

REVISION 3
EFFECTIVE 02/10/11
MMEL 7

BRISTOW ALASKA, INC
MINIMUM EQUIPMENT LIST
BELL AIRCRAFT 212/412 Series

FAR 135 MINIMUM EQUIPMENT LIST

REVISION 3

EFFECTIVE: 09/01/10

FROM F.A.A.

MASTER MINIMUM EQUIPMENT LIST BH 212/412 SERIES

DATED: 02/06/06

Revision 7

BRISTOW ALASKA, INC.
MINIMUM EQUIPMENT LIST
BELL AIRCRAFT 212 /412
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Date

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Signature

Chris Cornell

BRISTOW ALASKA, INC.
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LOG OF REVISIONS

REVISION NUMBER	EFFECTIVE DATE	PAGE NUMBERS AFFECTED	INITIALS
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DEFINITIONS

1. System Definitions

- a. “System/Sequence” (Column 1) are system numbers based on the Air Transport Association (ATA) Specification Number 100 and are numbered sequentially.
- b. “Item” (Column 2) means the equipment, component, system, or function listed in the “Item” column.
- c. “Quantity” (Column 3):

Inst: is the number (quantity) of items normally installed in the aircraft. This number represents the aircraft configuration considered in developing this MEL. Should the number be variable (e.g. passenger cabin item) a number is not required.

NOTE – The operator’s MEL must list the number installed in his particular aircraft.

Req: is the minimum number (quantity) of items required for operation provided the conditions specified in Column 4 are met.

- d. “Remarks and Exceptions” (Column 4) this column includes a statement either prohibiting or permitting operations with a specific number of items inoperative, provisos, (conditions and limitations) for such operation, and appropriate notes.
 - e. A vertical bar (change bar) in the left hand margin indicates a change, addition, or deletion in the adjacent text for the current revision only. The Change Bar is dropped at the next revision of that page.
2. “Airplane/Rotorcraft Flight Manual” (AFM/RFM) is the document required for type certification and approved by the responsible FAA Aircraft Certification Office. The FAA approved AFM/RFM for the specific airplane is listed of the applicable type Certificate Data Sheet.
3. “As required by FAR” means that the listed item of equipment is subject to certain provisions (restrictive or permissive) expressed in the Federal Aviation Regulations Operating Rules. The number of items required by FAR must be operative.

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4. An asterisk (*) symbol in Column 4 indicates that the listed item, if inoperative, must be placarded to remind the crewmembers and maintenance personnel of the equipment condition.

NOTE: TO THE EXTENT PRACTICAL, PLACARDS SHOULD BE LOCATED ADJACENT TO THE CONTROL OR INDICATOR FOR THE ITEM AFFECTED; HOWEVER, UNLESS THE OTHERWISE SPECIFIED, PLACARD WORDING AND LOCATION WILL BE DETERMINED BY THE OPERATOR.

5. “ – “ symbol in Column 3 indicates a variable number (quantity) of item installed.

NOTE: OPERATOR’S MEL MUST SHOW IN COLUMN 3 THE NUMBER (QUANTITY) OF THE ITEM INSTALLED IN THE SPECIFIC AIRCRAFT.

6. “Deleted” after a sequence number indicates the item was previously listed but is now required to be operative if installed in the aircraft.

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

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

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

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

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

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

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13. “Notes:” in Column 4 provides additional information for crewmember or maintenance consideration. Notes are to identify applicable material which is intended to assist with compliance, but do not relieve the operator of the responsibility for compliance with all applicable requirements. Notes are not a part of the provisos.
14. Inoperative components of an inoperative system: Inoperative items which are components of a system which is inoperative are usually considered components directly associated with and having no other function than to support that system. (Warning / caution systems associated with the inoperative system must be operative unless relief is specifically authorized per the MMEL).
15. “(M)” symbol in Column 4 indicates a requirement for a specific maintenance procedure which must be accomplished prior to operating with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel; however, other personnel may be qualified and authorized to perform certain functions. Procedures requiring specialized knowledge or skill, or requiring the use of tools or test equipment should be accomplished by maintenance personnel. The satisfactory accomplishment of all maintenance procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures, including the identification of qualified personnel authorized to accomplish them are required to be published as part of the Operator’s Manual or MEL.
16. “(O)” symbol in Column 4 indicates a requirement for a specific operation procedure which must be accomplished in planning for and /or operating with the listed item inoperative. Normally these procedures are accomplished by the flight crew; however, other personnel may be qualified and authorized to perform certain functions. The satisfactory accomplishment of all procedures, regardless of who performs the is the responsibility of the operator. Appropriate procedures, including the identification of qualified personnel authorized to accomplish them are required to be published as a part of the Operator’s Manual or MEL.

