

JABATAN BOMBA DAN PENYELAMAT MALAYSIA

MINIMUM EQUIPMENT LIST

AW139



MINIMUM EQUIPMENT LIST

AGUSTA WESTLAND AW139 HELICOPTER

DOC. REFERENCE: JBPM/CAMO/MEL/AW139

ISSUE: 1 REVISION: 2 DATED: 08 AUGUST 2023

**MASTER JABATAN BOMBA DAN PENYELAMAT MALAYSIA –
BAHAGIAN UDARA**

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APPROVAL PAGE

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DECLARATION OF COMPLIANCE

This Minimum Equipment List was prepared in accordance with the Agusta Westland AW139 Master Minimum Equipment List (EASA Approved) Pub No. 502500010A Issue 1 Rev. 8 dated 11-7-2023 or latest revision as current of establishment of this manual and should be update accordingly.

Reference: **JBPM/CAMO/MEL/AW139**

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PREAMBLE

1. The following is applicable for authorized certificate holders operating under CAAM Operating Requirements (CAAM CAD). The applicable requirements require that all equipment installed on an aircraft in compliance with the Airworthiness Standards and the Operating Requirements must be operative. However, the Requirements also permit the use of a Minimum Equipment List (MEL) where compliance with certain equipment requirements is not necessary in the interests of safety under all operating conditions. Experience has shown that with the various levels of redundancy designed into aircraft, operation of every system or installed component may not be necessary when the remaining operative equipment can provide an acceptable level of safety.
2. The EASA approved Master Minimum Equipment List (MMEL) provides owners/operators of Malaysian registered aircraft, of the relevant type, with the basis for the preparation of their individual Minimum Equipment List (MEL's). The Malaysian CAA has granted approval to Jabatan Bomba Dan Penyelamat Malaysia (JBPM) use the EASA approved MMEL for the purpose of writing the operator's MEL.
3. An Owner/Operators MEL must receive CAAM approval which thereby conveys the permission, required by the Malaysian Civil Aviation Regulation, to the Pilot in Command, for operation of the aircraft with specified items of equipment unserviceable.
4. The MEL includes those items of equipment related to airworthiness and operating requirements and other items of equipment which the CAAM finds may be inoperative and yet maintain an acceptable level of safety by appropriate conditions and limitations; it does not contain obviously required items such as main rotor, tail rotor and transmission.
5. It is not the purpose of the MEL to allow defects of other than optional items to remain unrectified indefinitely. The operational flexibility provided under the MEL policy is justified only within a framework of controlled and sound programs of repairs, replacement and servicing. Defects should be rectified expeditiously thus retaining the intended overall level of safety and reducing the possibility of a subsequent failure necessitating the removal of the aircraft from service.
6. An operator's MEL may differ in format from the MMEL, but cannot be less restrictive than the MMEL. The individual operator's MEL, when approved permits operation of the aircraft with inoperative equipment.
7. Equipment not required by the operation being conducted and equipment in excess of applicable requirements are included in the MEL with appropriate conditions and limitations. The MEL must not deviate from Airworthiness Directives or any other Mandatory Requirement. It is important to remember that all equipment related to the airworthiness and the operating requirements of the aircraft not listed on the MMEL must be operative.

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8. The Minimum Equipment List (MEL) is issued as a separate document, and a type-specific copy is to be carried on board each aircraft. The document constitutes part of Jabatan Bomba Dan Penyelamat Malaysia (JBPM) commitment and the Pilot in Command is to adhere strictly to the limitations and operating procedures set out therein.
9. This MEL includes items which have been based only on JBPM operational requirements using associated guidance developed by the CAAM. These items could be adapted to the applicable CAAM operational requirements when these differ from the JBPM operational requirements.

These items are summarized in the table below:

ITEM	
33-1	Navigation light system
33-9	Anti-collision light system
34-17	TCAS II

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MAINTENANCE AND OPERATING PROCEDURES PROVIDED IN THE MEL

1. Suitable conditions and limitations in the form of placards, maintenance procedures, crew operating procedures and other restrictions as necessary are specified in the MEL to ensure that an acceptable level of safety is maintained.
2. The MEL is intended to permit operation with inoperative items of equipment for a period of time until rectifications can be accomplished. It is important that rectifications be accomplished at the earliest opportunity. In order to maintain an acceptable level of safety and reliability the MEL establishes limitations on the duration of and conditions for operation with inoperative equipment. The MEL provides for release of the aircraft for flight with inoperative equipment.
3. When an item of equipment is discovered to be inoperative, it is reported by making an entry in the Aircraft Journey Log as prescribed by applicable requirements. The item may be either rectified or deferred per the MEL prior to further operation. MEL conditions and limitations do not relieve the operator from determining that the aircraft is in a condition for safe operation with items of equipment inoperative.
4. When these requirements are met, an Airworthiness Release, Aircraft Maintenance Record/ Logbook entry, or other approved documentation is issued as prescribed by applicable requirements. Such documentation is required prior to operation with any item of equipment inoperative.

DEALING WITH MULTIPLE FAULTS IN THE MEL

1. Operators are responsible for exercising the necessary operational control to ensure that an acceptable level of safety is maintained. The exposure to additional failures during continued operation with inoperative systems or components must also be considered. Wherever possible, multiple inoperative items have been taken into account in this MEL. However, it is unlikely that all possible combinations of this nature have been accounted for. Therefore, when operating with multiple inoperative items, the inter-relationships between those items and the effect on aircraft operation and crew workload must be considered.
2. Operators are to establish a controlled and sound rectification program including the parts, personnel, facilities, procedures and schedules to ensure timely rectification. This program should identify the actions required for Maintenance discrepancy messages.
3. WHEN USING THE MEL, COMPLIANCE WITH THE STATED INTENT OF THE PREAMBLE, DEFINITIONS AND THE CONDITIONS AND LIMITATIONS SPECIFIED IN THE MEL IS REQUIRED.

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Checked by Quality Assurance Manager	Approved by CAAM Flight Operation Sector	Approved by CAAM Airworthiness Sector
Signed:	Signed:	Signed:
Date:	Date:	Date:

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REVISION INDEX

Retain this index in the manual. On receipt of revisions, insert revised pages in the manual and remove and destroy superseded pages. Enter details of the revision in the columns below and initial.

AMDT. NO	DATE ISSUED	DETAILS OF AMENDMENT	SIGNATURE	DATE
1	17.05.2023	<ol style="list-style-type: none">1. Page 1-1: Introduced new revision2. Page 2-1: Introduced new revision3. Page 3-1: Changed word "FOD" to "CAD"4. Page 5-1: Introduced new revision5. Page 5-2: Introduced new revision6. Page 5-3: Introduced new revision7. Page 6-1: Introduced new revision8. Page 9-3: Changed word "CAAM FOD CAT IDE" to "CAAM CAD 6 Part 3"9. Page 9-4: Changed word "FOD, ORO.MLR.105" to "CAGM 6803"10. Page 12-3: Amended typographical error on item numbering11. Page 16-1, 16-2, 16-3: Changed word "CAAM FOD CAT IDE" to "CAAM CAD 6 Part 3"12. Page 18-1: Amended typographical error on item numbering13. Page 29-2: Amended typographical error on item numbering		
2	08.08.2023	<ol style="list-style-type: none">1. Page 1-1: Introduced new revision.2. Page 2-1: Introduced new revision.3. Page 4-1: Add of pages.4. Page 5-1: Introduced new revision.5. Page 5-2: Introduced new revision.6. Page 5-3: Introduced new revision.7. Page 6-1: Introduced new revision.8. Page 9-4: Deletion definition of ferry flight9. Page 13-1 Item 1: Changed of remark in e) and f).10. Page 13-1 Item 2: Change of item name.11. Page 14-2 Item 5: Change of remark for HEC operation.12. Page 16-5: Changes of Single Hoist System for Maintenance Guideline.13. Page 19-1 Item 1: Change of remark d) and NOTE.14. Page 21-1 Item 3a: Change of interval drom B to .15. Page 23-4: Add of item 14 and 15.16. Page 24-2 Item 7: TCAS already install in the aircraft.17. Page 24-3 Item 13: Add of new interval and remark.		

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2	08.08.2023	<ul style="list-style-type: none">18. Page 24-4 Item 15: Change of remark b) and c)19. Page 24-6: Add new Maintenance Guideline for Item 8.20. Page 26-1 Item 1: Changes by separate to be 1 and 2.21. Page 26-2 Item 1: Change of Operation Guideline and add item 2.22. Page 29-3: Add of Item 4.23. Page 29-5: Add of Item 4 in Operation Guideline.24. Page 30-1: Add of Item 4 and 5.25. Page 31-1: Add of Item 2 and 3.		

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3	CIVIL AVIATION AUTHORITY OF MALAYSIA (CAAM) AIRWORTHINESS SECTOR	CAAM	2
4	GALAXY AEROSPACE (M) SDN. BHD (Contracted CAMO)	GAM CAMO OFFICE	3
5	Aircraft Copy	9M-BOC (31289)	4
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DEFERMENT AND RECTIFICATION PROCEDURES

1. When an item of equipment is discovered to be inoperative, it is reported by making an entry in Journey log and Deferred Defect Sheet.
2. The item is then either repaired or may be deferred per the MEL or other approved means accepted to the CAAM prior to further operation. NOTE: MEL condition and limitation do not relieve the operator from determining that the aircraft is in condition for safe operation with items of equipment inoperative.
3. When these requirements are met, an airworthiness release, a worksheet or maintenance log entry shall be issued by the maintenance contractor. Such documentations are required prior to operation with any item of equipment inoperative and must be retains.
4. The Item deferred must be PLACARDED, a Stick-ON sticker or similar means acceptable will be affixed to the instrument or next to the switch operating the system.
5. The operator is responsible for exercising the necessary operational control to ensure that an acceptable level of safety is maintained.
6. When operating with multiple inoperative items, the interrelationship between those items and the effect on aircraft operation and crew workload will be considered.
7. The operator shall establish a controlled and sound repair program including the parts, personnel, procedures and schedules to ensure timely repair.
8. WHEN USING THE MEL, COMPLIANCE WITH THE STATED INTENT OF PREAMBLE, DEFINITIONS AND THE CONDITIONS AND LIMITATIONS SPECIFIED IN THE MEL IS REQUIRED

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DEFINITION

Category A.

No standard interval is specified, however, items in this category shall be rectified in accordance with the conditions stated in the Remarks or Exceptions column (5) of the MEL. Where a time period is specified in calendar days it shall start at 00:01 on the calendar day following the day of discovery.

Category B.

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

Category C.

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

Category D.

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

PRESENTATION

(1) SYSTEM & SEQUENCE NUMBERS	(2) RECTIFICATION INTERVAL		
	(3) NUMBER INSTALLED		
	(4) NUMBER REQUIRED FOR DISPATCH		
	(5) REMARKS OR EXCEPTIONS		

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1. System Definitions. System numbers are based on the Air Transport Association (ATA) Specification Number 100 and items are numbered sequentially.

- a. "Item" (Column 1) means the equipment, system, component, or function listed in the "Item" column. Repair interval categories (A, B, C, and D) are listed in Column 2.
- b. "Rectification Intervals" (Column 2) all users of this MEL must affect repairs of inoperative systems or components deferred in accordance with the MEL at or prior to the repair times established by this Column. Further details follow in this section at item 22.
- c. "Number Installed" (Column 3) is the number (quantity) of items normally installed in the aircraft. This number represents the aircraft configuration considered in developing this MMEL. Should the number be a variable (e.g., passenger cabin items) a number is not required.
- d. "Number Required for Dispatch" (Column 4) is the minimum number (quantity) of items required for operation provided the conditions specified in Column 5 are met.

NOTE: Where the MEL shows a variable number required for dispatch, the MEL must reflect the actual number required for dispatch or an alternate means of configuration control approved by the CAAM.

- e. "Remarks or Exceptions" (Column 5) in this column includes a statement either prohibiting or permitting operation with a specific number of items inoperative, provisos (conditions and limitations) for such operation, and appropriate notes.
- f. A vertical bar (change bar) in the margin indicates a change, addition or deletion in the adjacent text for the current revision of that page only. The change bar is dropped at the next revision of that page.
- g. "Acceptable" means a procedure or process of which specific CAAM approval is not required is nevertheless not objected by CAAM.

