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Federal Aviation Administration
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Master Minimum Equipment List (MMEL)

Revision: 08
Date: 01/02/2014

Cessna-414/421 **CE-414, 414A, 421, 421A, 421B, 421C(PISTON)**

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U.S. DEPARTMENT OF TRANSPORTATION			
		MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION			
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014	PAGE NO. I
TABLE OF CONTENTS / CONTROL PAGE			
SYSTEM	PAGES	REVISION	DATE
-- Cover Page	-	08	01/02/2014
-- Table of Contents / Control Page	I	08	01/02/2014
-- Highlights of Change	II	08	01/02/2014
-- Definitions and Preamble	III	08	01/02/2014
-- Guidelines for (M) & (O) Procedures	IV thru V	08	01/02/2014
21 AIR CONDITIONING	21-1 thru 21-3	08	01/02/2014
22 AUTO FLIGHT	22-1 thru 22-2	08	01/02/2014
23 COMMUNICATIONS	23-1 thru 23-2	08	01/02/2014
24 ELECTRICAL POWER	24-1	08	01/02/2014
25 EQUIPMENT/FURNISHINGS	25-1 thru 25-3	08	01/02/2014
26 FIRE PROTECTION	26-1	08	01/02/2014
27 FLIGHT CONTROLS	27-1	08	01/02/2014
28 FUEL	28-1 thru 28-4	08	01/02/2014
30 ICE AND RAIN PROTECTION	30-1 thru 30-2	08	01/02/2014
31 INSTRUMENTS	31-1 thru 31-2	08	01/02/2014
32 LANDING GEAR	32-1	08	01/02/2014
33 LIGHTS	33-1 thru 33-3	08	01/02/2014
34 NAVIGATION	34-1 thru 34-8	08	01/02/2014
35 OXYGEN	35-1	08	01/02/2014
37 VACUUM	37-1	08	01/02/2014
52 DOORS	52-1	08	01/02/2014
57 WINGS	57-1	08	01/02/2014
61 PROPELLERS/PROPULSORS	61-1	08	01/02/2014
77 ENGINE INDICATING	77-1	08	01/02/2014

HIGHLIGHTS OF CHANGE

NOTE: This revision is a reissue with numerous formatting changes. All relief should be considered changed. Items which have been added, removed, or moved are listed below. Updated all relief covered by policy letters. This revision also incorporates a new numbering system. Items may not be listed consecutively. This is intentional. Cabin Altitude Warning System moved to ATA 31.

ATA 21**ATA 22**

-10-01

Added relief for Autopilot Disconnect Button per Policy Letter PL-093, revision 01.

ATA 24

Low Voltage Annunciator moved to ATA 31.

ATA 25

-62-01-04

Added relief for Remote Activation Switch.

ATA 27

Vortex Generators moved to ATA 57.

ATA 28

Wing Locker Fuel Tank Vent Heater moved from ATA 30.

ATA 29

Hydraulic Flow Low Annunciator moved to ATA 31.

ATA 30

Wing Locker Fuel Tank Vent Heater moved to ATA 28. Stall Warning / Angle of Attack Heater moved to ATA 34.

ATA 31

Low Voltage Annunciator moved from ATA 24. Hydraulic Flow Low Annunciator moved from ATA 29. Door Warning Annunciator moved from ATA 52. Cabin Altitude Warning System moved from ATA 21.

-30-03

Added relief for Flight Data Recorder per Policy Letter PL-087, revision 10.

ATA 34

Stall Warning / Angle of Attack Heater moved from ATA 30.

-52-01-03

Added relief for Altitude encoder.

-61-01

Added relief for Navigation Database per Policy Letter PL-098, Revision 0.

ATA 52

Door Warning Annunciator moved to ATA 31.

ATA 57

Vortex Generators moved from ATA 27.

U.S. DEPARTMENT OF TRANSPORTATION			MASTER MINIMUM EQUIPMENT LIST
FEDERAL AVIATION ADMINISTRATION			
AIRCRAFT:	REVISION NO. 08	PAGE NO.	III
CESSNA 414	DATE: 01/02/2014		
DEFINITIONS AND PREAMBLE			

DEFINITIONS

The required definitions listed are listed in Appendix B of MMEL Policy Letter 25. Additional definitions may be included in an operators MEL as desired. Revision of PL-025 does not require revision to the operator's MEL.

PREAMBLE

The applicable preamble must be inserted in the operator's MEL from current FAA Policy Letter PL-34 or Policy Letter PL-36.

U.S. DEPARTMENT OF TRANSPORTATION		MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION			
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014	PAGE NO. IV
GUIDELINES FOR (M) & (O) PROCEDURES			

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.

21-30-01	(M) procedure to remove an outflow valve.
21-30-02-00A	(O) procedure to operate unpressurized with cabin occupants.
21-30-02-00B	(O) procedure to operate unpressurized without cabin occupants.
21-32-01-00A	(O) procedure to convert differential pressure and aircraft altitude to cabin altitude.
21-32-02-00A	(O) procedure to convert cabin and aircraft altitude to differential pressure.
21-40-02	(M) procedure to deactivate the combustion heater.
21-40-02-02	(O) procedure to track heater hours.
21-50-02	(M) procedure to deactivate the vapor-cycle air conditioning system.
22-10-03	(M) procedure to deactivate the autopilot system.
22-10-05	(M) procedure to deactivate the yaw damper.
23-10-01-00B	(O) procedure to utilize SATCOM voice, when acceptable and available, as a long-range communication system (LRCS).
25-20-06-02A	(M) procedure to secure all controls on the affected seat in the position required for taxi, takeoff and landing.
25-62-01-02A	(M) procedure to deactivate the ELT.
25-62-01-02B	(M) procedure to deactivate the ELT.
25-62-01-02C	(M) procedure to disconnect the remote activation switch and verify the ELT is armed.
27-31-01	(M) procedure to verify the manual elevator trim is working properly and is not affected by the electric trim being inoperative. (O) procedure to visually verify the trim tab moves with the elevator trim control.
28-10-03	(M) procedure to deactivate the vent heater and train the fuel tank.
28-41-01	(O) procedure to monitor fuel quantity.
28-41-02-01	(O) procedure to track fuel use.
28-41-02-05	(O) procedure to track fuel use.
28-41-02-06	(O) procedure to track fuel use.