NOTE: THE (M) AND (O) SYMBOLS ARE REQUIRED IN THE OPERATOR’S MEL UNLESS OTHERWISE AUTHORIZED BY THE ADMINISTRATOR.

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

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18. "Visual Flight Rules" (VFR) is as defined in FAR Part 91. This precludes a pilot from filing an IFR flight plan.
19. "Visual Meteorological Conditions" (VMC) means the atmospheric environment is such that would allow a flight to proceed under the visual flight rules applicable to the flight. This does not preclude operating under Instrument Flight Rules.
20. "Visible Moisture" means an atmospheric environment containing water in any form that can be seen in natural or artificial light, i.e., clouds, fog, rain, sleet, hail, or snow.
21. "Passenger Convenience Items" means those items related to passenger convenience, comfort, or entertainment such as, but not limited to, galley equipment, movie equipment, overhead reading lamps, etc.
22. Repair Intervals: All users of an MEL approved under FAR 121, 125, 129, and 135 must effect repairs of inoperative systems or components, deferred in accordance with the MEL, at or prior to the repair times established by the following letter designators:

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

Category B. Items in this category shall be repaired within three (3) consecutive calendar days (72 hours), excluding the day the malfunction was recorded in the aircraft maintenance record / logbook. For example, if it were recorded at 10 a.m. on January 26th, the three day interval would begin at midnight on January 26th and end at midnight on January 29th.

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

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

The letter designators are inserted adjacent to Column 2.

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DEFINITIONS

23. “Engine Indicating Crew Alerting System (EICAS), Electronic Centralized Aircraft Monitoring System (ECAM) or similar systems that provide electronic message refer to a system capable of providing priority levels of systems information messages (e.g. Warning, Caution, Advisory Status, and Maintenance). Any aircraft discrepancy message that affects dispatch-ability will normally be at status message level (e.g. Advisory Status) or higher.
24. “Administrative Control Item” means an item listed by the operator in the MEL for tracking and informational purposes. It may be added to an operator’s MEL by approval of the Principal Operations Inspector provided no relief is granted, or provided conditions and limitation are contained in an approved document (i.e. Structural Repair Manual, airworthiness directive, etc.). If relief other than that granted by an approved document is sought for an administrative control item, a request must be submitted to the Administrator. If the request results in review and approval by the FOEB, the items becomes an MMEL item rather than an administrative control item.
25. “***” symbol in Column 1 indicates an item which is not required by regulation but which may have been installed on some models of aircraft covered by this MMEL. This item may be included on the operator’s MEL after the approving office has determined that the item has been installed on one or more of the operator’s aircraft. The symbol, however, shall not be carried forward into the operator’s MEL. It should be noted that neither this policy nor the use of this symbol provide authority to install or remove an item from an aircraft.
26. “Excess Items” means those items that have been installed that are redundant to the requirements of the FARs.
27. “Day of Discovery” is the calendar day an equipment / instrument malfunction was recorded in the aircraft maintenance record / logbook. This day is excluded from the calendar days or flight days specified in the MMEL for the repair of an inoperative item of equipment. This provision is applicable to all MMEL items, i.e. categories “A, B, C, and D”.