2. "Rotorcraft Flight Manual" (RFM) is the document required for type certification and approved by the responsible Certification Authority. The approved RFM for the specific aircraft is listed on the applicable Type Certificate Data Sheet.

4. Each inoperative item must be placarded to inform and remind the crew members and maintenance personnel of the equipment condition.

NOTE: To the extent practical, placards should be located adjacent to the control or indicator for the item affected; however, unless otherwise specified, placard wording and location will be determined by the operator

5. "Deleted" in the remarks column after a sequence item indicates that the item was previously listed but is now required to be operative if installed in the aircraft.

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

7. Alphabetical symbol in Column 5 indicates a proviso (condition or limitation) that must be complied with for operation with the listed item inoperative.

8. "Inoperative" means a system and/or component malfunction to the extent that it does not accomplish its intended purpose and/or is not consistently functioning normally within its approved operating limit(s) or tolerance(s).

9. "Notes:" in Column 5 provides additional information for crew member or maintenance consideration. Notes are used to identify applicable material which is intended to assist with

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compliance, but do not relieve the operator of the responsibility for compliance with all applicable airworthiness requirements. Notes are not a part of the provisos.

10. 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 MEL).

11. "(M)" symbol indicates a requirement for a specific maintenance procedure which must be accomplished prior to operation with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel; however, other personnel may be qualified and authorized to perform certain functions. Procedures requiring specialized knowledge or skill or requiring the use of tools or test equipment should be accomplished by maintenance personnel. The satisfactory accomplishment of all maintenance procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as part of the operator's manual or MEL.

12. "(O)" symbol indicates a requirement for a specific operations procedure which must be accomplished in planning for and/or operating with the listed item inoperative. Normally these procedures are accomplished by the flight crew; however, other personnel may be qualified and authorized to perform certain functions. The satisfactory accomplishment of all procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as a part of the operator's manual or MEL.

13. "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 JBPM.

14. "Visual Flight Rules" (VFR) is as defined in ICAO Annex II "Rules of the Air". This precludes a pilot from filing an Instrument Flight Rules (IFR) flight plan.

15. "Visual Meteorological Conditions" (VMC) are meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, equal to or better than the minima specified in ICAO Annex II "Rules of the Air". This does not preclude operating under Instrument Flight Rules.

16. "Visible Moisture" means an atmospheric environment containing water in any form that can be seen in natural or artificial light; for example, clouds, fog, rain, sleet, hail, or snow¹⁹. "Passenger Convenience Items" means those items related to passenger convenience, comfort or entertainment such as, but not limited to, galley equipment, movie equipment, ash trays, stereo equipment, overhead reading lamps, etc.

17. "Extended Overwater Flight": Refer to CAAM CAD 6 Part 3 for definition.

18. Repair Intervals. All users of an approved MEL must affect repairs of inoperative systems or components, deferred in accordance with the MEL, at or prior to the repair times.

Subject to the approval of the Authority, the operator may use a procedure for the extension of the applicable Rectification Intervals B, C and D, for the same duration as specified in the MEL.

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19. "Excess Items" means those items that have been installed that are redundant to the requirements of the operating requirements.

20. "Day of Discovery" is the calendar day an equipment/instrument malfunction was recorded in the aircraft maintenance log and or record. This day is excluded from the calendar days or flight days specified in the MMEL for the repair of an inoperative item of equipment. This provision is applicable to all MEL items, i.e., categories "A, B, C, and D."

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

22. "Is not used" in the provisos, remarks or exceptions for an MEL item may specify that another item relieved in the MEL "is not used." In such cases, crewmembers should not activate, actuate, or otherwise utilize that component or system under normal operations. It is not necessary for the operators to accomplish the (M) procedures associated with the item. However, operational requirements must be complied with, and an additional placard must be affixed, to the extent practical, adjacent to the control or indicator for the item that is not used to inform crewmembers that a component or system is not used under normal operations.

23. "Series of flights" indicates the minimum number of flights necessary to fly to the nearest repairing station.

Non-Safety Related Optional Equipment

As per CAGM 6803, non-safety related equipment, such as entertainment systems or additional cabin ICS panels, installed for passenger convenience, need not be listed in this MMEL and need not be listed in an operator's MEL, except where they serve a second function (e.g. movie equipment being used for cabin safety briefings), or is part of another aircraft system (e.g. the electrical system).

In such cases, procedures must be developed by the CAMO and included in the MEL for operational contingency and/or deactivating and securing the equipment in case of malfunction. The rectification interval will be dependent on the secondary function of the item and the extent of its effect on other systems.

Operators shall establish an effective decision-making process for failures that are not listed to determine if they are related to airworthiness and required for safe operation.

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ACRONYMS / ABBREVIATIONS

CAAM	Civil Aviation Authority Malaysia
MCAR	Malaysian Civil Aviation Regulation
FOD	Flight Operation Directives
JBPM	Jabatan Bomba & Penyelamat Malaysia
CAMO	Continuing Airworthiness Management Organization
ADI	Attitude and Direction Indicator
ADF	Automatic Direction Finder
AFCS	Automatic Flight Control System
AVCS	Active Vibration Control System
AP	Autopilot
ATA	Air Transport Association
CVR	Cockpit Voice Recorder
DCU	Data Collection Unit
DEGR	Degraded
DME	Distance Measuring Equipment
EASA	European Aviation Safety Agency
ELT	Emergency Locator Transmitter
EGPWS	Enhanced Ground Proximity Warning System
ER	Extended Range
FD	Flight Director
FDR	Flight Data Recorder
FM	Frequency Modulation
FMS	Flight Management System
GPS	Global Positioning System
GPU	Ground Power Unit
HEELS	Helicopter Emergency Egress Lighting System
WSHLD	Windshield

HF	High Frequency
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IMC	Instrumental Meteorological Conditions
IPS	Ice Protection System
JAA	Joint Aviation Authorities
JAR	Joint Aviation Requirements
L/G	Landing Gear
MCDU	Multi-Function Control Display Unit
MEL	Minimum Equipment List
MFD	Multifunction Flight Display
MMEL	Master Minimum Equipment List
MR	Main Rotor
OAT	Outside Air Temperature
OEB	Operational Evaluation Board
PA	Passenger Address
RH	Right Hand
RFM	Rotorcraft Flight Manual
S.p.A	Società per Azioni
TR	Tail Rotor
UHF	Ultra High Frequency
UTC	Universal Coordinated Time
VFR	Visual Flight Rules
VMC	Visual Meteorological Conditions
VHF	Very High Frequency
VOR	VHF Omni-directional Range
SAR	Search and Rescue

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(1) System & Numbers Item	Sequence	(2) Rectification interval
		(3) Number installed
		(4) Number required for dispatch
		(5) Remarks or Exceptions
18 <u>Active Vibration Control System (AVCS)</u>		
-1 AVCS (Linear)	C	0 0 Not installed.
-2 AVCS (Circular)	D	0 0 Not installed

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AW139

AIRCRAFT AW139	REVISION NO: 1	PAGE 21-1	DATE: 13 APRIL 2023	
(1) System & Sequence Numbers Item	(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	
			(5) Remarks or Exceptions	
21 <u>COCKPIT AND CABIN VENTILATION (Liebherr)</u>				
-1 Cockpit Ventilation Flapper Valve	C	2	0	May be inoperative provided: <ul style="list-style-type: none"> a) Heating system is installed and operational, AND b) One or both crew side windows are operational.
-2 Cockpit Ventilation Fan	C	2	1	May be inoperative provided: <ul style="list-style-type: none"> a) The respective Cockpit Ventilation Flapper Valve (item 21-1) is operative, AND b) One or both crew side windows are operational.
-3 Cabin Ventilation Flapper Valve	C	1	0	May be inoperative.
-4 Air Conditioning System (cockpit and cabin)	D	1	0	(M) The cabin and/or cockpit air conditioning may be inoperative provided the affected air conditioning is deactivated and secured.
-5 Heater Bleed Air Shut-off Valve	C	2	0	(O) May be inoperative in the failed closed position if heater is not required.

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(1) System & Sequence Numbers Item	(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
21 <u>COCKPIT AND CABIN VENTILATION (Liebherr)</u>				
-6 Heater Temperature Control Valve	C	1	0	May be inoperative in the failed open position provided that both shut-off valves (items 21-5) are kept closed and the heater is not required.
-7 Heater Overheat Thermal Switch	C	1	0	May be inoperative provided Bleed Air Shut-off Valves (item 21-5) are kept closed and the heater are not required.

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		(4) Number required for dispatch
		(5) Remarks or Exceptions
<p>21 <u>AVIONIC BAY VENTILATION</u></p> <p>-8 Rear Avionic Bays fans</p>	<p>C</p>	<p>2</p>
	<p>0</p>	<p>May be inoperative.</p>

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AIRCRAFT AW139	REVISION NO: 1	PAGE 21-4
(1) System & Sequence Numbers Item		(2) Rectification interval
		(3) Number installed
		(4) Number required for dispatch
		(5) Remarks or Exceptions
21	<u>COCKPIT AND CABIN VENTILATION (ENVIRO)</u>	
-9	Heating system (HEATER FAIL caution displayed)	C 0 0 Not installed
-10	Vent system (VENT FAIL caution displayed)	C 0 0 Not installed
-11	Air conditioning System (AFT COND FAIL and/or FWD COND FAIL caution displayed)	D 0 0 Not installed
-12	Temperature Control Valve (jet Pump) failed open, (HEATER FAIL caution Displayed)	C 0 0 Not installed
-13	Temperature sensor/switch (HEATER FAIL caution Displayed)	C 0 0 Not installed
-14	Cockpit Fresh Air valves (VENT FAIL displayed)	C 0 0 Not installed
-15	Cabin Fresh Air valve (VENT FAIL displayed)	C 0 0 Not installed
-15a	Cabin air conditioning Fresh Air valve	C 0 0 Not installed

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AIRCRAFT AW139	REVISION NO: 1 DATE: 13 APRIL 2023	PAGE 21-5
(1) System & Sequence Numbers Item	(2) Rectification interval	
	(3) Number installed	(4) Number required for dispatch
		(5) Remarks or Exceptions
21 <u>COCKPIT AND CABIN VENTILATION (ENVIRO)</u>		
-16 Cabin zone Temperature sensor (AFT COND FAIL displayed)	C 0	0 Not installed
-17 Cockpit evaporator Fan (VENT FAIL displayed)	C 0	0 Not installed
-17a Pressure Transducer Evaporator Fan (FWD or AFT COND FAIL)	C 0	0 Not installed
-18 Cabin evaporator FAN (VENT FAIL displayed)	C 0	0 Not installed
-19 Dual compressor pack (FWD or/and AFT COND FAIL)	C 0	0 Not installed
-20 Condenser fan (FWD or AFT or AFT/FWD COND Fail displayed)	C 0	0 Not installed
-21 Heater Bleed Air Shutoff Valve	C 0	0 Not installed
-22 Heating trim Valve HEATER FAIL caution display (dual zone Kit only)	C 0	0 Not installed
-23 Controller (HEAT FAIL/ FWD-AFT COND FAIL /VENT FAIL)	C 0	0 Not installed

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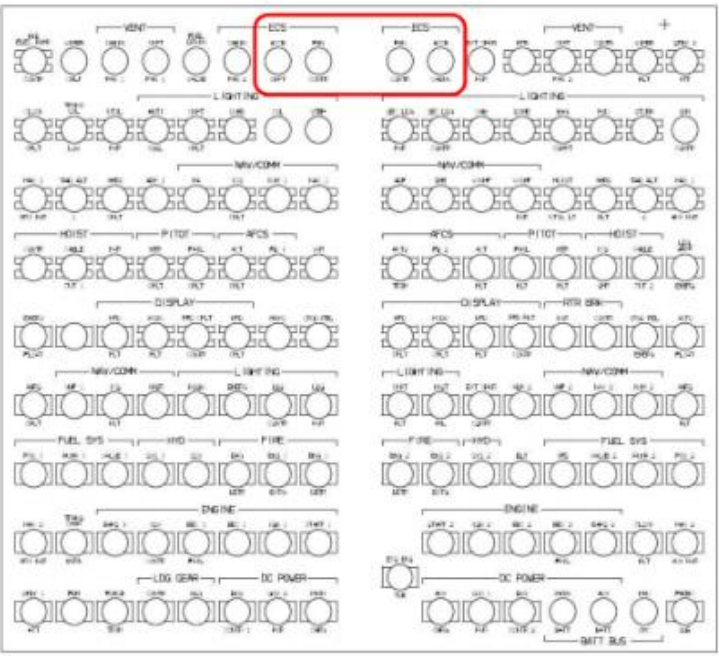
MINIMUM EQUIPMENT LIST

