-29)	Cockpit Voice Recorder (CVR) <u>Without</u> Flight Data Recorder Installed	A	-	-	As required by 14 CFR. OR If installed, may be inoperative provided repairs are made within three flight days.	
***	Independent Power Source	C	-	-		
2370-02 *** (PL-29) and (PL-87)	Cockpit Voice Recorder (CVR) <u>With</u> Flight Data Recorder (FDR) Installed	A	-	-	May be inoperative provided repairs are made in accordance with applicable 14 CFRs.	
***	Independent Power Source	C	-	-		

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23. COMMUNICATIONS						
2370-03 *** (PL-29)	Cockpit Voice Recorder (CVR) Installed For An Operator Other Than A Holder of an Air Carrier or Commercial Operator Certificate	A	-	-	May be inoperative provided repairs are made in accordance with applicable 14 CFRs.	
***	Independent Power Source	C	-	-		

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24. ELECTRICAL POWER					
2425-01	Alternator Low Voltage Light	B	1	0	May be inoperative provided ammeter is operative.
2432-01	Battery (Second)	C	-	0	(M) May be inoperative provided: a) Battery is disconnected and secured, and b) Battery remains installed, OR c) Battery is removed, and d) Appropriate ballast is installed, OR e) Battery is removed, and f) Weight and Balance is revised.

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25. EQUIPMENT/FURNISHINGS						
2500-01	Crew Member Shoulder Harness	B	-	1	One may be inoperative or missing provided the affected seat is not required and not used.	
2500-02	Passenger Seat Belts/Shoulder Harness	C	-	0	(M) One required for each occupied seat. If belt is inoperative or missing, seat must be blocked and placarded.	
2500-03 (PL-116)	NEF Items	-	-	-	May be inoperative, damaged or missing provided that the item(s) is deferred in accordance with the NEF deferral program. NEF program, procedures and processes are outlined in the operator's (insert name) Manual. (M) (O) procedures, if required, must be available to the flight crew and included in the operator's appropriate document.	
2500-04 ***	Electronic News Gathering (ENG) Equipment	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.	
2500-05 ***	EMS Equipment	D	-	0	(M) May be inoperative provided installation is removed or secured.	
2550-01 ***	Cargo Suspension System	C	-	-		I
2560-01	EMS Equipment	D	-	0	(M) May be inoperative provided installation is removed or secured.	

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25. EQUIPMENT/FURNISHINGS (Cont'd)								
2562-01 *** (PL-120)	Emergency Locator Transmitter (ELT) Survival Type ELTs Fixed ELTs	D A A D D	-	-	-	0 0	Any in excess of those required by 14 CFR may be inoperative or missing. (M) May be inoperative, provided: a) System is deactivated, b) Repairs are made within 90 days. May be missing, provided repairs are made within 90 days. (M) Any in excess of those required by 14 CFR, may be inoperative, provided system is deactivated. Any in excess of those required by 14 CFR may be inoperative or missing.	
2562-02 ***	Automatically Deployable Emergency Locator Transmitter (ADELT)	C	-	-	-	-		
2562-03	Sonic Locator	C	-	-	-	-		

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28. FUEL					
2810-01 ***	Auxiliary Fuel Tank	C	-	-	(M) May be inoperative provided: a) Auxiliary tank is empty and disconnected, and b) The fuel gauge is operative
2841-01	Fuel Quantity Gauge	B	1	0	(O) May be inoperative provided: a) Auxiliary tank is operative. b) Flight is initiated with full Main and Auxiliary tanks, and c) Flight time does not exceed 2 hours.

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31. INSTRUMENTS						
3100-01	Aircraft/Engine Monitoring System	C	-	0		
3120-01	Clock, Displaying Hours, Minutes, and Seconds, with Sweep Second Pointer or Electric Digital Clock	C	-	0	As required by 14 CFR.	
3122-01 ***	Elapsed Timer	C	-	0		
3130-01 ***	Hour Meter	C	-	-	(O) May be inoperative provided alternative means are utilized for recording time in service.	
3130-02 *** (PL-29)	Cockpit Voice Recorder (CVR) Installed For An Operator Other Than A Holder of an Air Carrier or Commercial Operator Certificate	A	-	-	May be inoperative provided repairs are made in accordance with applicable 14 CFRs.	
***	Independent Power Source	C	-	-		
3130-03 *** (PL-29) and (PL-87) ***	Cockpit Voice Recorder (CVR) With Flight Data Recorder (FDR) Installed Independent Power Source	A C	- -	- -	May be inoperative provided: a) Flight Data Recorder (FDR) operates normally, and b) Repairs are made within 3 flight days.	