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PREAMBLE

The following is applicable for authorized certificate holders operating under Federal Aviation Regulations (FAR) Parts 121, 125, 129, 135: The Federal Aviation Regulations (FAR) require that all equipment installed on an aircraft in compliance with the Airworthiness Standards and the Operating Rules must be operative. However, the Rules also permit the publication of a Minimum Equipment List (MEL) where compliance with these equipment requirements is not necessary in the interests of safety under all conditions. Experience has shown that with the various levels of redundancy designed into aircraft, operation of every system or component installed may not be necessary when the remaining operative equipment can provide an acceptable level of safety. A Master Minimum Equipment List (MMEL) is developed by the FAA, with participation by the aviation industry, to improve aircraft utilization and thereby provide more convenient and economic air transportation for the public. The FAA approved MMEL includes only those items of equipment which the Administrator finds may be inoperative and yet maintain an acceptable level of safety by appropriate conditions and limitations. The MMEL is the basis for development of individual operator MELs which may not be less restrictive than the MMEL and which take into consideration the operator's particular aircraft equipment configurations and operational conditions. The individual operator's MEL, when approved and authorized, permits operation of the aircraft with inoperative equipment.

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

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

The MEL is intended to permit operation with inoperative items of equipment for the minimum period of time necessary until repair can be accomplished. It is important that repair be accomplished at the earliest opportunity in order to return the aircraft to its design level of safety and reliability. In order to maintain this level the MMEL establishes limitations on the duration of and condition for operation with inoperative equipment. The MEL provides for release of the aircraft for flight with inoperative equipment. When an item of equipment is discovered to be inoperative, it is reported by making an entry in the aircraft maintenance record / logbook as prescribed by FAR. The item is then either repaired or may be deferred per the MEL prior to further operation. MEL conditions and limitations do not relieve the operator from determining that the aircraft is in condition for safe operation with items of equipment inoperative.

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When these requirements are met, an airworthiness release, aircraft maintenance record / logbook entry, or other approved documentation is issued as prescribed by FAR. Such release is required prior to operation with any item of equipment inoperative.

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

Operators are expected to establish a controlled and sound repair program including the part, personnel, facilities, procedures, and schedules to ensure timely repair. The operators manual will include a procedure for the time and place for the repair of MEL items.

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

SYSTEM 21: AIRCONDITIONING

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-1	Cockpit Vent Blower <u>C</u>	2	0	*Pilot's may be inoperative provided bleed air heat is operative *Co-pilot's may be inoperative.	Position blower fan switch off	Install orange dot on blower switch.	NONE	NONE
-2	Bleed Air Heater <u>C</u>	1	0	*May be inoperative above +5 degrees C outside air temperature provided pilot's cockpit vent blower is operative.	Position heater switch off.	Install orange dot on heater switch.	NONE	NONE

SYSTEM 22: AUTO FLIGHT

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-1	Automatic Flight Control System <u>C</u>	1	0	*May be inoperative provided: a) For VFR and b) RFM limitations are complied with.	Disengage affected channel by turning appropriate channel arm switch off.	Place orange dot on AFCS control.	NONE	IFR flights not permitted.

SYSTEM 23: COMMUNICATIONS

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-1	Communication Systems							
1)	VHF Transmitter and Receiver <u>D</u>	2	1	*Only 1 VHF transmitter and receiver must be operational for VFR.	Turn affected radio off	Install orange dot on affected radio switch	NONE	IFR operation not permitted.
2)	Wulfsberg or NAT VHF/UHF <u>D</u>	1	0	NONE	NONE	Install orange dot on affected radio switch.	NONE	NONE
3)	Automatic Flight Following System with internal SATPHONE (Sky Connect) <u>D</u>	1	0	NONE	NONE	Install orange dot on control head	NONE	NONE
-2	Cockpit Voice Recorder (CVR) without Flight Data Recorder installed. <u>A</u> IFR A/C only.	1	0	*May be inoperative provided repairs are made within 3 flight days.	NONE	Install orange dot on cockpit voice recorder control head.	NONE	NONE
-4	Cabin Public Address System	1	0					
1)	Passenger Config. <u>B</u>	1	0	(O) May be inoperative provided crew conducts passenger safety brief prior to flight.	NONE	Install orange dot on public address system.	NONE	NONE

SYSTEM 23: COMMUNICATIONS

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
2)	Cargo Config. B	1	0	(O) May be inoperative unless procedures require its use.	NONE	Install orange dot on public address system.	NONE	NONE
-5	Crew Interphone System B	2	1	Co-pilot's station may be inoperative for single pilot VFR operations.	NONE	Install orange dot on co-pilot's ICS.	NONE	Single pilot VFR only.