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GUIDELINES FOR (O) PROCEDURES

ATA	ITEM	PROCEDURE
21	2	Deleted
21	5	<p>(O) Heater bleed air shut-off valve With engines running, verify SOV 1 and SOV 2 switches on the ECS Control Panel are set to CLOSE. Set the HTR control knob on the ECS Control Panel to AUTO position and increase temperature using the TEMP CONTR knob. Verify the system does not provide hot air.</p>

GUIDELINES FOR (M) PROCEDURES

ATA	ITEM	PROCEDURE
21	4	<p>(M) Air Conditioning System Liebherr</p> <p>Deactivate the cabin and/or cockpit inoperative system by pulling the relevant circuit breakers on the ECS section of the overhead circuit breaker panel.</p> <p>In particular, for the cockpit pull ACCB CKPT and the relevant FAN CONTROL circuit breaker; for the cabin pull ACCB CABIN and the relevant FAN CONTROL circuit breaker.</p> <p>Secure the system by locking the deactivated circuit breakers and tag accordingly.</p> <div style="text-align: center; margin-top: 20px;">  </div>

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AIRCRAFT AW139	REVISION NO: 2	PAGE 22-1	DATE: 13 APRIL 2023
(1) System & Numbers Item	Sequence	(2) Rectification interval	(3) Number installed
			(4) Number required for dispatch
			(5) Remarks or Exceptions
22 AUTOFLIGHT			
-1 Autopilot	A	2	1 One autopilot channel may be inoperative, provided: <ul style="list-style-type: none"> a) Flights are restricted to VFR AND b) Pilot must fly manually AND c) RFM limitations applicable to AP single channel failure must never be exceeded AND d) Dispatch is not allowed from a station where repair is possible OR e) Only one flight or a series of flights necessary to reach the repair station are allowed AND f) Passengers are not carried on board.
-2 Trim actuators (pitch/roll/yaw)	A	3	0 One or more trim actuators may be inoperative, provided: <ul style="list-style-type: none"> a) Flights are restricted to VFR AND b) Pilot must fly manually AND c) Dispatch is not allowed from a station where repair is possible OR d) Only one flight or a series of flights necessary to reach the repair station are allowed.
-2a Collective actuator (if flight director is installed)	C	2	0 May be inoperative. NOTE: Flight director collective modes available uncoupled only.
-3a Standby Attitude Indicator	A	1	0 The standby attitude indicator may be inoperative, provided: <ul style="list-style-type: none"> a) Flights are restricted to VFR AND b) Pilot must fly attentive AND c) RFM limitations applicable to AFCS DEGRADED system state must never be exceeded AND d) Dispatch is not allowed from a station where repair is possible OR e) Only one flight or a series of flights necessary to reach the repair station are allowed.

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(1) System & Sequence Numbers Item	(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23 COMMUNICATIONS				
-1 Intercom System	C	2	1	<p>One may be inoperative for VFR flight, provided back-up mode is operative and according to operating requirements.</p> <p>Note: the loss of Intercom System implies the loss of Passenger Address System, see item 44-1</p> <p>Note: when audio control panel 1/2 has been reverted to back-up mode audio tones, the voice warnings cannot be heard by on side crew</p>
-2 Communication System (VHF)	D	2	1	When flying VFR over routes navigated by reference to visual landmarks, one may be inoperative.
	A	2	1	<p>When flying IFR, or VFR over routes navigated by reference to visual landmark, one may be inoperative provided:</p> <ul style="list-style-type: none"> a. It is not reasonably practical to repair or replace that item before the commencement of the flight. b. Only one flight or a series of flight necessary to reach the repair station are allowed c. The commander is satisfied that the flight can be conducted safely and in accordance with any relevant requirement of air traffic control, taking into account the latest information available as to the planned route and forecast weather conditions.
-3 Communications System 3(a) FM	D	0	0	Not installed

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(1) System & Sequence Numbers Item	(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	
		(5) Remarks or Exceptions		
23 <u>COMMUNICATIONS</u>				
3(b) HF	D	1	0	Any in excess of those required by Operational Requirements may be inoperative. Operational instruction: - a) Maybe inoperative for operation on Peninsular Malaysia airspace.
	A	1	1	b) Must be operative when fly over Borneo Interior airspace.
-4 Cockpit Audio Control Panels (ACP)	C	2	1	The co-pilot ACP may be inoperative, provide: a) The flight is conducted under VFR AND b) Only Single Pilot Operations are conducted
	A	2	1	The co-pilot ACP may be inoperative, provide: a) The flight is conducted under VFR AND b) Only Single Pilot Operations are conducted
-5 Polycon intercom system	D	1	0	For NHEC operations: may be inoperative. For HEC operations: operations are allowed provided that an approved Radio-ICS system that allow direct intercommunication between the required crew members and the external occupants is installed and operated in accordance with the applicable Local Operating Regulations.
-6 Cockpit Headset	C	2	2	Any in excess of those required for each required crew member may be inoperative provided for Single Pilot operations a spare headset is operative
-7 Cabin Headset	C	9	0	May be inoperative

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AIRCRAFT AW139	REVISION NO: 1	DATE: 13 APRIL 2023	PAGE 23-2
(6) System & Sequence Numbers Item	(7) Rectification interval		
23 <u>COMMUNICATIONS</u>			
-8 External Loudspeaker	D	0	0
-9 Radio Tetra/ Satcom/ tactical radios etc...	D	0	0
		(8) Number installed	
		(9) Number required for dispatch	
		(10) Remarks or Exceptions	
		Not installed.	
		Not installed.	

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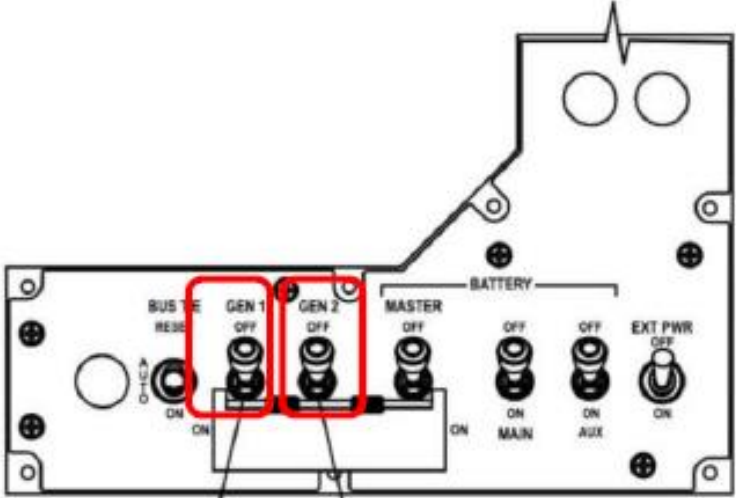
AIRCRAFT AW139	REVISION NO: 1 DATE: 13 APRIL 2023	PAGE 24-1
(1) System & Numbers Item	(2) Rectification interval	(3) Number installed
		(4) Number required for dispatch
		(5) Remarks or Exceptions
24 EPGDS		
-1 Starter/Generator (electrical power generation Function)	B 2	1
		(O) One generator may be inoperative provided: <ul style="list-style-type: none"> a) The relevant GCU control switch is set to OFF position AND b) Flight is restricted to VFR day AND c) Operations in known or forecasted raining conditions are not conducted.
-2 AC Gen (AC #2 FAIL caution displayed) FIPS installed	C 0	0
		Not installed
-3 AC Gen (AC #2 FAIL caution displayed) LIPS installed	D 0	0
		Not installed

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GUIDELINES FOR (O) PROCEDURES

ATA	ITEM	PROCEDURE
24	1	<p>(O) Starter/Generator The pilot must select to OFF the switch DC GEN 1 or DC GEN 2 on the Electrical Power System Control Panel located in the Overhead Panel.</p> <div style="text-align: center;">  <p style="margin-left: 200px;">GEN 1 SWITCH GEN 2 SWITCH</p> </div>

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(1) System & Sequence Numbers Item	(2) Rectification interval	(3) Number installed	(4) Number required for dispatch
			(5) Remarks or Exceptions
25 <u>EQUIPMENT / FURNISHINGS</u>			
-1 Passenger Seat	D	12 0	<p>(M) Number of seats depends on Operational Requirement. One or more maybe inoperative</p> <p>Note: a seat with an inoperative or missing seat belt or harness is considered inoperative.</p>
-2 Emergency Locator Transmitter (ELT)	C	1 1	<p>One must be operative as stated in CAAM CAD 6 Part 3 Section III 4.8: -</p> <p style="margin-left: 40px;">a) Helicopters shall be equipped with at least one automatic ELT.</p>
-3 First Aid Kit	A	1 1	<p>Helicopters shall be equipped with at least one first-aid kit as stated in CAAM CAD 6 Part 3 Section III 4.1.3.1.</p>
-4 Passenger Convenience item (overhead reading lamps)	D	12 0	<p>(M) (O) procedures may be required and included in the air carrier's appropriate document.</p>
-5 Torches (Cockpit/ Cabin)	C	2 0	<p>One or more may be inoperative provided each required crew member assigned to affected position has an operative torch.</p>
-6 Automatically Deployable Emergency Locator Transmitter (ADELT)	C	0 0	<p>Not installed</p>

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AIRCRAFT AW139	REVISION NO: 1	PAGE 25-2	DATE: 13 APRIL 2023
<p>(6) System & Sequence Numbers Item</p> <p>25 <u>EQUIPMENT / FURNISHINGS</u></p> <p>-7 Life-rafts and ELT for Extended Overwater Flights</p> <p>7(a) Flight not over Water at a distance from land corresponding to not more than 10 minutes flying time at normal cruising speed;</p> <p>7(b) Flight over water at a distance corresponding to more than three minutes flying time at normal cruising speed</p> <p>-8 Survival Equipment (Contained in life-rafts)</p> <p>8(a) Flight not operated over areas in which SAR operation</p> <p>8(b) Flight operated over areas in which SAR operation</p>	<p>(7) Rectification interval</p> <p style="text-align: center;">(8) Number installed</p> <p style="text-align: center;">(9) Number required for dispatch</p> <p style="text-align: center;">(10) Remarks or Exceptions</p>	<p>D 2 0</p> <p>A 2 1</p> <p>A 2 2</p> <p>D 2 0</p> <p>D 2 1</p>	<p>(M) May be inoperative</p> <p>(M) in the case of a helicopter carrying less than 12 persons, at least one life-raft with a rated capacity of not less than the maximum number of persons on board, stowed so as to facilitate its ready use in an emergency</p> <p>In the case of a helicopter carrying more than 11 persons, at least two life-rafts, stowed so as to facilitate their ready use in an emergency, sufficient together to accommodate all persons capable of being carried on board and, if one is lost, the remaining life-raft(s) having, the overload capacity sufficient to accommodate all persons on the helicopter. Ref: CAAM CAD 6 Part 3 Section III 4.3.2.1.</p> <p>(M) May be inoperative</p> <p>(M) Shall be equipped with</p> <ul style="list-style-type: none"> a) Signalling equipment to make distress signals b) At least one ELT(s); and c) additional survival equipment for the route to be flown taking account of the number of persons on board. <p>Ref: CAAM CAD 6 Part 3 Section III 4.3.2.1.</p>