U.S. DEPARTMENT OF TRANSPORTATION

MASTER MINIMUM EQUIPMENT LIST

FEDERAL AVIATION ADMINISTRATION

AIRCRAFT:

CESSNA 414

REVISION NO. 08

DATE: 01/02/2014

PAGE NO.

V

- 28-41-02-07 (O) procedure to track fuel use.
- 30-10-02 (M) procedure to verify vacuum system is holding de-ice boots down.
- 30-40-02 (M) procedure to deactivate windshield electric anti-ice system.
- 30-40-03 (M) procedure to deactivate windshield alcohol de-ice system.
- 30-60-01 (M) procedure to deactivate prop anti-ice or de-ice.
- 31-20-04 (O) procedure to track flight time.
- 32-40-01 (O) procedure to make sure aircraft is chocked while parked or is attached to a tow vehicle.
- 33-20-02-00A (O) procedure to verify cabin emergency lighting is operative.
- 33-20-02-00B (O) procedure to verify cabin emergency lighting is operative.
- 33-20-04-00A (O) procedure to notify cabin occupants when to remain seated, when to use seat belts, and when smoking is not permitted.
- 34-44-01 (M) procedure to deactivate radio altimeter.
- 34-44-03 (O) procedure to include procedures for terrain and obstacle avoidance in crew briefing.
- 34-45-01-00A (M) procedure to deactivate TCAS.
- 34-45-01-00B (M) procedure to deactivate TCAS.
- 34-45-01-01 (O) procedure to make sure RA display and audio function are operative.
- 34-45-01-02B (O) procedure to make sure TA display and audio function are operative and TA mode is selected.
- 34-61-01 (O) procedure to verify status and suitability of navigation facilities.
- 52-70-01 (O) procedure to make sure cabin door is closed, latched and handle stowed prior to each flight.
- 57-20-01 (O) procedure shall be developed based on STC holder's instructions.

U.S. DEPARTMENT OF TRANSPORTATION		MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION			
AIRCRAFT:	REVISION NO. 08	PAGE NO.	
CESSNA 414	DATE: 01/02/2014	VI	

U.S. DEPARTMENT OF TRANSPORTATION					MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION						
AIRCRAFT: CESSNA 414			REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 21-1	
SYSTEM, SEQUENCE NUMBERS & ITEM			1. REPAIR CATEGORY			
			2. NUMBER INSTALLED			
			3. NUMBER REQUIRED FOR DISPATCH			
			4. REMARKS AND EXCEPTIONS			
21 AIR CONDITIONING						
-30-01	Cabin Dump Function (Unpressurized)	C	1	0	(M) May be inoperative provided: a) One outflow valve is removed, and b) Cabin pressurization system is considered inoperative (Refer to item 21-30-02).	
-30-02	Cabin Pressurization System					
-00A	(Unpressurized with cabin occupants)	C	1	0	(O) May be inoperative provided: a) CABIN DE-PRESSURIZE is selected ON, b) Aircraft is operated below 15,000 feet MSL, and c) Flight crew oxygen system is used as required by 14 CFR. NOTE: CABIN ALT amber annunciator will illuminate. Altitude varies depending on configuration.	
-00B	(Unpressurized without cabin occupants)	C	1	0	(O) May be inoperative provided: a) CABIN DE-PRESSURIZE is selected ON, b) No cabin occupants are carried, c) Aircraft is operated at FL250 or below, and d) Flight crew oxygen system is used as required by operating rule. NOTE: CABIN ALT amber annunciator will illuminate. Altitude varies depending on configuration.	
-31-01	Altitude Selector	C	1	0	May be inoperative or knob missing provided cabin pressurization system is considered inoperative (Refer to item 21- 30-02).	

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST			
FEDERAL AVIATION ADMINISTRATION							
AIRCRAFT: CESSNA 414			REVISION NO. 08 DATE: 01/02/2014			PAGE NO. 21-2	
SYSTEM, SEQUENCE NUMBERS & ITEM			1. REPAIR CATEGORY				
			2. NUMBER INSTALLED				
			3. NUMBER REQUIRED FOR DISPATCH				
			4. REMARKS AND EXCEPTIONS				
21 AIR CONDITIONING							
-32-01 Cabin Altitude Gauge/Indication							
-00A (Pressurized)			C	1	0	(O) May be inoperative provided: a) Cabin pressurization system automatic schedule mode is operative and used, b) Cabin differential pressure gauge/indication is operative, and c) A chart is provided to convert differential pressure and aircraft altitude to cabin altitude.	
-00B (Unpressurized)			C	1	0	May be inoperative provided cabin pressurization system is considered inoperative (Refer to item 21-30-02).	
-32-02 Cabin Differential Pressure Gauge/Indication							
-00A (Pressurized)			C	1	0	(O) May be inoperative provided: a) Cabin pressurization system automatic schedule mode is operative and used, b) Cabin altitude gauge/indication is operative, and c) A chart is provided to convert cabin and aircraft altitude to differential pressure.	
-00B (Unpressurized)			C	1	0	May be inoperative provided cabin pressurization system is considered inoperative (Refer to item 21-30-02).	