SYSTEM 24: ELECTRICAL POWER

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-1	Starter Generator B	2	1	*(M)One generator may be inoperative for day VMC provided: a) all inverters are operative (item 24-5), and b) Starter/Generator is checked for security of mounting and burned or arced connections in the area.	A maintenance technician will position affected generator switch OFF. Check starter/generator for security of mounting and for burned or arced connections in area. Perform visual inspection of generator general condition, motor engine and check generator for unusual noises. Perform an operational check of remaining generator to ensure it will carry the load.	Install orange dot on affected generator switch	NONE	IFR and night VFR not permitted

SYSTEM 24: ELECTRICAL POWER

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-2	Inverters						NONE	IFR and night VFR not permitted.
2)	Model 212 SN: 30554 and subsequent B	3	2	*One may be inoperative for day VFR flight conditions provided both generators (Item 24-2) are operative.	Place affected inverter switch in OFF position.	Install orange dot on or adjacent to affected inverter switch		
3)	Model 412 B	2	1	*One may be inoperative for day VFR flight conditions provided both generators (Item 24-2) are operative.	Place affected inverter switch in OFF position.	Install orange dot on or adjacent to affected inverter switch	NONE	IFR and night VFR not permitted.

SYSTEM 25: EQUIPMENT/FURNISHINGS

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-4	Helicopter Flotation Devices <u>C</u>	1	0	For over water passenger carrying flights.	Pull circuit breakers	Install orange dot adjacent to float arm switch.	NONE	NONE
-5	Passenger Seat Belts <u>C</u>	13	0	*(O) or (M) One for each occupied seat. If belt is inoperative or missing, seat must be blocked and placarded.	NONE	Placard seat not to be used.	Pilot or mechanic place placard in seat.	Ensure seat is not occupied during flight.
-6	Crewmember Shoulder Harness <u>B</u>	2	0		NONE	Install orange dot on shoulder harness.	NONE	NONE
-7	Cargo Suspension System (if installed) <u>C</u>	1	0	*May be inoperative	Ensure cargo arming switch is in the OFF position	Install orange dot on suspension system circuit breaker.	NONE	No Class B loads allowed.
-8	Emergency Locator Transmitter (ELT) <u>C</u>	1	0	NONE	Turn ELT switch to Off position.	NONE	NONE	NONE
-9	Non-Essential Equipment & Furnishings (NEF)	-	0	REFER TO THE BRISTOW ALASKA, INC NONESSENTIAL EQUIPMENT AND FURNISHINGS (NEF) PROGRAM FOR DETAILS				

SYSTEM 25: EQUIPMENT/FURNISHINGS

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
1-9	Passenger Steps (electrically Actuated) (Model 412 Only) C	2	0	(M) May be inoperative provided: a) Steps are in the stowed (down) position, and b) System is deactivated and secure.	Place steps in down position and open circuit breaker.	Place orange dot adjacent to step switch.	NONE	NONE

SYSTEM 26: FIRE PROTECTION

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-1	Baggage Compartment Smoke Detector <u>C</u>	1	0	*May be inoperative if compartment is empty.	NONE	Install orange dot on smoke detector circuit breaker.	NONE	Ensure baggage compartment is empty.

SYSTEM 27: FLIGHT CONTROLS

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-1	Force Trim <u>C</u>	1	0	*May be inoperative for VFR.	Position force trim switch in OFF position.	Install orange dot on or adjacent to force trim switch.	NONE	IFR flight not permitted.
-2	Cyclic Stick Centering Indicator Model 412 only <u>B</u>	2	0	*Ground operations maintain Rotor RPM at 97% or above.	None	Place orange dot on or adjacent to cyclic centering indicator light.	NONE	Maintain Rotor RPM at 97% or above during ground operations.