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AIRCRAFT AW139	REVISION NO: 1	PAGE 25-3			
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(11) System & Sequence Numbers Item	&	(12) Rectification interval	(13) Number installed	(14) Number required for dispatch	(15) Remarks or Exceptions
25 <u>EQUIPMENT / FURNISHINGS</u>					
-9 Lifejackets					
9 a) Flight over water at a distance from land corresponding to NOT MORE than 10 minutes flying time at normal cruising speed.	D	14	0		(M) May be inoperative, each crew member and passenger shall wear a serviceable life-jacket.
*9 b) Flight over water at a distance from land corresponding to MORE than 10 minutes flying time at normal cruising speed.	A	14	14		Each person on board, stowed in a position that is readily accessible from the seat. *Number of installed is subjected to operational requirement & availability. Ref: CAAM CAD 6 Part 3 Section III 4.3.2.1.
-10 Emergency Floatation Equipment	D	1	0		May be inoperative for operation flight over water at a distance from land corresponding to NOT MORE than 10 minutes flying time at normal cruising speed.
	A	1	1		Shall operative when flight over water at a distance from land corresponding to MORE than 10 minutes flying time at normal cruising speed. Ref: CAAM CAD 6 Part 3 Section III 4.3.1.
-11 Map Holder	D	0	0		Not installed
-12a Hoist	D	1	0		(M) Goodrich Single Hoist System may be inoperative provided the system is deactivated and secured.
-12b Hoist	D	2	1		Not installed

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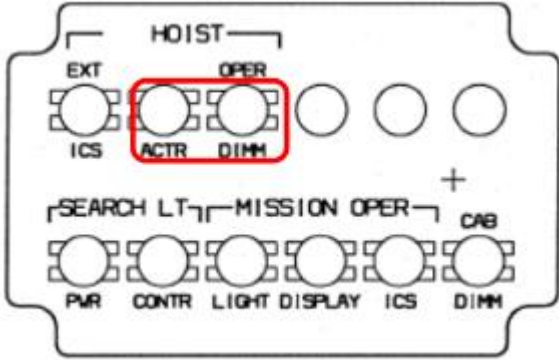
AIRCRAFT AW139	REVISION NO: 1	PAGE 25-4	DATE: 13 APRIL 2023
(16) System & Sequence Numbers Item	(17) Rectification interval	(18) Number installed	(19) Number required for dispatch (20) Remarks or Exceptions
<p>25 <u>EQUIPMENT / FURNISHINGS</u></p> <p>-13 Cargo Hook (NHEC) system</p> <p>-13a Cargo Hook (NHEC/HEC) cameras</p> <p>-14 Secondary Cargo Hook (HEC)</p>	<p>D</p> <p>D</p> <p>D</p>	<p>1</p> <p>2</p> <p>0</p>	<p>0</p> <p>0</p> <p>0</p> <p>(M) May be inoperative provided that the system is not required for the intended mission and it is deactivated, secured and stowed.</p> <p>May be inoperative provided that</p> <ul style="list-style-type: none"> a) HEC operations are not conducted, and b) Cargo Hook system (ITEM 25-13) is considered inoperative OR c) other means are available to monitor the cargo and attached load <p>Not Installed</p>

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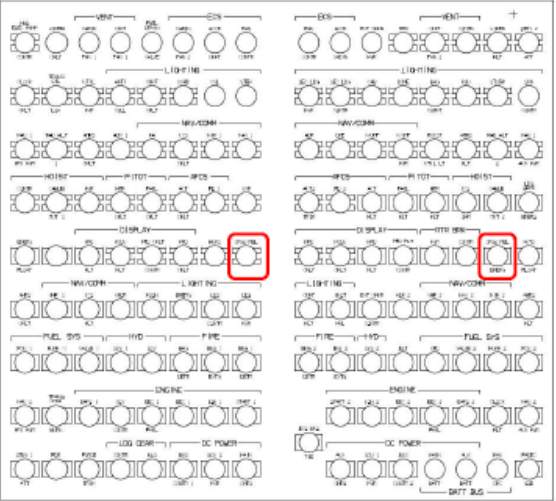
GUIDELINES FOR (M) PROCEDURES

ATA	ITEM	PROCEDURE
25	1	<p>(M) Passenger seat Secure passenger seat in the upright position and placard “DO NOT OCCUPY”. Make sure the placard is clearly visible and firmly secured.</p>
25	7	<p>(M) Life-rafts and ELT If the equipment is installed inside the cabin, it must be placarded inoperative, removed from the installed location and placed out of sight so it cannot be mistaken for a functional unit. Prior to take-off the pilot must inform the passengers that the equipment is not operative.</p> <p>If the equipment is installed outside the cabin, all the actuation devices must be placarded inoperative. Prior to take-off the pilot must inform the passengers that the equipment is not operative.</p>
25	8	<p>(M) Survival Equipment The inoperative equipment must be placarded inoperative, removed from the installed location and placed out of sight so it cannot be mistaken for a functional unit. Prior to take-off the pilot must inform the passengers that the equipment is not operative.</p>
25	9	<p>(M) Lifejackets The inoperative lifejacket(s) must be placarded inoperative, removed from their location and placed out of sight so it cannot be mistaken for a functional unit. Prior to take-off the pilot must inform the passengers that the equipment is not operative.</p>
25	12	<p>(M) Hoist Goodrich Single hoist system Pull off the breakers on the HOIST section of the overhead circuit breaker panel (2 a), except the breaker related to ICS HOIST, and the breakers on the HOIST section of the utility circuit breaker panel (2b), except the breaker related to ICS HOIST, secure the system by locking the deactivated circuit breakers and tag accordingly.</p> <div style="text-align: center;">  <p>The diagram shows a circuit breaker panel with two rows of breakers. The top row is labeled 'HOIST' and contains breakers for 'EXT', 'OPER', 'ACTR', and 'DIMM'. The bottom row contains breakers for 'SEARCH LT', 'MISSION OPER', 'CAB', 'PMR', 'CONTR', 'LIGHT DISPLAY', 'ICS', and 'DIMM'. A red box highlights the 'ACTR' and 'DIMM' breakers in the top row.</p> </div>

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ATA	ITEM	PROCEDURE
25	13	<p>(M) Cargo Hook (NHEC) system Pull off the CARGO REL EMERG and CARGO REL breakers on the overhead circuit breaker panel; secure the system by locking the deactivated circuit breaker and tag accordingly.</p> <div style="text-align: center;">  </div> <p>Stow the cargo hook assembly in the fully retracted position as required by "Post-operation procedure "according to Maintenance manual.</p>

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(1) System & Sequence Numbers Item	(2) Rectification interval	(3) Number installed	(4) Number required for dispatch (5) Remarks or Exceptions
<p>26 <u>FIRE PROTECTION</u></p> <p>- 1 Baggage Compartment Smoke Detector System</p> <p>- 2 Portable Fire Extinguisher</p>	<p>C</p> <p>D</p>	<p>1</p> <p>2</p>	<p>0</p> <p>1</p> <p>(M) (O) Any in excess of those required by Operational Requirements may be inoperative or missing provided the required distribution is maintained and the remaining one is accessible for all the occupants.</p>

GUIDELINES FOR (O) PROCEDURES

ATA	ITEM	PROCEDURE
26	2	<p>(O) Portable Fire Extinguisher</p> <p>Prior to take-off the pilot must inform the passengers that the equipment is not operative.</p>

GUIDELINES FOR (M) PROCEDURES

ATA	ITEM	PROCEDURE
26	2	<p>(M) Portable Fire Extinguisher</p> <p>The inoperative fire extinguisher(s) must be tagged inoperative, removed from the installed location, and placed out of sight so it cannot be mistaken for a functional unit.</p>

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AIRCRAFT AW139	REVISION NO: 1	PAGE 28-1			
	DATE: 13 APRIL 2023				
(1) System & Numbers Item	Sequence	(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
28 FUEL SYSTEM					
-1 Fuel Pumps (Fuel Booster Pumps)	B	2	1	1	(O) One fuel pump may be inoperative provided the cross-feed valve is set to OPEN before the engine start.
-2 Pressure Transducer	B	2	1	1	(O) One pressure transducer may be inoperative provided each fuel booster pump pressure is verified by the functioning side pressure transducer.
-3 Fuel Probes	B	4	3	3	One Main/Secondary Fuel Probe may be inoperative provided: <ul style="list-style-type: none"> a) Fuel Low level sensors are not in Fault condition AND b) The tanks are verified to be full before each flight OR c) Each Flight is planned to be completed with at least 456 Kg of total fuel remaining AND at least 228 Kg indicated on the functioning tank side AND d) Both Fuel Pumps (ITEM 28-1) are operative AND in use
-4 Cross Feed Valve (failed OPEN)	A	1	0	0	(O)(M) Cross feed Valve may be inoperative (failed open) for two calendar days, provided that: <ul style="list-style-type: none"> a) Both fuel SOV Valves are operative AND b) Category A Operations are not permitted AND c) Verify no leakage between the manifold and engine before each flight AND d) Both Fuel Pumps (ITEM 28-1) are operative AND in use
-4a Cross Feed Valve (failed CLOSED)	A	1	0	0	May be inoperative (failed closed) for two calendar days provided that: <ul style="list-style-type: none"> a) Both Fuel Pumps (ITEM 28-1) are operative AND b) Fuel pressure is within the green arc during preflight checks (with engine ON and engine OFF)

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GUIDELINES FOR (O) PROCEDURES

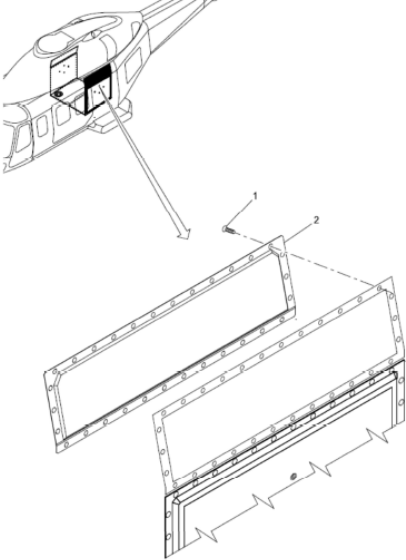
ATA	ITEM	PROCEDURE
28	1	<p>(O) Fuel pump Prior to engine start procedure, set the fuel CROSS FEED switch to OPEN and confirm indicator bar horizontal on the fuel control panel. When cross feeding, the tank with pump off, NOT supplying the engines, will have a quantity of unusable fuel of 228Kg. This unusable fuel quantity value will change to grey to indicate the tanks can no longer supply fuel.</p> <p>To restore the availability of the 228Kg of fuel, set the fuel CROSS FEED switch to CLOSED and confirm indicator bar vertical on the fuel control panel (fuel level value returns to green). Engine operation, in suction mode, is assured and FUEL pressure, on the MFD, is invalid displaying amber dashed. Avoid abrupt aircraft maneuvers</p>
28	2	<p>(O) Pressure transducer Set the fuel CROSS FEED switch to OPEN and check the indicator bar is horizontal on the fuel control panel. Switch OFF the fuel pump on the same side of the functioning pressure transducer, switch ON the fuel pump on the opposite side of the functioning pressure transducer and verify pressure (from now on the pressure displayed by the operating pressure transducer has to be considered as the datum for both the fuel lines).</p> <p>Prior to take off switch ON both fuel pumps, set the fuel CROSS FEED switch to NORMAL and check the indicator bar is vertical on the fuel control panel.</p>
28	4	<p>(O) Cross Feed Valve (failed OPEN) The Pilot should confirm, referencing to the Fuel Control Panel, installed in the interseat console, that</p> <ol style="list-style-type: none"> 1. The XFEED Switch is set to OPEN and the XFEED Indicator is Horizontal. 2. Both Fuel Pump are switched to ON 3. Both fuel SOV 1 and 2 Indicator are vertical 4. Do not apply extended flight endurance procedure after double DC generator failure <div style="text-align: center;"> </div>

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GUIDELINES FOR (M) PROCEDURES

ATA	ITEM	PROCEDURE
28	4	<p>(M) Cross Feed Valve (failed OPEN)</p> <p>Remove the left and Right top panel to verify no leakages between the Engine and the fuel tank is present</p> 