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST			
FEDERAL AVIATION ADMINISTRATION							
AIRCRAFT: CESSNA 414			REVISION NO. 08 DATE: 01/02/2014			PAGE NO. 21-3	
SYSTEM, SEQUENCE NUMBERS & ITEM			1. REPAIR CATEGORY				
			2. NUMBER INSTALLED				
			3. NUMBER REQUIRED FOR DISPATCH				
			4. REMARKS AND EXCEPTIONS				
21 AIR CONDITIONING							
-32-03	Cabin Vertical Speed Gauge/Indication						
-00A	(Pressurized)	C	1	0	May be inoperative provided: a) Cabin pressurization system automatic schedule mode is operative and used, and b) Cabin altitude gauge/indication is operative.		
-00B	(Unpressurized)	C	1	0	May be inoperative provided cabin pressurization system is considered inoperative (Refer to item 21-30-02).		
-40-02	Combustion Heater	C	1	0	(M) May be inoperative provided heater is deactivated.		
-01	Fan	C	1	0	May be inoperative provided: a) Heater or windshield defog is not required on ground, b) CABIN FAN is selected OFF, and c) CABIN HEATER is selected OFF on ground and prior to landing.		
-02 ***	Heater Hour Meter	C	1	0	(O) May be inoperative provided heater hours are tracked by alternate means.		
-50-02 ***	Vapor-cycle Air Conditioning System	C	1	0	(M) May be inoperative provided air conditioning system is deactivated.		

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST			
FEDERAL AVIATION ADMINISTRATION							
AIRCRAFT: CESSNA 414				REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 22-1	
SYSTEM, SEQUENCE NUMBERS & ITEM				1. REPAIR CATEGORY			
				2. NUMBER INSTALLED			
				3. NUMBER REQUIRED FOR DISPATCH			
				4. REMARKS AND EXCEPTIONS			
22 AUTOFLIGHT							
-10-01 *** Autopilot Disconnect Button (Failed deselected)							
-00A Left Control Wheel				C	1	0	May be inoperative provided: a) Right control wheel button is operative, b) Pilot remains seated in right seat with seat belt fastened during all autopilot operations, c) Autopilot system is not used below AFM cruise minimum use height, and d) Approach minimums do not require use of autopilot system.
-00B *** Right Control Wheel				C	1	0	May be inoperative for single-pilot operations.
-00C (All buttons failed) (Excluding aircraft with separate elevator trim disconnect switch)				B	-	0	May be inoperative provided: a) Autopilot system, is considered inoperative, and b) Electric elevator trim is considered inoperative.
-00C (All buttons failed) (Aircraft with separate elevator trim disconnect switch or aircraft without electric elevator trim)				B	-	0	May be inoperative provided autopilot system is considered inoperative.
-10-03 *** Autopilot System				C	1	0	(M) May be inoperative provided: a) Autopilot system is deactivated, and b) Enroute procedures and approach minimums do not require use of autopilot system.
NOTE: Refer to appropriate AFM supplement for possible flap use limitations.							

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 22-2	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
22 AUTOFLIGHT					
-10-05 Yaw Damper (Integrated with autopilot)		C	1	0	(M) May be inoperative provided: a) Yaw damper is deactivated, and b) Autopilot system is considered inoperative (Refer to item 22-10-03). NOTE: Refer to appropriate AFM supplement for possible yaw damper and autopilot limitations.
-10-05 Yaw Damper (Stand-alone system)		C	1	0	(M) May be inoperative provided yaw damper is deactivated.

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST			
FEDERAL AVIATION ADMINISTRATION							
AIRCRAFT: CESSNA 414			REVISION NO. 08 DATE: 01/02/2014			PAGE NO. 23-1	
SYSTEM, SEQUENCE NUMBERS & ITEM			1. REPAIR CATEGORY				
			2. NUMBER INSTALLED				
			3. NUMBER REQUIRED FOR DISPATCH				
			4. REMARKS AND EXCEPTIONS				
23 COMMUNICATIONS							
-10-01 ***	High Frequency (HF) Communication System						
-00A	(Dual LRCS not required)	D	-	-		Any in excess of those required by 14 CFR may be inoperative.	
-00B	(Dual LRCS required)	C	-	1		(O) May be inoperative while conducting operations which require two Long-Range Communication Systems (LRCS) provided: a) SATCOM voice or data link operates normally, b) Alternate procedures are established and used, c) SATCOM coverage is available over intended route of flight, and d) If SATCOM voice is to be used over intended route of flight, SATCOM voice short codes (INMARSAT) or direct dial commercial numbers (IRIDIUM) must be available, prior coordination with appropriate ATS (FIR) facility is required. NOTE: SATCOM voice is to be used only as a backup to normal HF communications.	
-11-01 ***	Ultra High Frequency (UHF) Communication System	D	-	0		May be inoperative provided procedures do not require its use.	
-12-01	Very High Frequency (VHF) Communication System	D	-	-		Any in excess of those required by 14 CFR may be inoperative provided procedures do not require its use.	
-40-03 ***	Passenger Address (PA) System	D	1	0			

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 23-2	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
23 COMMUNICATIONS					
-50-03	Cockpit Overhead Communication Speaker	C	1	0	May be inoperative provided: a) Speaker is not required for procedures, and b) A headset is used including during emergency procedures.
-70-01	Cockpit Voice Recorder (CVR)				
-00A	(Holder of an Air Carrier or Commercial Operator Certificate)	A	1	0	May be inoperative provided: a) Any Flight Data Recorder (FDR) required to be installed is operative, and b) Repairs are made within three flight days.
-00B	(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 14 CFR.
-00C ***	(All operators)	C	1	0	May be inoperative provided recorder is not required by 14 CFR.
-01 ***	Recorder Independent Power Supply (RIPS)	C	1	0	

U.S. DEPARTMENT OF TRANSPORTATION					MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION						
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 24-1		
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY				
		2. NUMBER INSTALLED				
		3. NUMBER REQUIRED FOR DISPATCH				
		4. REMARKS AND EXCEPTIONS				
24 ELECTRICAL POWER						
-36-01 DC Selectable Voltage Regulator		B	2	1	One may be inoperative provided: a) Aircraft is operated in under Visual Flight Rules (VFR), and b) Aircraft is not operated at night.	