SYSTEM 28: FUEL

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-1	Multiple Indicator Fuel Quantity Gauge. B	1	0	*(O) May be inoperative provided: a) An approved alternate preflight gauging method is used to determine total fuel quantity and: b) Aircraft shall not depart an airport where repairs or replacements can be made.	Pull fuel quantity circuit breaker.	Install orange dot on fuel quantity circuit breaker.	The pilot will ensure that the fuel tank is filled to the maximum capacity.	

SYSTEM 30: ICE AND RAIN PROTECTION

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-1	Heated Pitot Tube <u>B</u>	2	0	* One or both may be inoperative for VFR flight conditions.	Pull affected (pilot or co-pilot) pitot static heater switch.	Install orange dot on affected (pilot or co-pilot) pitot static heater switch.	NONE	IFR flight not permitted.
-2	Windshield Wipers <u>C</u>	2	0	*For VFR one or both wipers may be inoperative provided operations are not conducted in precipitation.	Position windshield wiper switch OFF.	Install orange dot on windshield wiper switch.	NONE	IFR flight not permitted
-3	Static Port Heaters <u>C</u>	4	0	*Any or all may be inoperative for VFR flight conditions.	Turn pitot heat switch OFF.	Install orange dot on affected (pilot or co-pilot) static heater switch.	NONE	IFR flight not permitted.
-4	Heated windshield <u>C</u>	2	0	*May be inoperative provided: a) Blower fan (Item 21-1) is operative, and b) Defogging vents are not obstructed.	Windshield heat switch OFF.	Install orange dot on affected (pilot or co-pilot) windshield heat circuit breaker.	NONE	NONE

SYSTEM 31: INDICATING/RECORDING SYSTEMS

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-1	Clock Displaying Hours, Minutes, and Seconds with Sweep Second Pointer or Digital Presentation. <u>C</u>	2	1	*Operative clock must be located on the instrument panel in a position that makes it plainly visible to and usable to any pilot at the pilot's station.	NONE	Install orange dot on clock.	NONE	NONE
-2	Elapsed timer <u>C</u>	2	0	*May be inoperative provided clock is operational.	NONE	Install orange dot on the clock with the word "TIMER"	NONE	NONE
-3	Hour Meter (Hobbs) <u>C</u>	1	0	*May be inoperative.	NONE	Install orange dot on hobbs meter.	Track Flight Time with the clock.	NONE
-4	Health and Usage Monitoring System (HUMS) (Non Credit System, 412 Only) <u>C</u>	1	0	*May be inoperative	NONE	Install orange dot on circuit breaker.	NONE	NONE

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ORIGINAL
EFFECTIVE 01/26/10
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SYSTEM 33: LIGHTS

1.	2.	3.		4.	5.	6.	7.	8.
SEQUENCE NUMBERS	ITEM	QUANTITY	INST REQD	REMARKS AND EXCEPTIONS	DEACTIVATION PROCEDURE	PLACARDING	PROCEDURE	OPS LIMITS
-1	Position Lighting System <u>C</u>	1	0	*May be inoperative for day operations	Place position light switch off.	Install orange dot on position light switch.	NONE	Night flight is not permitted.
-2	Anti-collision Light System <u>B</u>	1	0	*May be inoperative for day operations.	Position anti-collision light system off.	Install orange dot on anti-collision light switch.	NONE	Night flight is not permitted.
-3	Landing Light System <u>C</u>	1	0	*May be inoperative for day operations.	NONE	Install orange dot on landing light switch.	NONE	Night flight is not permitted.
-4)	Search Light <u>C</u>	1	0	*May be inoperative	NONE	Install orange dot on search light switch.	NONE	NONE
-5	Cockpit Instrument Lighting System <u>B</u>	1	0	*May be inoperative provided: a) Sufficient lighting is operative to make each required instrument, control, and other device for which it is provided easily readable. b) Direct rays and reflections do not impair visibility either inside or outside the aircraft. c) Lighting intensity can be controlled or preset to a satisfactory level for the expected flight conditions, and d) Lighting	Position cockpit instrument light switch off.	Install orange dot on cockpit instrument light switch.	NONE	NONE