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(1) System & Sequence Numbers Item	(2) Rectification interval	(3) Number installed (4) Number required for dispatch (5) Remarks or Exceptions						
29 HYDRAULIC POWER -1 No. 2 Circuit (RH), Hydraulic Pumps 2 / 4 -2 Utility Hydraulic Circuit Normal (N° 2) Emergency (N°1)	A C	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">2</td> <td style="width: 10%; text-align: center;">1</td> <td style="width: 80%;"> One pump may be inoperative provided: <ul style="list-style-type: none"> a) The circuit pressure is within the normal operative limit: AND b) No fluid overheating caution message is displayed. AND c) Dispatch is not allowed from a station where repair is possible, AND d) Only one Flight with no passengers carried on board, not exceeding 20 minutes, necessary to reach the repair station is allowed. </td> </tr> <tr> <td style="width: 10%; text-align: center;">2</td> <td style="width: 10%; text-align: center;">1</td> <td style="width: 80%;"> NOTE: Flight longer than 20 minutes, with no passengers carried on board, is allowed after approval of the relevant Authority. (M) One circuit may be inoperative provided, <ul style="list-style-type: none"> a) The Landing Gear Lever is secured in L/G extended position AND b) The Extended Landing Gear limitations of the RFM Section 1, Supplement 25 (or Supplement 82) are complied with. </td> </tr> </table>	2	1	One pump may be inoperative provided: <ul style="list-style-type: none"> a) The circuit pressure is within the normal operative limit: AND b) No fluid overheating caution message is displayed. AND c) Dispatch is not allowed from a station where repair is possible, AND d) Only one Flight with no passengers carried on board, not exceeding 20 minutes, necessary to reach the repair station is allowed. 	2	1	NOTE: Flight longer than 20 minutes, with no passengers carried on board, is allowed after approval of the relevant Authority. (M) One circuit may be inoperative provided, <ul style="list-style-type: none"> a) The Landing Gear Lever is secured in L/G extended position AND b) The Extended Landing Gear limitations of the RFM Section 1, Supplement 25 (or Supplement 82) are complied with.
2	1	One pump may be inoperative provided: <ul style="list-style-type: none"> a) The circuit pressure is within the normal operative limit: AND b) No fluid overheating caution message is displayed. AND c) Dispatch is not allowed from a station where repair is possible, AND d) Only one Flight with no passengers carried on board, not exceeding 20 minutes, necessary to reach the repair station is allowed. 						
2	1	NOTE: Flight longer than 20 minutes, with no passengers carried on board, is allowed after approval of the relevant Authority. (M) One circuit may be inoperative provided, <ul style="list-style-type: none"> a) The Landing Gear Lever is secured in L/G extended position AND b) The Extended Landing Gear limitations of the RFM Section 1, Supplement 25 (or Supplement 82) are complied with. 						

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GUIDELINES FOR (O) PROCEDURES

ATA	ITEM	PROCEDURE
29	2	DELETED

GUIDELINES FOR (M) PROCEDURES

ATA	ITEM	PROCEDURE
29	2	(M) Utility hydraulic circuit Use the mechanical locking system designed for the snow/slump pad kits to stow securely the landing gear control handle.

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(1) System & Numbers Item	Sequence	(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
30 <u>ICE and RAIN PROTECTION</u>					
-1 Windshield Wiper System	C	1	0	0	May be inoperative provided operations are not predicated on its use.
-2 Pitot Heaters	C	2	0	0	May be inoperative provided: a) Flight is conducted under VFR, b) OAT>5°C (41 degrees F), OR c) Operations are not conducted in visible moisture when OAT≤5°C
-3 Full Ice Protection System (FIPS)	D	0	0	0	Not installed
-3a Ice detector (FIPS Installed)	A	0	0	0	Not installed
-3b OAT sensors					Refer to 34-6
-3c Heated windshields					Refer to 56-1
-3d Tail rotor blade pair heating	A	0	0	0	Not installed
-3e DELETED					

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(6) System & Numbers Item	Sequence	(7) Rectification interval	(8) Number installed	(9) Number required for dispatch	(10) Remarks or Exceptions
30 <u>ICE and RAIN PROTECTION</u>					
- 3f Main Rotor Heating ("MR FAIL" displayed) (FIPS INSTALLED)	D	0	0	0	Not installed
- 3g Main Rotor Heating ("MR DGR" displayed) (FIPS INSTALLED)	D	0	0	0	Not installed
- 3h Tail Rotor Heating All blades ("TR FAIL" displayed) (FIPS INSTALLED)	D	0	0	0	Not installed
- 3i Channel B of Full Ice Protection System Control Box (BOU displayed)	C	0	0	0	Not installed
- 4 Ice detector (stand-alone Kit)	D	0	0	0	Not installed
- 5 LIMITED ICE PROTECTION SYSTEM (LIPS)	D	0	0	0	Not installed
- 6 Ice detector (LIPS Installed) (1-2 ICE DET FAIL message)	D	0	0	0	Not installed

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GUIDELINES FOR (O) PROCEDURES

ATA	ITEM	PROCEDURE
30	3b	<p>(O) OAT sensors When OAT indication in the cockpit (included OAT stand-by) is $\leq 4^{\circ}\text{C}$ set the IPS switch to MANUAL MODE.</p> <div style="text-align: center; border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> <p style="font-size: small; margin: 0;">AC GEN1 AC GEN2</p> <p style="font-size: small; margin: 0;">OFF OFF</p> <p style="font-size: small; margin: 0;">ON ON</p> <p style="font-size: small; margin: 0;">OFF</p> <p style="font-size: small; margin: 0;">TST/RST ON</p> <p style="font-size: small; margin: 0;">I P S</p> <p style="font-size: small; margin: 0;">AUTO ⊕</p> <p style="font-size: small; margin: 0;">MAN</p> </div> <p>When OAT indication in the cockpit (included OAT stand-by) is $> 4^{\circ}\text{C}$ switch to OFF the IPS and AC GEN switches.</p>

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(1) System & Numbers Item	Sequence	(2) Rectification interval	(3) Number installed (4) Number required for dispatch (5) Remarks or Exceptions
31 <u>INDICATING / RECORDING</u>			
-1 Combination Recorder (Combined CVR/FDR Unit)	B	1 0	May be inoperative provided: a) The other function is operative b) Aircraft is not dispatched from a designated airport where repairs or replacements can be made
-2 Clock Displaying Hours, Minutes, and Seconds with Sweep- Second Pointer or Digital Presentation	C	2 0	May be inoperative provided an accurate timepiece is operative on the flight deck indicating the time in hours Note: On the basis that timepiece required does not need to be approved, an accurate pilot's wristwatch which indicates hours, minutes and second, would be acceptable.
-3 Displays	C	4 2	One or both co-pilot display may be inoperative for single pilot operations only provided: a) The standby attitude indicator is operative AND b) VFR Night operations limitations of the RFM Supplement 24 or IFR operations limitations of the RFM Supplement 22, as applicable, are complied with.
-3a Displays	C	4 3	One co-pilot display may be inoperative for dual pilot operations only provided: a) The standby instrument is operative, b) Deleted c) Deleted

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(6) System & Numbers Item	Sequence	(7) Rectification interval	(8) Number installed	(9) Number required for dispatch	(10) Remarks or Exceptions
31					
<u>INDICATING / RECORDING</u>					
-4	Fifth Display (center display)	D	0	0	Not installed
-5	HUMS (Health Usage and Monitoring System) sensors	D	0	0	Not installed

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	DATE: 13 APRIL 2023			
(1) System & Sequence Numbers Item	(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
32 LANDING GEAR				
-1 Landing Gear Indicating / Warning System	C	1	0	(O)(M) May be inoperative provided that Retraction system is considered inoperative (ITEM 32-3)
-2 Powered Parking Brake Module (PARK BRK ON Caution displayed)	C	1	0	(M) May be inoperative with the following limitations: <ul style="list-style-type: none"> a) CAT. A operations requiring the use of the parking brake are not allowed AND b) Sloping operations requiring parking brake are not allowed AND c) The Parking Brake is verified not pressurized when Park Brake level is in fully down position AND d) The system is deactivated and secured
-3 Retraction System	C	1	0	(O)(M) May be inoperative provided that: <ul style="list-style-type: none"> a) The Landing Gear Lever is secured in L/G extended position AND b) The Extended Landing Gear limitations of the RFM Section 1 and Supplement 25 (or Supplement 82) are complied with.

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GUIDELINES FOR (O) PROCEDURES

ATA	ITEM	PROCEDURE
32	1	Refers to Item 32-3
32	2	(O)Powered Parking Brake Module The pilot must check the proper functioning of the braking system using the pedals.
32	3	(O) Retraction System A fuel consumption increase has to be considered

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GUIDELINES FOR (M) PROCEDURES

ATA	ITEM	PROCEDURE
32	1	Refers to Item 32-3
32	2	<p>(M)Powered Parking Brake Module</p> <p>For deactivation and securing of the Powered PARKING BRAKE pull off the WHEEL BRAKE CB located on the left-hand side of the H/C Nose (Co-Pilot Side). Secure the system by locking the deactivated circuit breaker and tag accordingly.</p> <div style="text-align: center;"> <p>The diagram shows a cross-section of the aircraft's nose landing gear bay. A red box highlights a circuit breaker labeled 'CB316'. A legend next to it lists: 'CB316', 'EP300CB316 DEGRD', 'A1A310 ELECT WHEEL BRAKE C/A', 'A1A309 ELECT WHEEL BRAKE C/A', 'A1A310 ELECT WHEEL BRAKE C/A', and 'A1A311 ELECT WHEEL BRAKE C/A'. Other labels include 'A1A310 ELECT WHEEL', 'A1A309 ELECT WHEEL', 'A1A310 ELECT WHEEL A1A311 ELECT', 'STA1500', and 'POWER RELAY REF.'. A note at the top right says 'INSTALL C/B AND FOLLOWING THE ROUTE "A1A1" UNLESS OTHERWISE INDICATED'.</p> </div>
32	3	<p>(M) Retraction System</p> <p>Use the mechanical locking system if available, designed for the snow/slump pad kits to stow securely the landing gear control handle.</p>

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(1) System & Sequence Numbers Item	(2) Rectification interval	(3) Number installed
		(4) Number required for dispatch
		(5) Remarks or Exceptions
33 LIGHTING		
-1 Navigation/Position Lights	C	3 0
	A	3 1
-2 Landing Lights System	C	1 0
	C	1 0
-2a Landing Lights	C	2 0
	C	2 1
		<p>May be inoperative for daylight operations</p> <p>(O) One or two may be inoperative for a single night flight when departing from remote installation provided:</p> <ul style="list-style-type: none"> a) The appropriate Air Traffic Controller (ATC) has been informed before departure, AND b) The anti-collision light system (ITEM 33-9) is operative, AND c) The landing light system (ITEM 33-2 or 33-2a) is operative. <p>May be inoperative for VFR day operations (Note 1)</p> <p>May be inoperative for night operations provided the standard secondary landing light (searchlight) is operative. (Note 1)</p> <p>Note1: (applicable up to S/N 31399 and 41299, except S/N 31333, 41276, 41287, 41289, 41290, 41291, 41292)</p> <p>May be inoperative for VFR day operations (Note 2)</p> <p>One landing light may be inoperative for night operations provided the landing site is adequately lighted. (Note 2)</p> <p>Note 2: (applicable to S/N 31333, 41276, 41287, 41289, 41290, 41291, 41292 and from S/N 31400 and 41300 onwards)</p>

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	(3) Number installed	(4) Number required for dispatch
		(5) Remarks or Exceptions
33 LIGHTING		
-3 Standard Secondary Landing Light (Searchlight)	C 1 0	May be inoperative for daylight operations (note 3) Note 3: applicable up to S/N 31399 and 41299, except S/N 31333 and S/N 41276, 41287, 41289, 41290, 41291, 41292
-3a Additional Secondary Landing Light (Searchlight)	C 0 0	Not installed
	C 0 0	Not installed

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(6) System & Sequence Numbers Item	(7) Rectification interval	(8) Number installed
		(9) Number required for dispatch
		(10) Remarks or Exceptions
33 LIGHTING		
-4 Step Lights	C	0 0 Not installed
-5 Cockpit/ Flight Deck/ Flight Compartment and Instrument Lighting System	C	4 0 (O) Individual lights may be inoperative provided: <ul style="list-style-type: none"> 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 flight crew members eyes. c. Lightning configuration and intensity is acceptable to the flight crew.
-6 Cabin Lighting System	C	1 0 May be inoperative: <ul style="list-style-type: none"> a) For day operations b) For night operations provided that the inoperative lights do not exceed fifty (50) percent of the total installed
-7 Emergency Lighting System	C	1 0 May be inoperative for non-passenger carrying operations.
-8 Helicopter Emergency Egress Lighting System (HEELS).	B	0 0 Not installed
-9 Anti-Collision / Strobe Lights	C	2 1 Any in excess of one may be inoperative.
	A	2 1 (O) One may be inoperative for a single night flight when departing from remote installation provided: <ul style="list-style-type: none"> a) The appropriate Air Traffic Controller (ATC) has been informed before departure AND, b) The Navigation/position lights systems (ITEM 33-1) are operative, AND c) The landing light system (ITEM 33-2 or 33-2a) is operative.