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 25-1	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
25	EQUIPMENT / FURNISHINGS				
-10-05 ***	Flight Crew Seat Copilot Seat Belt / Shoulder Harness	C	1	0	May be inoperative provided seat remains unoccupied.
-20-05	Non-essential Equipment and Furnishings (NEF)	-	-	0	May be inoperative, damaged or missing provided that item(s) is deferred in accordance with the operator's NEF deferral program. The NEF program procedures and processes are outlined in the operator's (insert name) Manual. (M) and (O) procedures, if required, must be available to the flight crew and included in the operator's appropriate document.
-20-06	Passenger Seat (Including side-facing seats, folding seats and couches) (Per seat)	D	-	0	May be inoperative provided: a) Seat does not block an emergency exit, b) Seat does not restrict any cabin occupant access to aisle, and c) Affected seat(s) are blocked and placarded "DO NOT OCCUPY". NOTE: Affected seat(s) may include seats near inoperative seat(s).
-02A	Seat Controls (Includes recline, headrest, footrest, floor tracking, pedestal tracking, swivel, and other positioning controls)	D	-	0	(M) May be inoperative and seat occupied provided seat is secured in taxi, takeoff and landing position.
-02B	Seat Controls (Includes recline, headrest, footrest, floor tracking, pedestal tracking, swivel, and other positioning controls)	D	-	0	May be inoperative and seat occupied provided control is failed in taxi, takeoff and landing position.
(Continued)					

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 25-2	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
25	EQUIPMENT / FURNISHINGS				
-20-06	Passenger Seat (Continued)				
-02C	Seat Controls (Includes recline, headrest, footrest, floor tracking, pedestal tracking, swivel, and other positioning controls)	D	-	0	May be missing or inoperative in other than taxi, takeoff, and landing position provided affected seat is considered inoperative (Refer to item 25-20-06).
-03	Seat Belt / Shoulder Harness	D	-	0	May be inoperative provided affected seat is placarded "DO NOT OCCUPY FOR TAXI, TAKEOFF, LANDING OR WHEN FASTEN SEAT BELT SIGN IS ILLUMINATED".
-04 ***	Seat Belt / Shoulder Harness Keeper	D	1	0	
-05 ***	Lumbar Support	D	1	0	
-60-03	Emergency Medical Equipment				
-01 ***	Automatic External Defibrillator (AED) (Includes associated equipment)	D	-	0	
-02 ***	Emergency Medical Kit (EMK) (Includes associated equipment)	D	-	0	
-03 ***	First Aid Kit (FAK) (Includes associated equipment)	D	-	-	Any in excess of those required by 14 CFR may be incomplete, missing, or inoperative.

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST			
FEDERAL AVIATION ADMINISTRATION							
AIRCRAFT: CESSNA 414			REVISION NO. 08 DATE: 01/02/2014			PAGE NO. 25-3	
SYSTEM, SEQUENCE NUMBERS & ITEM			1. REPAIR CATEGORY				
			2. NUMBER INSTALLED				
			3. NUMBER REQUIRED FOR DISPATCH				
			4. REMARKS AND EXCEPTIONS				
25	EQUIPMENT / FURNISHINGS						
-61-01 ***	Life Preserver (Crew and passenger)	D	-	-	Any in excess of those required by 14 CFR may be missing, or inoperative provided affected preserver is placarded "INOPERATIVE" or removed.		
-62-01	Emergency Locator Transmitter (ELT)						
-01 ***	Survival Type	D	-	-	Any in excess of those required by 14 CFR may be inoperative or missing.		
-02A	Fixed, Automatic	A	-	0	(M) May be inoperative provided: a) System is deactivated or removed, and b) Repairs are made within 90 calendar days.		
-02B	Fixed, Automatic	D	-	-	(M) Any in excess of those required by 14 CFR may be inoperative provided system is deactivated or removed.		
-04 ***	Remote Activation Switch	C	1	0	(M) May be inoperative provided: a) Remote switch is disconnected, and b) ELT is verified to be armed.		
-64-01 ***	Life Raft	D	-	-	Any in excess of those required by 14 CFR may be missing, or inoperative provided affected raft is placarded "INOPERATIVE" or removed.		

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 26-1	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
26	FIRE PROTECTION				
-12-02 ***	Engine Fire Detection System	C	2	0	Any in excess of those required by 14 CFR may be inoperative or missing provided: a) Inoperative fire extinguisher is placarded "INOPERATIVE", removed from installed location, and placed out of sight so it cannot be mistaken for a functional unit, and b) Required distribution is maintained.
-20-05 ***	Engine Fire Extinguishing System	C	2	0	
-22-01	Portable Fire Extinguisher	D	-	-	

U.S. DEPARTMENT OF TRANSPORTATION					MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION						
AIRCRAFT: CESSNA 414			REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 27-1	
SYSTEM, SEQUENCE NUMBERS & ITEM			1. REPAIR CATEGORY			
			2. NUMBER INSTALLED			
			3. NUMBER REQUIRED FOR DISPATCH			
			4. REMARKS AND EXCEPTIONS			
27	FLIGHT CONTROLS					
-11-01	Aileron Trim Tab Position Indicator / Indication	C	1	0	May be inoperative provided: a) Trim tab operation and full travel is verified, and b) Tab is visually verified neutral prior to each departure.	
-21-01	Rudder Trim Tab Position Indicator / Indication	C	1	0	May be inoperative provided: a) Trim tab operation and full travel is verified, and b) Tab is visually verified neutral prior to each departure.	
-31-01 ***	Electric Elevator Trim	C	1	0	(M) (O) May be inoperative provided: a) Manual trim is verified to operate normally, and b) Autopilot system is considered inoperative (Refer to item 22-10-03).	
-31-02	Elevator Trim Tab Position Indicator / Indication	C	1	0	May be inoperative provided: a) Trim tab operation and full travel is verified, and b) Tab is visually verified in required setting prior to each departure.	
-51-01	Flap Position Indicator / Indication	C	1	0	May be inoperative provided: a) Flap switch includes position detents, b) Flaps are verified operative, c) Flaps are visually verified full up prior to each departure.	