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33. LIGHTS					
3300-01	NVG Compatible Lighting System	C	-	-	Unaided operation (without NVG's) may be permitted with inoperative NVG supplemental lights; cracked or missing filters; provided the remaining lights are: a) Sufficient to clearly illuminate all required instruments, controls, and other devices for which they are provided. b) Positioned so that direct rays are shielded from flight crew-members eyes, and c) Lighting configuration and intensity is acceptable to the flight crew.
3300-02 ***	Supplemental Lighting System	C	-	-	

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33. LIGHTS (Cont'd)					
3310-01	Cockpit/Flight Deck/Flight Compartment and Instrument Lighting System	C	-	0	One or more may be inoperative for daylight operations. OR 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, b) Direct rays and reflections do not impair visibility either inside or outside the aircraft, c) Sufficient flight deck emergency lighting is operative, d) Lighting intensity can be controlled or preset to a satisfactory level for the expected flight condition, e) Lighting configuration at dispatch is acceptable to the flight crew.
		C	-	-	

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33. LIGHTS (Cont'd)					
3310-02 ***	Cockpit Utility Light	C	-	0	May be inoperative for day operations. OR May be inoperative for night VMC flight, provided: a) All normal flight deck lights are operative, b) One flashlight per flight crew is readily available.
3320-01	Cabin Lighting System	C	1	-	As required by 14 CFR.
3340-01	Position Light System	C	1	0	One or more may be inoperative for daytime VMC operations
3340-02	Anti-collision Light	B	-	0	As required by 14 CFR. May be inoperative, OR
	Day Operations	C	-	1	a) Any in excess of one may be inoperative.
	Night Operations	C	-	0	b) Any in excess of one may be inoperative.
3340-03	Landing Lights	C	2	1	One may be inoperative provided an adjustable landing light is installed and operative, OR
		C	2	0	Both may be inoperative for daylight operations only.

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33. LIGHTS (Cont'd)					
3340-04 ***	External Search Light	C	-	-	May be inoperative provided procedures do not require its use.
3340-05 ***	Strobe Lights	C	-	-	May be inoperative provided procedures do not require its use.

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34. NAVIGATION						
3413-01 ***	Vertical Speed Indicator (VSI)	C	-	0	As required by 14CFR.	
3416-01 ***	Altitude Encoder	D	-	0	As required by 14 CFR.	
3421-01	Attitude Indicator	C	-	0	As required by 14 CFR.	
3421-02 ***	Gyroscopic Bank and Pitch Indicator	C	-	-	As required by 14 CFR.	
3422-01 ***	Directional Gyro	C	-	0	As required by 14 CFR.	
3422-02 ***	RMI	C	-	0	As required by 14 CFR.	
3424-01 ***	Gyroscopic Rate of Turn with Slip Indicator	D	-	0	As required by 14 CFR.	
3434-01 ***	Marker Beacon	D	-	0	As required by 14 CFR.	
3451-01 ***	DME/TACAN	C	-	-	As required by 14 CFR.	
3452-01 ***	SSR (Secondary Surveillance Radar) Transponder	C	-	-	As required by 14 CFR.	
3454-02 ***	VOR/ILS	C	-	-	As required by 14 CFR.	
3455-01 ***	ADF	C	-	-	As required by 14 CFR.	
3457-01	Global Positioning Systems (GPS)	C	-	-	As required by 14 CFR.	

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34. NAVIGATION						
3461-01 *** (PL-98)	Flight Management System (FMS)	C	-	-	(O) May be out of currency provided: a) Current Aeronautical Charts are used to verify Navigation Fixes prior to dispatch b) Procedures are 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.	
3461-02 *** (PL-98)	Navigation Management System (NMS)	C	-	-	(O) May be out of currency provided: a) Current Aeronautical Charts are used to verify Navigation Fixes prior to dispatch b) Procedures are 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.	

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		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS & EXCEPTIONS			
63. MAIN ROTOR DRIVE					
6321-01	Rotor Brake System	C	1	0	(O) May be inoperative provided a Check is performed to determine the main rotor is free to rotate.

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
MASTER MINIMUM EQUIPMENT LIST**

AIRCRAFT: R22, R22 ALPHA, R22 BETA, R22 MARINER R44, R44 II		REVISION NO. 3 DATE: 09/16/2014	PAGE NO. 71 - I
JASC SYSTEM & TITLE		1. REPAIR CATEGORY	
JASC CODE & ITEM NO.	ITEM DESCRIPTION	2. NUMBER INSTALLED	
		3. NUMBER REQUIRED FOR DISPATCH	
		4. REMARKS & EXCEPTIONS	
71. POWER PLANT			
7100-01 ***	Electronic Engine RPM Governor	C	1 0

**U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
MASTER MINIMUM EQUIPMENT LIST**

AIRCRAFT: R22, R22 ALPHA, R22 BETA, R22 MARINER R44, R44 II		REVISION NO. 3 DATE: 09/16/2014	PAGE NO. 77 - I		
JASC SYSTEM & TITLE		1. REPAIR CATEGORY			
JASC CODE & ITEM NO.	ITEM DESCRIPTION	2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS & EXCEPTIONS			
77. ENGINE INDICATING					
7714-01	Tachometer, Engine	A	1	0	May be inoperative for up to three days provided: a) Rotor tachometer is operative, and b) Aircraft shall not depart an airport where repairs or replacement can be made.