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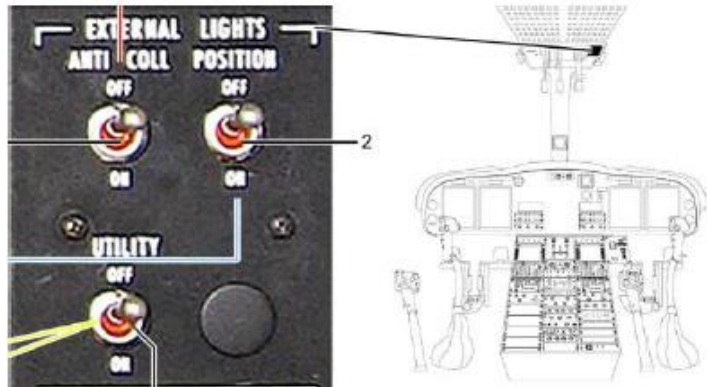
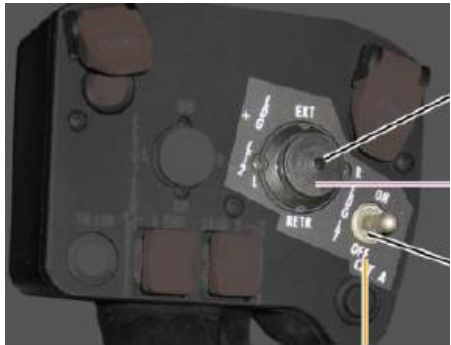
AIRCRAFT AW139	REVISION NO: 2 DATE: 13 APRIL 2023	PAGE 33-4
(1) System & Sequence Numbers Item	(2) Rectification interval	
	(3) Number installed	
	(4) Number required for dispatch	
	(5) Remarks or Exceptions	
33 <u>LIGHTING</u> (Cont'd)		
-10 Reserved		
-11 Pulse Light	D 0 0	Not Installed
-12 Rescue Hoist Light	D 1 0	May be inoperative provide that Hoist operations do not require its use
-13 Search Light (i.e Trakka) if installed	D 1 0	(M) May be inoperative, provided that: a. It is not required for intended mission AND b. The system is secured and deactivated.
-14 Main Rotor Light System	D - 0	May be inoperative
-15 Tail Rotor Light System	D - 0	May be inoperative

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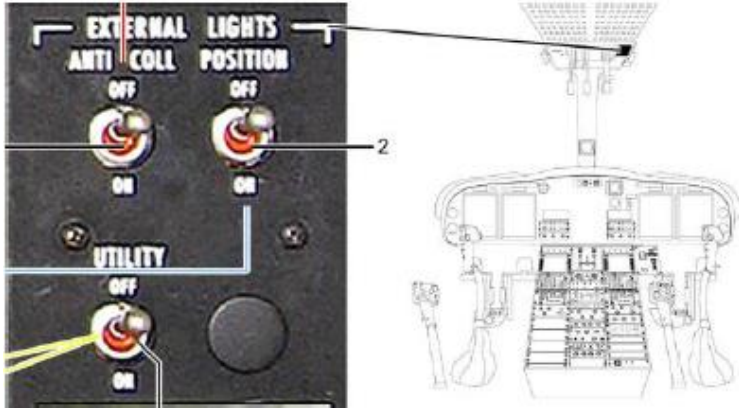
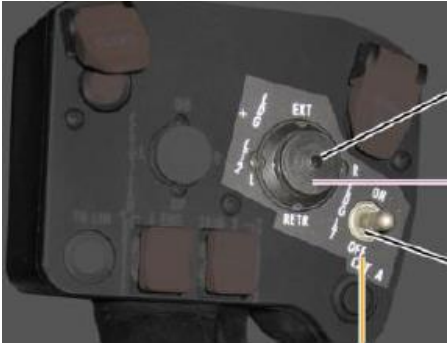
GUIDELINES FOR (O) PROCEDURES

ATA	ITEM	PROCEDURE
33	1	<p>(O) Navigation/Position Lights The Pilot should:</p> <ol style="list-style-type: none"> a) Inform ATC before departure that Navigation/Position Lights are inoperative. b) On the LIGHTS Panel select ANTI COLL LT on ON and verify that the anti-collision lights are correctly illuminated. <div style="text-align: center; margin: 10px 0;">  </div> <ol style="list-style-type: none"> c) For H/C S/N 31333, 41276, 41287, 41289, 41290, 41291, 41292 and from S/N 31400 and 41300 onwards: In the collective grip, with the RH/BOTH/LH select toggle switch on BOTH position, switch ON the Landing lights and verify that both lights illuminate. Through the four way momentary switch verify the manoeuvrability of the lights. The ITEM 33-2a is operative. <div style="text-align: center; margin: 10px 0;">  </div> <ol style="list-style-type: none"> d) For H/C up to S/N 31399 and 41299, except S/N 31333 and S/N 41276, 41287, 41289, 41290, 41291, 41292 the ITEM 33-2 is operative.

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ATA	ITEM	PROCEDURE
33	5	<p>(O) Cockpit / flight deck / flight compartment and instrument lighting system</p> <p>It is pilot's responsibility to check that:</p> <ol style="list-style-type: none"> 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 flight crewmembers eyes, and c) Lighting configuration and intensity is acceptable to the flight crew.
33	9	<p>(O) Anti-Collision / Strobe Lights</p> <p>The Pilot should:</p> <ol style="list-style-type: none"> a) Inform ANSP before departure that anti-collision light is inoperative. b) On the LIGHTS Panel select POS LT on ON and verify that all the position lights are correctly illuminated. <div style="text-align: center;">  </div> <ol style="list-style-type: none"> c) For H/C S/N 31333, 41276, 41287, 41289, 41290, 41291, 41292 and from S/N 31400 and 41300 onwards: In the collective grip, with the RH/BOTH/LH select toggle switch on BOTH position, switch ON the Landing lights and verify that both lights illuminate. Through the four way momentary switch verify the manoeuvrability of the lights. The ITEM 33-2a is operative. <div style="text-align: center;">  </div>

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d) For H/C up to S/N 31399 and 41299, except S/N 31333 and S/N 41276, 41287, 41289, 41290, 41291, 41292 the ITEM 33-2 is operative.

GUIDELINES FOR (M) PROCEDURES

ATA	ITEM	PROCEDURE
33	13	<p>(M) Search Light (i.e. Trakka)</p> <p>Pull off the Circuit breaker Search LT PWR. Secure the system by locking all the deactivated circuit breakers and tag accordingly.</p> <p>(Please note that the position of the CB can vary depending by the configuration).</p> <div style="text-align: center;"> </div>

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(1) System & Sequence Numbers Item	(2) Rectification interval	(3) Number installed	(4) Number required for dispatch (5) Remarks or Exceptions
34 <u>NAVIGATION</u>			
-1a Navigation Systems (VOR, ILS)	B	3	0 All may be inoperative for flight under VFR over routes navigated by reference to visual landmarks
	A	3	2 Not more than one of the systems required by the regulations for the type of airspace maybe inoperative for flights under IFR, or under VFR over routes not navigated by reference to visual landmarks, provided: <ul style="list-style-type: none"> a. The helicopter has not made more than one flight since the system was last serviceable. b. The PIC is satisfied that the flight can be conducted safely and in accordance with any relevant requirement of ATC, considering the latest information available as to the planned route and forecast weather condition.
-1b Navigation Systems (ADF)	C	1	0 May be inoperative, if navigation and approach is not predicated on its use.
-1c Navigation Systems (DME)	C	1	0 May be inoperative, if navigation and approach is not predicated on its use.
-2 Radio Altimeter(s)	D	2	1 One may be inoperative provided 4 axis Flight Director mode RHT is not engaged.
-3 Multifunction Control Display Unit (MCDU)	C	2	1 One MCDU may be inoperative for VFR.
-4 Transponder(s)	C	1	0 May be inoperative provided agreement can be obtained from all ATC authorities along the route or any planned diversion, for a flight to a place where repairs can be made.
-5 Weather Radar System	C	1	0 May be inoperative for flight by day in VMC

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AIRCRAFT AW139	REVISION NO: 2 DATE: 13 APRIL 2023	PAGE 34-2	
(1) System & Sequence Numbers Item	(2) Rectification interval	(3) Number installed	
		(4) Number required for dispatch	
		(5) Remarks or Exceptions	
34 NAVIGATION (Cont'd)			
-6 OAT/Free Air Temperature (if LIPS/FIPS is not installed)	C	3 2	One of the ADS sensors may be inoperative.
-6a OAT/Free Air Temperature (if FIPS is installed)	A	0 0	Not installed
	C	0 0	Not installed
-6b OAT/Free Air Temperature (if LIPS is installed)	C	0 0	Not installed
	A	0 0	Not installed
-7 Traffic Collision Avoidance System	D	1 0	May be inoperative provided Single Pilot VFR Night operations are not conducted.
-8 Moving Map Display	D	1 0	(M) May be inoperative
-9 Thunderstorm/Lighting Detection System	D	0 0	Not installed

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AIRCRAFT AW139	REVISION NO: 2	PAGE 34-3	DATE: 13 APRIL 2023
(1) System & Sequence Numbers Item	(2) Rectification interval	(3) Number installed	(4) Number required for dispatch
		(5) Remarks or Exceptions	
34 NAVIGATION (Cont'd)			
-10 Enhanced Ground Proximity Warning System (EGPWS)	D	0 0	Not installed
-11 Flight Management System (FMS)	C	2 1	May be inoperative provided Single Pilot IFR operations are not conducted.
-12 Flight Director (FD)	C	2 0	May be inoperative for day VMC flight provided Single Pilot IFR operations are not conducted.
-13 Flight Management System (FMS) Database	C	1 0	<p>(O) May be out of date for the intended flight route where conventional (non-RNAV/RNP) navigation is sufficient, provided:</p> <ul style="list-style-type: none"> a) Current aeronautical information (e.g. charts) is available for the entire route and for the aerodromes to be used, AND b) Navigation database information is disregarded, AND c) Radio navigation aids, which are required to be flown for departure, arrival and approach procedures are manually tuned and identified.
	A	1 0	<p>(O) May be out of date for a maximum of 10 calendar days provided:</p> <ul style="list-style-type: none"> a) Area Navigation (RNAV/RNP) departure, arrival and approach procedures are checked not to depend on the data amended in the current database cycle or Conventional (Non-RNAV/RNP) or ANSP assistance are used as an alternative to RNAV/RNP procedures which have been amended in the current database cycle AND