U.S. DEPARTMENT OF TRANSPORTATION					MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION						
AIRCRAFT:		REVISION NO. 08		PAGE NO.		
CESSNA 414		DATE: 01/02/2014		28-1		
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY				
		2. NUMBER INSTALLED				
		3. NUMBER REQUIRED FOR DISPATCH				
		4. REMARKS AND EXCEPTIONS				
28	FUEL					
-10-03 ***	Wing Locker Fuel Tank Vent Heater	C	-	0	(M) May be inoperative provided: a) Vent heater is deactivated, and b) Associated wing locker fuel tank is drained. c) Fuel is not carried in associated wing locker fuel tank.	
-41-01 ***	Fuel Low Level Indicating System (Warning light)	C	2	0	(O) May be inoperative provided procedures for monitoring fuel quantity are established and used.	
-41-02	Fuel Quantity Indicating System					
-01	Wing Tank	A	2	1	(O) One indication may be inoperative provided: a) Both fuel low level indicating systems, if installed, and both fuel flow indicating systems are operative, b) Fuel required for route to be flown is increased by 10%, c) Flight is restricted to a maximum of two hours, remaining within one hour of a suitable airport at all points along route, d) Both fuel tanks are fueled to a known, balanced quantity, e) Fuel use is tracked, f) If autopilot is used, it is disconnected every twenty minutes to detect possible lateral fuel imbalance, monitor trim required, and g) Repairs are made within three flight cycles.	
(Continued)						

U.S. DEPARTMENT OF TRANSPORTATION		MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION			
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014	
		PAGE NO. 28-2	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY	
		2. NUMBER INSTALLED	
		3. NUMBER REQUIRED FOR DISPATCH	
		4. REMARKS AND EXCEPTIONS	
28	FUEL		
-41-02	Fuel Quantity Indicating System (Continued)		
-05 ***	Wing Locker	A	- 0
		(O) Indication may be inoperative provided: a) Both fuel low level indicating systems, if installed, and both fuel flow indicating systems are operative, b) Fuel required for route to be flown is increased by 10%, c) Flight is restricted to a maximum of two hours, remaining within one hour of a suitable airport at all points along route, d) Fuel tank(s) are fueled to a known, balanced quantity, e) Fuel use is tracked, f) If autopilot is used, it is disconnected every twenty minutes to detect possible lateral fuel imbalance, monitor trim required, and g) Repairs are made within three flight cycles. NOTE: Aircraft with one wing locker tank may experience a natural lateral fuel imbalance. (Continued)	

U.S. DEPARTMENT OF TRANSPORTATION		MASTER MINIMUM EQUIPMENT LIST			
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 28-3	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
28	FUEL				
-41-02	Fuel Quantity Indicating System (Continued)				
-06 ***	Auxiliary Tank	A	2	1	(O) One indication may be inoperative provided: a) Both fuel low level indicating systems, if installed, and both fuel flow indicating systems are operative, b) Fuel required for route to be flown is increased by 10%, c) Flight is restricted to a maximum of two hours, remaining within one hour of a suitable airport at all points along route, d) Both fuel tanks are fueled to a known, balanced quantity, e) Fuel use is tracked, f) If autopilot is used, it is disconnected every twenty minutes to detect possible lateral fuel imbalance, monitor trim required, and g) Repairs are made within three flight cycles. (Continued)

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 28-4	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
28	FUEL				
-41-02	Fuel Quantity Indicating System (Continued)				
-07 ***	Wing Tip Tank	A	2	1	(O) One indication may be inoperative provided: a) Both fuel low level indicating systems, if installed, and both fuel flow indicating systems are operative, b) Fuel required for route to be flown is increased by 10%, c) Flight is restricted to a maximum of two hours, remaining within one hour of a suitable airport at all points along route, d) Both fuel tanks are fueled to a known, balanced quantity, e) Fuel use is tracked, f) If autopilot is used, it is disconnected every twenty minutes to detect possible lateral fuel imbalance, monitor trim required, and g) Repairs are made within three flight cycles.
-41-03 ***	Fuel Totalizer	D	1	0	

U.S. DEPARTMENT OF TRANSPORTATION					MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION						
AIRCRAFT: CESSNA 414			REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 30-1	
SYSTEM, SEQUENCE NUMBERS & ITEM			1. REPAIR CATEGORY			
			2. NUMBER INSTALLED			
			3. NUMBER REQUIRED FOR DISPATCH			
			4. REMARKS AND EXCEPTIONS			
30	ICE AND RAIN PROTECTION					
-10-02 ***	Surface Pneumatic Boot De-Ice System (Horizontal, vertical, and wing) (Failed to inflate)		C	1	0	(O) May be inoperative provided: a) All de-ice boots must be visually verified to be deflated and held down when vacuum system is active, b) SURFACE DE-ICE is selected OFF, and c) Aircraft is not operated in known, forecast, or AFM-defined icing conditions.
-30-03	Pitot Tube Heater		B	-	0	May be inoperative provided: a) Pitot heater is not required by 14 CFR, b) Aircraft is not operated at night, c) Aircraft is not operated in Instrument Meteorological Conditions (IMC), and d) Aircraft is not operated in known, forecast, or AFM-defined icing conditions.
-30-04	Static Port Heater		C	-	0	May be inoperative provided: a) Aircraft is not operated at night, b) Aircraft is not operated in Instrument Meteorological Conditions (IMC), and c) Aircraft is not operated in known, forecast, or AFM-defined icing conditions.
-40-02 ***	Windshield Electric Anti-Ice System		C	1	0	(M) May be inoperative provided: a) Windshield anti-ice system is deactivated, and b) Aircraft is not operated in known, forecast, or AFM-defined icing conditions.