SYSTEM 33: LIGHTS

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
CONT'D				configuration at dispatch is acceptable to the flight crew, or e)Co-pilot's station instrument light may be inoperative for single pilot operations.				
-6	Cabin Interior Illumination <u>C</u>	2	0	*May be inoperative for day operations.	NONE	Install orange dot on dome light switch.	NONE	Inoperative lights do not exceed (50) percent of the total installed.
-7	Passenger Notice System (NO SMOKING – FASTEN SEAT BELT) <u>B</u>	1	0	*May be inoperative provided: a) Alternate procedures for notifying passengers are used, or b) Passengers are not carried.	NONE	Install orange dot on pilot's instrument light dimmer control.	Passengers must be orally briefed by pilot.	NONE
-8	Strobe Light System <u>C</u>	1	0	NONE	Turn strobe light switch to off.	Install orange dot on strobe light switch.	NONE	NONE
-9	External Utility Light	1	0	NONE	NONE	Install orange dot on light switch.	NONE	NONE

SYSTEM 33: LIGHTS

-10	Supplemental Lighting System (Recognition Lights) C	1	0	NONE	NONE	Install orange dot adjacent to recognition light switch.	NONE	NONE
-11	NVG Compatible Lighting System (C)	1	0	* Unaided operation (without NVGs) may be permitted with supplemental lights; cracked or missing filters; provided the remaining lights are: 1. Sufficient to clearly illuminate all required instruments, controls, and other devices for which they are provided. 2. Positioned so that direct rays are shielded from flight crew-members eyes, and 3. Lighting configuration and intensity is acceptable to the flight crew.	NONE	Install orange dot adjacent to NVG lighting switch or filter.	NONE	NVG flight will not be conducted

SYSTEM 34: NAVIGATION

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
		INST	REQD					
-1	Airspeed Indicator B	2	1	*Co-pilot's may be inoperative for single pilot VFR, provided two pilots are not required by FAR.	NONE	Install orange dot on airspeed indicator.	NONE	NONE
-2	Sensitive Altimeter Adjustable for Barometric Pressure B	2	1	*Co-pilot's may be inoperative for single pilot VFR, provided two pilots are not required by FAR.	NONE	Install orange dot on altimeter	NONE	NONE
-3	Magnetic Direction Indicator B	2	1	*Co-pilot's may be inoperative for single pilot VFR, provided two pilots are not required by FAR.	NONE	Install orange dot on magnetic direction indicator	NONE	NVG flight not permitted
-4	Slip-Skid Indicator B	2	1	*Co-pilot's may be inoperative for single pilot VFR, provided two pilots are not required by FAR.	NONE	Install orange dot on slip-skid indicator.	NONE	NVG flight not permitted
-5	Gyroscopic Bank and Pitch Indicator B	2	1	*Co-pilot's may be inoperative for single pilot VFR, provided two pilots are not required by FAR.	NONE	Install orange dot on gyroscopic bank and pitch indicator.	NONE	NVG flight not permitted
-6	Gyroscopic Direction Indicator B	2	1	*Co-pilot's may be inoperative for single pilot VFR, provided two pilots are not required by FAR.	NONE	Place orange dot on gyroscopic direction indicator	NONE	NVG flight not permitted
-7	Vertical Speed Indicator B	2	1	*Co-pilot's may be inoperative for single pilot VFR, provided two pilots are not required by FAR.	NONE	Place orange dot on vertical speed indicator.	NONE	NVG flight not permitted
-8	Gyroscopic Rate of Turn Indicator B	2	0	NONE	NONE	Place orange dot on rate of turn indicator.	NONE	Aircraft restricted to Day VFR flights only.