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(1) System & Sequence Numbers Item	(2) Rectification interval	(3) Number installed (4) Number required for dispatch (5) Remarks or Exceptions			
34 NAVIGATION (Cont'd)					
-13 Flight Management System (FMS) Database	A	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">1</td> <td style="width: 5%; text-align: center;">0</td> <td style="padding-left: 10px;"> b) Before each flight, current aeronautical information is used to verify the database Navigation Fixes, the coordinates, frequencies, status (as applicable) and suitability of Navigation Facilities required for the intended flight route, AND c) Radio navigation aids, which are required to be flown for departure, arrival and approach procedures and which have been amended in the current database cycle, are manually tuned and identified </td> </tr> </table>	1	0	b) Before each flight, current aeronautical information is used to verify the database Navigation Fixes, the coordinates, frequencies, status (as applicable) and suitability of Navigation Facilities required for the intended flight route, AND c) Radio navigation aids, which are required to be flown for departure, arrival and approach procedures and which have been amended in the current database cycle, are manually tuned and identified
1	0	b) Before each flight, current aeronautical information is used to verify the database Navigation Fixes, the coordinates, frequencies, status (as applicable) and suitability of Navigation Facilities required for the intended flight route, AND c) Radio navigation aids, which are required to be flown for departure, arrival and approach procedures and which have been amended in the current database cycle, are manually tuned and identified			
-14 Standby Magnetic Compass	B	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">1</td> <td style="width: 5%; text-align: center;">0</td> <td style="padding-left: 10px;">May be inoperative provided flight is conducted by VFR day when navigating with reference to visual landmarks.</td> </tr> </table>	1	0	May be inoperative provided flight is conducted by VFR day when navigating with reference to visual landmarks.
1	0	May be inoperative provided flight is conducted by VFR day when navigating with reference to visual landmarks.			
-15 Flux Valve	A	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 5%; text-align: center;">2</td> <td style="width: 5%; text-align: center;">1</td> <td style="padding-left: 10px;"> One flux valve may not be calibrated provided that: <ul style="list-style-type: none"> a) VFR operations are conducted AND b) Only one flight or a series of flight necessary to reach the repair station are allowed AND c) Passengers are not carried on board AND d) HDG miscompare amber message is not displayed AND e) The Standby Magnetic Compass is operative </td> </tr> </table>	2	1	One flux valve may not be calibrated provided that: <ul style="list-style-type: none"> a) VFR operations are conducted AND b) Only one flight or a series of flight necessary to reach the repair station are allowed AND c) Passengers are not carried on board AND d) HDG miscompare amber message is not displayed AND e) The Standby Magnetic Compass is operative
2	1	One flux valve may not be calibrated provided that: <ul style="list-style-type: none"> a) VFR operations are conducted AND b) Only one flight or a series of flight necessary to reach the repair station are allowed AND c) Passengers are not carried on board AND d) HDG miscompare amber message is not displayed AND e) The Standby Magnetic Compass is operative 			

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(1) System & Sequence Numbers Item	(2) Rectification interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34 <u>NAVIGATION (Cont'd)</u>				
-16 Attitude and Heading Reference System (AHRS 1(2) fail)	A	2	1	(O) May be inoperative provide that: a) The limitation as per the Autopilot (Item 22-1) are complied with AND b) The non-affected AHRS is selected on the Reversionary Control Panel
-17 TCAS II	A	0	0	Not installed
-17a Resolution advisory (RA) display system	C	0	0	Not installed.
-17b Traffic Alert (TA) Display System	C	0	0	Not installed
-18 GPS (H/C with single standard or single SBAS not LPV compatible or single SBAS LPV compatible)	D	1	0	May be inoperative (GPS FAIL caution displayed) provided that: a) Navigation procedures for the planned routes to be flown are not depending upon its use. b) RNAV and RNP operations are not conducted
-18a GPS (H/C with double standard or double SBAS not LPV compatible)	C	0	0	Not installed
-18b GPS (H/C with double SBAS LPV compatible)	C	0	0	Not installed

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GUIDELINES FOR (O) PROCEDURES

ATA	ITEM	PROCEDURE
34	13	<p>(O) Flight management system (FMS) database It is pilot's responsibility to ensure up to date navigational charts and procedures are used.</p>
34	16	<p>(O) Attitude and Heading Reference System The pilot must select on the Reversionary Control Panel the AHRS not failed (AHRS (1) or AHRS (2)). (On RCP move AHRS switch to non-failed AHRS)</p> 

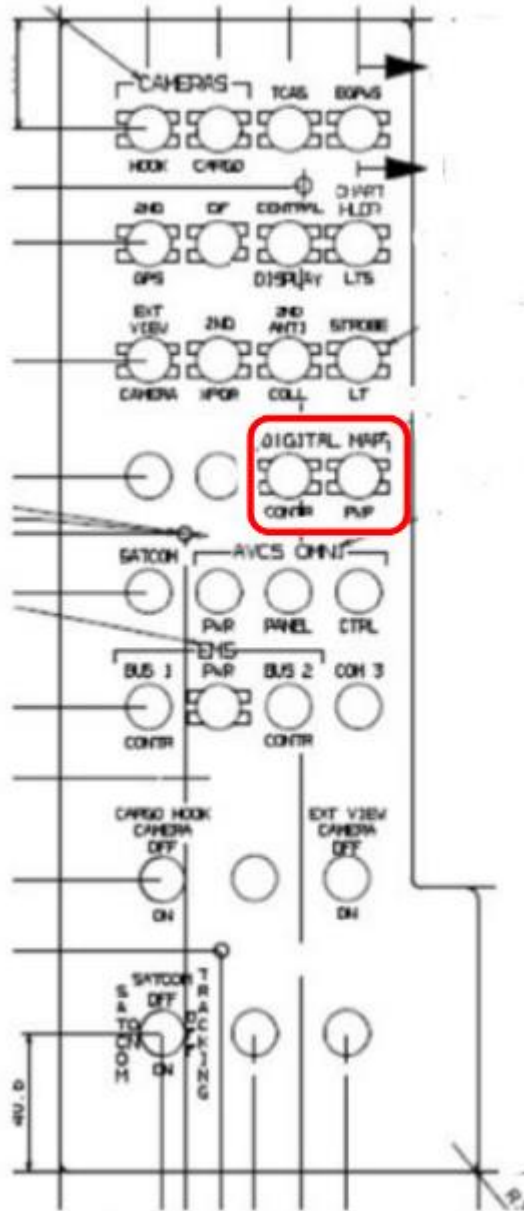
GUIDELINES FOR (M) PROCEDURES

ATA	ITEM	PROCEDURE
34	8	<p>(M) Moving Map Display (even identified as DMAP) Pull off the Circuit breaker DIGITAL MAP CONTR and DIGITAL MAP PWR on the AUX circuit breaker panel. Secure the system by locking all the deactivated circuit breakers and tag accordingly. (Please note that the position of the CB can vary depending by the configuration). Depending on the configuration an ON/OFF switch related to Moving Map/DMAP may exist; if present, move the switch in OFF position.</p>

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(1) System & Sequence Numbers Item	(2) Rectification interval		
	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
44 CABIN SYSTEM			
-1 Passenger Address (PA) System	C	1 0	(O) May be inoperative provided: a) PA not required by Operational Requirements, and b) Alternate passenger briefing procedures are established and used.
-2 Cabin ICS / PA Control Panel	D	1 0	
-3 Passenger Compartment Intercommunications System (Including Pre-recorded Passenger Briefing System, Page/Chime System, and Air to Ground Telephone)	C	0 0	Not installed
-4 Fasten Seat Belts / No Smoking annunciations.	C	6 0	(M) One or more annunciations may be inoperative, provided it/they are placarded and an annunciation is visible from each occupied passenger seat.

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GUIDELINES FOR (O) PROCEDURES

ATA	ITEM	PROCEDURE
44	1	(O) Passenger address (PA) system Passenger briefing can be provided orally (without using Passenger Address System) by the pilot. It is the pilot responsibility to make sure, that all the passengers can hear the briefing.

GUIDELINES FOR (M) PROCEDURES

ATA	ITEM	PROCEDURE
44	4	(M) Fasten seatbelt / no smoking annunciations Placard the annunciation "INOPERATIVE". Check that at least one operative annunciation is visible from each occupied passenger seat.

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(1) System & Sequence Numbers Item	(2) Rectification interval			
	(3) Number installed	(4) Number required for dispatch		
		(5) Remarks or Exceptions		
52 DOORS				
- 1 Cockpit / Cabin / Door Warning Systems [CABIN DOOR / COCKPIT DOOR caution illuminate]	C	1	0	<p>a) (O) May be inoperative provided The door warning system is verified to be effectively inoperative AND</p> <p>b) A visual check verifies the door is closed and locked before each flight</p>
- 2 Baggage Bay / External Power / Door Warning system [BAG DOOR / EXT PWR DOOR caution illuminate]	C	1	0	(O) May be inoperative provided a visual check verifies the door is closed and locked before each flight

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GUIDELINES FOR (O) PROCEDURES

ATA	ITEM	PROCEDURE
52	1	<p>(O) Cockpit / Cabin / Door Warning Systems</p> <p>If door is evidently open and door open caution message is not displayed the dispatch is allowed provided a visual check verifies the door is closed and locked before each flight. If doors looks like closed and door open caution message is displayed perform the following check:</p> <ul style="list-style-type: none">- Open one of the affected door (i.e. either cabin or cockpit);- Press upwards into the switch receptacle to simulate the movement of the door rod, check the presence of the door open caution message<ul style="list-style-type: none">o If door open caution message disappear dispatch is not allowedo If the door open caution message remains activated close the door, open the other affected door (i.e. either cabin or cockpit respectively), press upwards into the switch receptacle to simulate the movement of the door rod, check the presence of the door open caution message<ul style="list-style-type: none">• If door open caution message disappear dispatch is not allowed• If the door open caution remains activated dispatch is allowed provided that a visual check verifies the door is closed and locked before each flight
52	2	<p>(O) Baggage bay / external power / door warning systems</p> <p>The crew must ensure that the door is closed and locked prior to take-off by verifying that a visual check has been performed.</p>

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(1) System & Sequence Numbers Item	(2) Rectification interval		
	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
56 <u>WINDOWS</u>			
-1 Heated Windshields (for FIPS/LIPS not installed)	D	0 0	Not installed
-1a (if FIPS is installed)	A	0 0	Not installed
	D	0 0	Not installed
1b (if LIPS is installed)	D	0 0	Not installed

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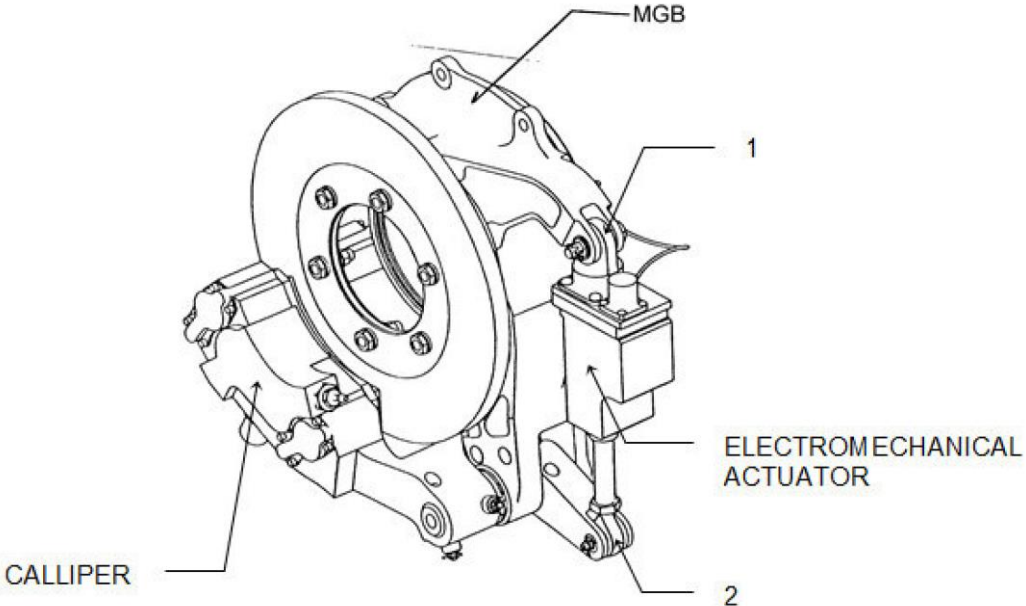
AIRCRAFT AW139	REVISION NO: 1 DATE: 13 APRIL 2023	PAGE 63-1
(1) System & Sequence Numbers Item	(2) Rectification interval	
<p>63 <u>MAIN ROTOR DRIVE</u></p> <p>- 1 Rotor Brake</p>		
	(3) Number installed	(4) Number required for dispatch
	(5) Remarks or Exceptions	
	D	1 0
<p>(M) May be inoperative provided:</p> <ul style="list-style-type: none"> a) Inspection determines the caliper is in the down position, and b) System is deactivated and secured. 		