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 30-2	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
30	ICE AND RAIN PROTECTION				
-40-03 ***	Windshield Alcohol De-Ice System	C	1	0	(M) May be inoperative provided: a) Windshield de-ice system is deactivated, and b) Aircraft is not operated in known, forecast, or AFM-defined icing conditions.
-60-01 ***	Propeller De-Ice/Anti-Ice System	C	2	0	(M) May be inoperative provided: a) Propeller de-ice/anti-ice system is deactivated, and b) Aircraft is not operated in known, forecast, or AFM-defined icing conditions.

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 31-1	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
31 INSTRUMENTS					
-20-02	Clock	D	-	-	Any in excess of those required by 14 CFR may be inoperative.
-20-04	Flight Hour Meter	C	1	0	(O) May be inoperative provided flight time is tracked by alternate means.
-30-03 ***	Flight Data Recorder				
-00A	(FDR not required)	C	1	0	May be inoperative provided recorder is not required by 14 CFR.
-00B	(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 14 CFR.
-00C	(Holder of an Air Carrier or Commercial Operator Certificate) (FAA only)	A	1	0	May be inoperative provided: a) Aircraft is not dispatched from an airport where repairs can be made unless, b) Flight Data Recorder (FDR) failure occurs after dispatch but prior to takeoff, or c) Flight Data Recorder (FDR) repair was attempted but not successful, d) In those cases where repair is attempted but not successful, aircraft may be dispatched on a flight or series of flights until arriving at next airport where repairs can be made at which the repair must be accomplished prior to dispatch, and e) Repairs are made within three flight days.
(Continued)					

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST			
FEDERAL AVIATION ADMINISTRATION							
AIRCRAFT:		REVISION NO. 08			PAGE NO.		
CESSNA 414		DATE: 01/02/2014			31-2		
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY					
		2. NUMBER INSTALLED					
		3. NUMBER REQUIRED FOR DISPATCH					
		4. REMARKS AND EXCEPTIONS					
31	INSTRUMENTS						
-30-03	Flight Data Recorder (Continued)						
-01A	Flight Data Recorder (FDR) Parameters required by 14 CFR	A	-	-	Up to three (3) recording parameters may be inoperative provided: a) Cockpit Voice Recorder (CVR) operates normally, and b) Repairs are made within 20 calendar days.		
-01B	Flight Data Recorder (FDR) Parameters not required by 14 CFR	A	-	-	May be inoperative provided repairs are made prior to completion of next scheduled inspection / check of FDR.		
-50-01	Annunciator (Failed to illuminate)						
-07	Cabin Door (DOOR WARN)	B	1	0	May be inoperative provided main cabin and aft baggage door warning systems are considered inoperative.		
-18	Hydraulic Flow Low (L / R HYD FLOW LOW)	C	2	1	One may be inoperative provided associated pump is considered inoperative (Refer to item 29-13-01).		
-22	Low Voltage (LOW VOLT)	B	1	0			
-50-02	Cabin Altitude Warning System (Aural and / or visual warning failed)	C	1	0	May be inoperative provided cabin pressurization system is considered inoperative (Refer to item 21-30-02).		

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 32-1	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
32 LANDING GEAR					
-40-01 Parking Brake System		C	1	0	(O) May be inoperative provided alternate procedures for preventing aircraft movement while parked are established and used.

U.S. DEPARTMENT OF TRANSPORTATION			MASTER MINIMUM EQUIPMENT LIST		
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 33-1	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
33	LIGHTS				
-10-01	Cockpit and Instrument Lighting (Excluding button lights, standby flight instrument lighting, internally lighted annunciators, and required placard lighting)				
-00A	(Day)	C	-	0	May be inoperative provided aircraft is not operated at night.
-00B	(Night)	C	-	-	Individual lights may be inoperative provided: a) Remaining lights are sufficient to clearly illuminate all required instruments, controls, and other devices for which it is provided, b) Remaining lights are positioned so that direct rays are shielded from crewmembers' eyes, and c) Lighting configuration and intensity is acceptable to flight crew.
-20-02	Cabin Interior Lighting (Excluding cabin emergency lighting)				
-00A		C	-	-	(O) Individual lights may be inoperative provided: a) Sufficient lighting is operative for crew to perform required duties, b) Cabin emergency lighting is verified operative, and c) Sufficient lighting is operative for carrying cabin occupants at night.
(Continued)					

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 33-2	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
33 LIGHTS					
-20-02	Cabin Interior Lighting (Continued)				
-00B		D	-	0	(O) May be inoperative provided: a) Cabin emergency lighting is verified operative, and b) Aircraft is not operated at night or cabin occupants are not carried.
-20-04	Lighted Passenger Information Sign (Excluding cabin exit signs)				
-00A	(With cabin occupants)	C	-	0	(O) May be inoperative provided: a) Alternate procedures are established and used to notify cabin occupants, and b) Sign is not required by 14 CFR.
-00B	(Without cabin occupants)	C	-	0	May be inoperative provided no cabin occupants are carried.
-40-01	Anti-Collision Light System				
-00A		C	1	0	May be inoperative provided system is not required by 14 CFR.
-00B ***	(Aircraft with ground recognition light)	A	1	0	May be inoperative provided: a) Position / navigation light system is operative, b) Ground recognition light is operative, and c) Repairs are made within three flight days.
-01 ***	Wing Tip Light (Fuselage ACL light- equipped aircraft)	C	2	0	May be inoperative provided fuselage anti-collision light(s) is operative.
(Continued)					

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 33-3	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
33	LIGHTS				
-40-01	Anti-Collision Light System (Continued)				
-02 ***	Fuselage Light (Wing tip ACL light- equipped aircraft)	C	-	0	May be inoperative provided both wing tip anti-collision lights are operative.
-40-02 ***	Ground Recognition Light (Beacon)	C	-	0	NOTE: Position / navigation or anti- collision lights may be used on ground to alert nearby aircraft or personnel when engines are running or prior to start.
-40-03	Landing Light	C	-	-	Any in excess of those required by 14 CFR may be inoperative.
-40-05	Position / Navigation Light System	C	1	0	May be inoperative provided aircraft is not operated at night.
-40-07 ***	Recognition Light (Nacelle-mounted) (STC SA42222SW)	C	2	0	
-40-08 ***	Tail Flood Light	D	2	0	
-40-09	Taxi Light	C	1	0	
-40-10 ***	Wing Inspection Light	C	-	0	May be inoperative provided: a) Aircraft is not operated at night in known, forecast, or AFM-defined icing conditions, and b) Ground deicing procedures do not require its use.