SYSTEM 34: NAVIGATION

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
		INST	REQD					
-9	Standby Attitude Indicator B	1	0	*May be inoperative provided: a) Operations are conducted in day VMC only, and b) Operations are not conducted into known or forecast over the top conditions.	NONE	Place orange dot on standby attitude indicator.	NONE	Operations are restricted to day VMC and flight over the top is prohibited.
-10	Navigation Equipment							
a)	VOR C	2	1	*Is not required if flight is not predicated on its use.	NONE	Install orange dot on inoperative VOR	NONE	Must have two navigation systems necessary for the route being flown
b)	DME D	1	0	NONE	NONE	Install orange dot on inoperative DME	NONE	NONE
c)	ADF C	1	0	*Not required if flight is not predicated on its use.	NONE	Install orange dot on inoperative ADF receiver	NONE	NONE
d)	GPS C	1	0	*May be inoperative.	NONE	Install orange dot on GPS control head.	NONE	NONE

SYSTEM 34: NAVIGATION

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-11	ATC Transponders and Automatic Reporting Systems <u>B</u>	1	0	May be inoperative provided: a) Enroute operations do not require its use, and b) Prior to flight, approval is obtained from ATC facilities having jurisdiction over the planned route of flight.	NONE	Install orange dot on Transponder	NONE	Aircraft restricted to VFR Flight.
-11 1)	Elementary and Enhanced Downlink Aircraft Reportable Parameters not required by FAR <u>A</u>	1	0	*May be inoperative provided: a) Enroute operations do not require its use, and b) Repairs are made prior to completion of the next heavy maintenance visit.	NONE	Place orange dot on affected circuit breaker.	NONE	NONE
-12	Radio / Radar Altimeter System <u>C</u>	1	0	NONE	NONE	Place orange dot on radar altimeter.	NONE	Must be operational for NVG/OSAP/ARA LRG minimums to be used.
-13	Thunderstorm Detection System (Weather Radar) <u>C</u>	1	0	NONE	Turn System Off.	Place orange dot on weather radar.	NONE	Must be operational for ARA or OSAP approaches.
-14	Flight Director <u>C</u>	1	0	NONE	NONE	Place orange dot on flight director control.	NONE	NONE

SYSTEM 34: NAVIGATION

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
		INST	REQD					
-15	Marker Beacon <u>C</u>	1	0	*May be inoperative provided approach is not predicated on its use.	NONE	Install orange dot on marker beacon control panel.	NONE	Use IFR GPS if installed as alternate navigation source.
-16	Alternate Source of Static Pressure for Altimeter, A/S and Vertical Speed <u>B</u>	1	0	*May be inoperative for VFR.	NONE	Install orange dot on alternate static air selector.	NONE	IFR flight not permitted.
-17	Traffic Collision and Detection Systems <u>C</u> 412 Only	1	0	(M) (O)May be inoperative provided a) Not required by FAR. b) System is deactivated and secured and enroute or approach procedures do not require its use.	(M) Pull and tie-wrap TCAD circuit breaker.	Placard GPS display with "TCAD INOP"	NONE	NONE

SYSTEM 52: DOORS

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-1	Door Warning System <u>C</u>	1	0	*(O)May be inoperative provided it is determined by the flight crew through visual inspection that the doors are closed and latched.	NONE	Install orange dot on caution panel over door warning light.	Crew must visually insure all doors are closed and latched.	NONE

SYSTEM 65: ROTORS

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-1	Rotor Brake System <u>C</u>	1	0	(M)May be inoperative provided: a) It is determined by visual inspection that pucks are fully retracted, and b) System is deactivated and secured.	A maintenance technician will release pressure from the rotor brake system, ensure the pucks are fully retracted, and cap the rotor brake pressure line.	Install orange dot on rotor brake handle.	Crew member must visually inspect rotor brake pucks to ensure they are fully retracted.	NONE
-2	Rotor Brake Warning <u>C</u>	2	0	*(M) (O) May be inoperative if rotor brake system is deactivated and secured.	A maintenance technician will release pressure from the rotor brake system, ensure the pucks are fully retracted, and cap the rotor brake pressure line.	Install orange dot on rotor brake handle.	Flight crewmember must visually inspect rotor brake pucks to ensure they are fully retracted.	NONE