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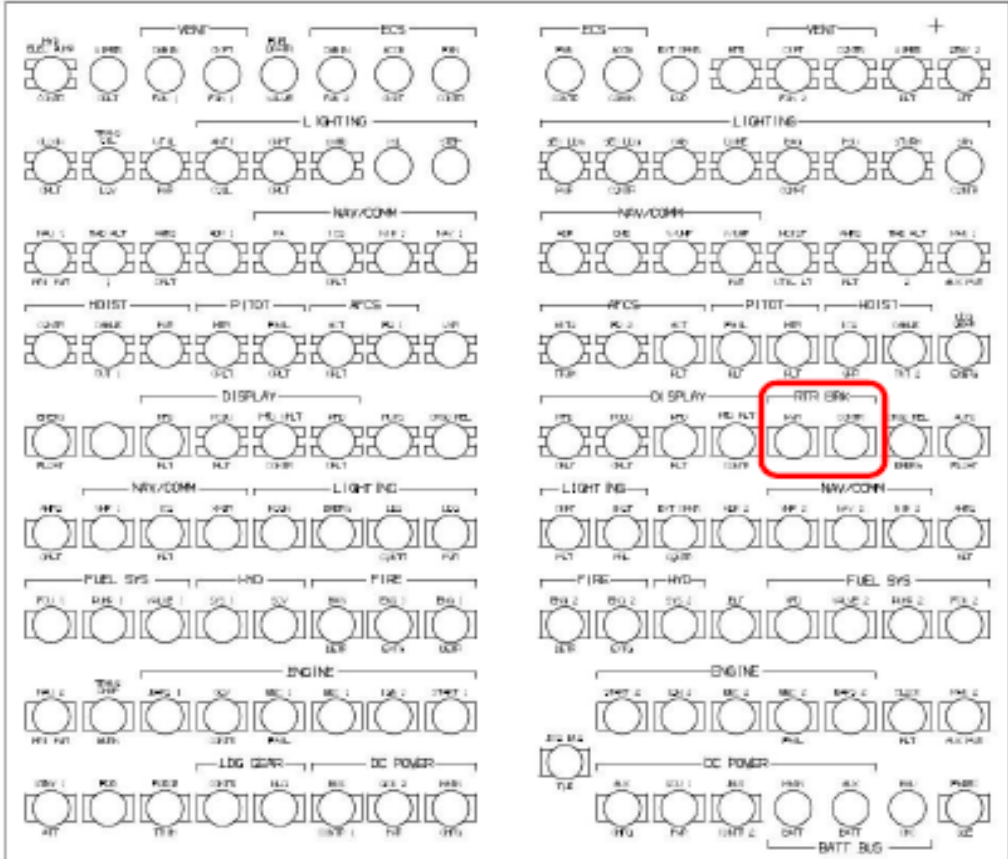
GUIDELINES FOR (M) PROCEDURES

ATA	ITEM	PROCEDURE
63	1	<p>(M) Rotor brake</p> <p>ON THE OVERHEAD Panel</p> <ol style="list-style-type: none"> Pull Off CB IGN1, START1 and START2, IGN 2  <ol style="list-style-type: none"> Set one engine to FLIGHT or GI. Open cowling and panels; verify the position of the calliper. <p>If the calliper is in the down position pull the PWR circuit breaker on the RTR BRK section of the overhead circuit breaker panel. Secure the system by locking all the deactivated circuit breakers and tag accordingly.</p> <p>If the calliper is in the up position remove the electromechanical actuator. Secure the calliper in the down position connecting the bolt holes (1) and (2) with a tie-wrap strap. Secure the free connector of the actuator using a tie-wrap strap. Pull the PWR and the CONTR circuit breakers on the RTR BRK section of the overhead circuit breaker panel. Secure the system by locking all the deactivated circuit breakers and tag accordingly.</p> 

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ATA	ITEM	PROCEDURE
63	1 (cont.)	 <p>The diagram shows two views of an aircraft's instrument panel. The left view includes sections for VENT, ECS, LIGHTING, NAV/COMM, PITOT, AFCS, DISPLAY, NAV/COMM, LIGHTING, FUEL SYS, HYD, FIRE, ENGINE, LOG GEN, and DC POWER. The right view includes sections for ECS, VENT, LIGHTING, NAV/COMM, AFCS, PITOT, HEIST, DISPLAY, LIGHTING, NAV/COMM, FIRE, HYD, FUEL SYS, ENGINE, and BATT BUS. In the 'DISPLAY' section of the right diagram, the 'RTR GEN' indicator is highlighted with a red rectangular box.</p>

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		(4) Number required for dispatch
		(5) Remarks or Exceptions
71 ENGINES		
-1 RPM select Switch (failed in 100 % position)	B	1 0
		May be inoperative provided: <ul style="list-style-type: none"> a) Landing and take-off with Category A profile are not permitted AND b) Dispatch with switch inoperative is not allowed from a station where repair is possible AND c) HEC and NHEC cargo hook operations are not permitted OR d) Hoist operations are not permitted.
-2 RPM select Switch (failed in 102 % position).	A	1 0
		May be inoperative provided that: <ul style="list-style-type: none"> a) Limitations on maximum allowable speed as per RFM Section 1 are complied with AND b) Dispatch with switch inoperative is not allowed from a station where repair is possible AND c) Only one flight or a series of flights necessary to reach the repair station are allowed.

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AIRCRAFT AW139	REVISION NO: DATE:	1 13 APRIL 2023	PAGE 71-2						
(1) System & Sequence Numbers Item	(2) Rectification interval								
<p>71 ENGINES</p> <p>-3 Engine Air Particle Separator (EAPS) SOVs</p>	A	(3) Number installed							
		(4) Number required for dispatch							
		(5) Remarks or Exceptions							
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">A</td> <td style="width: 10%; text-align: center;">2</td> <td style="width: 10%; text-align: center;">0</td> <td> <p>(M)(O) One or both SOVs may be failed in CLOSE position for ten days or 25FH, whichever comes first, provided that:</p> <ul style="list-style-type: none"> a) Both EAPS 1 AND EAPS 2 switches are set to OFF position AND b) the average ITT margin of last three samples of the EPAC trend monitoring is greater or equal to 10°C or average NG margin of last three samples of the EPAC trend monitoring is greater or equal to 0,5% AND c) Limitations and Performances as per applicable RFM Supplements are considered as appropriate. </td> </tr> <tr> <td style="vertical-align: top;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">A</td> <td style="width: 10%; text-align: center;">2</td> <td style="width: 10%; text-align: center;">1</td> <td> <p>(O) One SOV may be failed in OPEN position for one flight or a series of flights necessary to reach the repair station, provided that:</p> <ul style="list-style-type: none"> a) For Engine Start procedure, the engine with EAPS SOV not failed shall be started first AND b) The starter/generators (electrical power generation function) (ITEM 24-1) are operative AND c) Engine Power Checks are performed daily in accordance to Supplement 5 of RFM AND d) Limitations and Performances as per applicable RFM Supplements are considered as appropriate <p>Note: 1(2) EAPS PRESS caution will be displayed if the EAPS switch related to the failed SOV is positioned to OFF.</p> </td> </tr> </table> </td> </tr> </table>	A	2	0	<p>(M)(O) One or both SOVs may be failed in CLOSE position for ten days or 25FH, whichever comes first, provided that:</p> <ul style="list-style-type: none"> a) Both EAPS 1 AND EAPS 2 switches are set to OFF position AND b) the average ITT margin of last three samples of the EPAC trend monitoring is greater or equal to 10°C or average NG margin of last three samples of the EPAC trend monitoring is greater or equal to 0,5% AND c) Limitations and Performances as per applicable RFM Supplements are considered as appropriate. 	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">A</td> <td style="width: 10%; text-align: center;">2</td> <td style="width: 10%; text-align: center;">1</td> <td> <p>(O) One SOV may be failed in OPEN position for one flight or a series of flights necessary to reach the repair station, provided that:</p> <ul style="list-style-type: none"> a) For Engine Start procedure, the engine with EAPS SOV not failed shall be started first AND b) The starter/generators (electrical power generation function) (ITEM 24-1) are operative AND c) Engine Power Checks are performed daily in accordance to Supplement 5 of RFM AND d) Limitations and Performances as per applicable RFM Supplements are considered as appropriate <p>Note: 1(2) EAPS PRESS caution will be displayed if the EAPS switch related to the failed SOV is positioned to OFF.</p> </td> </tr> </table>	A	2
A	2	0	<p>(M)(O) One or both SOVs may be failed in CLOSE position for ten days or 25FH, whichever comes first, provided that:</p> <ul style="list-style-type: none"> a) Both EAPS 1 AND EAPS 2 switches are set to OFF position AND b) the average ITT margin of last three samples of the EPAC trend monitoring is greater or equal to 10°C or average NG margin of last three samples of the EPAC trend monitoring is greater or equal to 0,5% AND c) Limitations and Performances as per applicable RFM Supplements are considered as appropriate. 						
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%; text-align: center;">A</td> <td style="width: 10%; text-align: center;">2</td> <td style="width: 10%; text-align: center;">1</td> <td> <p>(O) One SOV may be failed in OPEN position for one flight or a series of flights necessary to reach the repair station, provided that:</p> <ul style="list-style-type: none"> a) For Engine Start procedure, the engine with EAPS SOV not failed shall be started first AND b) The starter/generators (electrical power generation function) (ITEM 24-1) are operative AND c) Engine Power Checks are performed daily in accordance to Supplement 5 of RFM AND d) Limitations and Performances as per applicable RFM Supplements are considered as appropriate <p>Note: 1(2) EAPS PRESS caution will be displayed if the EAPS switch related to the failed SOV is positioned to OFF.</p> </td> </tr> </table>	A	2	1	<p>(O) One SOV may be failed in OPEN position for one flight or a series of flights necessary to reach the repair station, provided that:</p> <ul style="list-style-type: none"> a) For Engine Start procedure, the engine with EAPS SOV not failed shall be started first AND b) The starter/generators (electrical power generation function) (ITEM 24-1) are operative AND c) Engine Power Checks are performed daily in accordance to Supplement 5 of RFM AND d) Limitations and Performances as per applicable RFM Supplements are considered as appropriate <p>Note: 1(2) EAPS PRESS caution will be displayed if the EAPS switch related to the failed SOV is positioned to OFF.</p>					
A	2	1	<p>(O) One SOV may be failed in OPEN position for one flight or a series of flights necessary to reach the repair station, provided that:</p> <ul style="list-style-type: none"> a) For Engine Start procedure, the engine with EAPS SOV not failed shall be started first AND b) The starter/generators (electrical power generation function) (ITEM 24-1) are operative AND c) Engine Power Checks are performed daily in accordance to Supplement 5 of RFM AND d) Limitations and Performances as per applicable RFM Supplements are considered as appropriate <p>Note: 1(2) EAPS PRESS caution will be displayed if the EAPS switch related to the failed SOV is positioned to OFF.</p>						


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(1) System & Sequence Numbers Item	(2) Rectification interval	
71 ENGINES -4	(3) Number installed	
	(4) Number required for dispatch	
	(5) Remarks or Exceptions	
	A - 0 Not Installed	

GUIDELINES FOR (O) PROCEDURES

ATA	ITEM	PROCEDURE
71	ITEM 3 with one or both SOVs failed in close position.	<p>(O) Engine Air Particle Separator (EAPS) SOVs The crew must select to OFF the switch “EAPS 1” and “EAPS 2” on the EAPS Control Panel located in the Interseat Console.</p> <div style="text-align: center;">  </div>
71	ITEM 3 with One SOV failed in Open position	<p>(O) Engine Air Particle Separator (EAPS) SOV - Perform the Engine Starting procedure reported in RFM Section 2 Normal Procedure starting from the engine with the SOV not failed.</p>

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GUIDELINES FOR (M) PROCEDURES

ATA	ITEM	PROCEDURE
71	3	<p>(M) Engine Air Particle Separator (EAPS) SOVs Pull off the Circuit breakers "EAPS 1" and "EAPS 2" on the overhead circuit breaker panel. Secure the system by locking all the deactivated circuit breakers and tag accordingly. (Please note that the position of the CB can vary depending by the configuration).</p> <div style="text-align: center;"> </div>

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(1) System & Sequence Numbers Item	(2) Rectification interval		
	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
93 SURVEILLANCE			
-1 OPLS system	D	0 0	Not Installed
-2 Power line detection system	D	0 0	Not Installed
-4 FLIR system	D	0 0	Not Installed
-5 Video converter	D	0 0	Not Installed

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(1) System & Sequence Numbers Item	(2) Rectification interval			
	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions	
97 <u>IMAGE RECORDING</u>				
- 1 EVS Camera	D	0	0	Not Installed
- 2 Video recorder	D	0	0	Not Installed
- 3 External video camera (fin)	D	0	0	Not Installed