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 34-1	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
34 NAVIGATION					
-13-01	Mechanical Vertical Speed Indicator	C	-	-	Any in excess of those required by 14 CFR may be inoperative. NOTE: Any required indicator must be visible from pilot flying side.
-14-01	Mechanical Airspeed Indicator	B	-	1	May be inoperative provided a operative pneumatic or independent standby airspeed indicator is visible from pilot flying side. NOTE: Independent standby airspeed indicator may be an electronic display provided display is powered independent of primary electrical system.
-16-01	Altitude Alerting System	C	-	0	
-01	Aural Alert	C	-	0	
-02	Visual Alert	C	-	0	
-16-02	Mechanical Barometric Altimeter (Including sensitive altimeter)	B	-	1	May be inoperative provided a operative pneumatic or independent standby altimeter is visible from pilot flying side. NOTE: Independent standby altimeter may be an electronic display provided display is powered independent of primary electrical system.
-18-02	Stall Warning / Angle of Attack (AOA) Heater	C	1	0	May be inoperative provided aircraft is not operated in known, forecast, or AFM-defined icing conditions.

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST			
FEDERAL AVIATION ADMINISTRATION							
AIRCRAFT: CESSNA 414			REVISION NO. 08 DATE: 01/02/2014			PAGE NO. 34-2	
SYSTEM, SEQUENCE NUMBERS & ITEM			1. REPAIR CATEGORY				
			2. NUMBER INSTALLED				
			3. NUMBER REQUIRED FOR DISPATCH				
			4. REMARKS AND EXCEPTIONS				
34 NAVIGATION							
-21-01	Gyroscopic Attitude Indicator	B	-	1	May be inoperative provided a operative gyroscopic or independent standby attitude indicator is visible from pilot flying side. NOTE: Independent standby attitude indicator may be an electronic display provided display is powered independent of primary electrical system.		
-22-03	Gyroscopic Directional Indicator	C	-	-	Any in excess of those required by 14 CFR may be inoperative provided non-stabilized magnetic compass is operative. NOTE: Any required indicator must be visible from pilot flying side.		
-23-01	Non-stabilized Magnetic Compass						
-00A	(Day, VMC)	B	1	0	May be inoperative provided: a) Any combination of two gyro or ARHS-stabilized compass systems are operative, and b) Aircraft is not operated at night or in Instrument Meteorological Conditions (IMC).		
-00B		B	1	0	May be inoperative provided: a) Any combination of two gyro or AHRS-stabilized compass systems are operative, b) Aircraft is operated with dual independent navigation capability, and c) Aircraft is operated under positive radar control by ATC on enroute portion of flight.		
(Continued)							

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 34-3	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
34	NAVIGATION				
-23-01	Non-stabilized Magnetic Compass (Continued)				
-00D		B	1	0	May be inoperative provided: a) Flight is conducted entirely within areas of magnetic unreliability, b) Any combination of two gyro or AHRS-stabilized compass systems are operative and used, and c) Aircraft is operated using approved free gyro navigation techniques.
-24-01	Mechanical Slip / Skid Indicator	C	-	-	Any in excess of those required by 14 CFR may be inoperative. NOTE: Any required indicator must be visible from pilot flying side.
-25-03 ***	Flight Director System	C	1	0	
-31-01	Localizer System	C	-	-	May be inoperative provided: a) Associated glideslope is considered inoperative (Refer to item 34-32-01), b) Procedures do not require its use, and c) System is not required by 14 CFR.
-32-01	Glideslope System	C	-	-	May be inoperative provided: a) Procedures do not require its use, and b) System is not required by 14 CFR.

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 34-4	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
34 NAVIGATION					
-34-01	Marker Beacon Receiver System	C	-	0	May be inoperative provided: a) Procedures do not require its use, and b) System is not required by 14 CFR.
-42-01 ***	Weather Radar System	D	1	0	May be inoperative provided system is not required by 14 CFR.
-44-01 ***	Radio Altimeter System	C	1	0	(M) May be inoperative provided: a) Radio altimeter is deactivated, b) Approach minimums or operating procedures do not require its use, c) Basic TAWS modes are considered inoperative (Refer to item 34-44-03), and d) TCAS II, if installed, is considered inoperative (Refer to item 34-45-01).
-44-03 ***	Terrain Awareness and Warning System (TAWS) (Class A or B TAWS not required)	C	1	0	NOTE: Any mode that operates normally may be used.
-45-01 ***	Traffic Alert and Collision Avoidance System (TCAS I or TCAS II)				
-00A	(TCAS not required)	C	1	0	(M) May be inoperative provided: a) System is deactivated, b) System is not required by 14 CFR, and c) Enroute or approach procedures do not require its use.
(Continued)					

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 34-5	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
34	NAVIGATION				
-45-01	Traffic Alert and Collision Avoidance System (Continued)				
-00B	(TCAS required)	B	1	0	(M) May be inoperative provided: a) System is deactivated, and b) Enroute or approach procedures do not require its use.
-01 ***	Traffic Alert (TA) Display System	C	-	0	(O) May be inoperative provided: a) Resolution Advisory (RA) visual display and audio function are operative, and b) Enroute or approach procedures do not require its use.
-02A ***	Resolution Advisory (RA) Display System (TCAS II only)	C	2	1	One may be inoperative on pilot not flying side.
-02B ***	Resolution Advisory (RA) Display System (TCAS II only)	C	2	0	(O) May be inoperative provided: a) Traffic Alert (TA) visual display and audio function are operative, b) TA-only mode is selected by flight crew, and c) Enroute or approach procedures do not require its use.
-03	Combined Traffic Alert (TA) and Resolution Advisory (RA) Display System (TCAS II only)	C	2	1	One may be inoperative provided: a) Affected system is on pilot not flying side, b) TA and RA visual display is operative on pilot flying side, and c) TA and RA audio function is operative on pilot flying side.
(Continued)					