SYSTEM 65: ROTORS

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-7	Transmission Oil Temperature Indicating System <u>B</u>	1	0	*(O) May be inoperative provided: a) Transmission oil temperature warning light system (Item 65-9) is operative, b) Transmission oil pressure indicating system (Item 65-8) is operative, and c) Aircraft shall not depart airport where repairs or replacements can be made.	NONE	Install orange dot on indicator.	Crewmember will test caution panel to verify that oil temperature warning light is operative.	Aircraft may not depart a base where repairs or replacement can be made.
-8	Transmission Oil Pressure Indicating System <u>B</u> This item is continued on next page:	1	0	*(O) May be inoperative provided: a) Transmission oil pressure warning light system (Item 65-10) is operative, b) Transmission oil temperature indicating system (Item 65-7) is operative, and	NONE	Install orange dot on indicator.	Crewmember will test caution panel to ensure operation of transmission oil pressure warning light. Crewmember will monitor transmission oil temperature.	Aircraft shall not depart a base where repairs or replacement can be made.

SYSTEM 65: ROTORS

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-8 (CON'T)				c) Aircraft shall not depart airport where repairs or replacement can be made.				
-9	Transmission Oil Temperature Warning Light System B	1	0	* (O) May be inoperative provided: a) Transmission oil temperature indicating system (Item 65-7) is operative, b) Transmission oil pressure warning light system (Item 65-10) is operative, and c) Aircraft shall not depart airport where repairs or replacement can be made.	NONE	Install orange dot on transmission oil temperature warning light.	Crewmember shall check transmission oil temperature gauge is operational. Crewmember will test caution panel for operation of transmission oil pressure warning light.	Aircraft shall not depart a base where repair or replacement can be made.

SYSTEM 65: ROTORS

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-10	Transmission Oil Pressure Warning Light System B	1	0	*(O) May be inoperative provided: a) Transmission oil pressure indicating system (Item 65-8) is operative, and b) Transmission oil temperature warning light system (Item 65-9) is operative, and c) Aircraft will not depart airport where repair or replacement can be made.	NONE	Install orange dot on transmission oil pressure warning light.	Crewmember will monitor transmission oil pressure indication. Crewmember will test caution panel for operation of transmission oil temperature warning light.	Aircraft will not depart base where repairs or replacement can be made.

SYSTEM 73: ENGINE AND FUEL CONTROL

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY INST REQD		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
-1	Engine Fuel Control (Automatic Mode) B	2	1	*(O) One may be inoperative provided: a) For non-passenger carrying operations, and b) Aircraft shall not depart airport where repairs or replacement can be made.	NONE	Install orange dot on affected auto/manual governor switch.	Crewmember will ensure no passengers are carried. Match engine torque within 4% by manual control of affected engine's throttle.	Affected engine may be operated in manual F/C mode per RFM. No passengers permitted. Aircraft shall not depart a base where repairs or replacement can be made.

SYSTEM 77: ENGINE INDICATING

1. SEQUENCE NUMBERS	2. ITEM	3. QUANTITY		4. REMARKS AND EXCEPTIONS	5. DEACTIVATION PROCEDURE	6. PLACARDING	7. PROCEDURE	8. OPS LIMITS
		INST	REQD					
-1	Tachometer, Triple Indicating <u>C</u>	2	1	*Must be operative at the station of the pilot manipulating the flight controls.	NONE	Install orange dot on affected indicator.	NONE	NONE
-2	Dual Torque Indicator <u>C</u>	2	1	*Must be operative at the station of the pilot manipulating the flight controls.	NONE	Install orange dot on affected indicator.	NONE	NONE
-5	Engine Out Warning System <u>B</u>	2	1	*(O) One may be inoperative provided: a) Alternate procedures are established and utilized for engine failure identification, and b) Aircraft shall not depart airport where repairs or replacements can be made.	NONE	Install orange dot on affected warning light.	Crewmember will identify failed engine by reference to N1, N2, ITT, and torque.	Crew to monitor affected engine N1 and N2 RPM indicators. Aircraft shall not depart a base where repairs or replacement can be made.