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 34-6	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
34 NAVIGATION					
-45-01 Traffic Alert and Collision Avoidance System (Continued)					
-04 Audio Function		B	1	0	May be inoperative provided enroute or approach procedures do not require use of TCAS.
-05 *** Airspace Selection Function		C	-	0	
-45-02 *** Traffic Collision Avoidance Device (TCAD)		D	1	0	
-46-01 *** Lightning Detection System		D	1	0	May be inoperative provided system is not required by 14 CFR.
-50-01 Radio Magnetic Indicator (RMI)		C	-	0	May be inoperative provided procedures do not require its use.
-51-01 Distance Measuring Equipment (DME)		D	-	-	Any in excess of those required by 14 CFR may be inoperative.
-52-01 ATC Transponder and Automatic Altitude Reporting System					
-00A (Individual transponder failed)		D	-	1	May be inoperative provided system is not required by 14 CFR.
					(Continued)

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST			
FEDERAL AVIATION ADMINISTRATION							
AIRCRAFT:		REVISION NO. 08			PAGE NO.		
CESSNA 414		DATE: 01/02/2014			34-7		
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY					
		2. NUMBER INSTALLED					
		3. NUMBER REQUIRED FOR DISPATCH					
		4. REMARKS AND EXCEPTIONS					
34	NAVIGATION						
-52-01	ATC Transponder and Automatic Altitude Reporting System (Continued)						
-00B	(All transponders failed) (FAA only)	B	-	0	May be inoperative provided: a) Operations do not require its use, b) Prior to flight, approval is obtained from ATC facilities having jurisdiction over planned route of flight, c) TCAS, if installed, is considered inoperative (Refer to item 34-45-01), and d) Aircraft is not operated RVSM.		
-01 ***	Elementary and Enhanced Downlink Aircraft Reportable Parameters (Not required by 14 CFR)	A	-	0	May be inoperative provided: a) Operations do not require their use, and b) Repairs are made prior to completion of next scheduled inspection/check of transponder.		
-03 ***	Altitude Encoder (External)	C	-	0	May be inoperative provided Mode C is not required by 14 CFR.		
-54-01	Very High Frequency Omni Range (VOR) System	D	-	0	May be inoperative provided: a) Procedures do not require its use, and b) System is not required by 14 CFR.		
-55-01 ***	Automatic Direction Finder (ADF)	D	-	0	May be inoperative provided operations do not require its use.		

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 34-8	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
34 NAVIGATION					
-57-01	Global Navigation Satellite System (GNSS) (Including SBAS)	C	-	0	May be inoperative provided: a) System is not required by 14 CFR, and b) Operations do not require its use. NOTE 1: Enhanced function of TAWS may not be available. NOTE 2: ADS-B output may not be available.
-60-02	Flight Management System (FMS)	C	-	0	May be inoperative provided: a) System is not required by 14 CFR, and b) Operations do not require its use. NOTE: Enhanced function of TAWS may not be available.
-61-01	Navigation Database	C	-	-	(O) May be out of currency provided: a) Current aeronautical charts are used to verify navigation fixes prior to each flight, 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.

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 35-1	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
35 OXYGEN					
-20-01 Passenger Oxygen System ***		C	1	0	May be inoperative provided system is not required by 14 CFR.

U.S. DEPARTMENT OF TRANSPORTATION					MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION						
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 37-1		
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY				
		2. NUMBER INSTALLED				
		3. NUMBER REQUIRED FOR DISPATCH				
		4. REMARKS AND EXCEPTIONS				
37 VACUUM						
-10-01 Vacuum Pump		C	2	1	One may be inoperative provided: a) Aircraft is operated under Visual Flight Rules (VFR), and b) Aircraft is not operated at night.	

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 52-1	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
52 DOORS					
-10-01 Main Cabin Door					May be inoperative provided: a) Primary seal does not interfere with door operation, and b) Cabin pressurization system is considered inoperative (Refer to item 21-30-02). (O) May be inoperative provided: a) Door is verified closed and latched, and b) Internal door handle is verified correctly stowed.
-01 Key Lock (Failed unlocked)	D	1	0		
-04 Primary Seal (Unpressurized)	C	1	0		
-70-01 Main Cabin Door Warning System	C	1	0		

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 57-1	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
57 WINGS					
-20-01 Vortex Generators ***		C	-	-	(O) All Vortex Generators installed under any Supplemental Type Certificate (STC), must be attached prior to dispatch, except as provided for in the limitations section of the FAA Approved Airplane Flight Manual Supplement for the associated STC.

U.S. DEPARTMENT OF TRANSPORTATION					MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION						
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 61-1		
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY				
		2. NUMBER INSTALLED				
		3. NUMBER REQUIRED FOR DISPATCH				
		4. REMARKS AND EXCEPTIONS				
61	PROPELLERS / PROPULSORS					
-20-01 ***	Propeller Synchronizer / Syncrophaser System	C	1	0		
-23-01 ***	Propeller Unfeathering Accumulator System	C	2	0		

U.S. DEPARTMENT OF TRANSPORTATION				MASTER MINIMUM EQUIPMENT LIST	
FEDERAL AVIATION ADMINISTRATION					
AIRCRAFT: CESSNA 414		REVISION NO. 08 DATE: 01/02/2014		PAGE NO. 77-1	
SYSTEM, SEQUENCE NUMBERS & ITEM		1. REPAIR CATEGORY			
		2. NUMBER INSTALLED			
		3. NUMBER REQUIRED FOR DISPATCH			
		4. REMARKS AND EXCEPTIONS			
77 ENGINE INDICATING					
-22-02 Engine EGT Gauge / *** Indication		C	2	0	