

**European Aviation Safety Agency**  
**MASTER MINIMUM EQUIPMENT LIST**  
**SUPPLEMENT**

**EMBRAER 145 family**

Revision 8

This supplement is issued as revised in its entirety

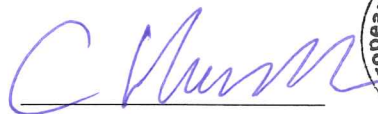
European Aviation Safety Agency  
**MASTER MINIMUM EQUIPMENT LIST**  
**SUPPLEMENT**

**EMBRAER 145 family**

**Revision 8**

This Master Minimum Equipment List (MMEL) is accepted by the European Aviation Safety Agency (EASA) at the above revision and is recommended for approval as the basis of the preparation and approval of individual operators' Minimum Equipment Lists (MELs) for aircraft of this type as certified by the European Aviation Safety Agency and operated under the jurisdiction of EASA member states National Authorities. This EASA MMEL Supplement must only be used in conjunction with the ANAC approved MMEL at Revision 12 dated 10 September 2010.

Signed by



Colin Hancock

for and on behalf of EASA

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REVISION RECORD

REVISION No	ISSUE DATE	INCORPORATED BY	DATE
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7	25 August 2008		
8	15 October 2010		

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### PREAMBLE

The following is applicable for operators under European Air Operations regulations (EU-OPS). The regulations require that all equipment installed on an aircraft in compliance with the Airworthiness code and the Air Operations Requirements must be operative. However, the Regulations 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.

The EASA Master Minimum Equipment List (MMEL) is developed by the Type Certificate Holder to improve aircraft utilisation and thereby provide more convenient and economic air transportation for the public. The EASA MMEL includes those items of equipment related to airworthiness and operating requirements and other items of equipment which the EASA finds may be inoperative and yet maintain an acceptable level of safety by appropriate conditions and limitations; it does not contain obviously required items such as wings, flaps, and rudders.

The MMEL is the basis for development of individual operator's MELs, which take into consideration the operator's particular aircraft equipment configuration and operational conditions. 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.

Equipment not required by the operation being conducted and equipment in excess of the 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.

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.

PREAMBLE(Continued)

The MEL is intended to permit operation with inoperative items of equipment for a period of time until rectification's 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 MMEL establishes limitations on the duration of and conditions for operation with inoperative equipment. Rectification Interval Extension, as prescribed in JAR-MMEL/MEL.081, has been taken into account in the development of this MMEL. Therefore operators, with the approval of their authority, may consider use of the referenced procedure as being within the scope of this MMEL. The MEL provides for release of the aircraft for flight with inoperative equipment.

When an item of equipment is discovered to be inoperative, it is reported by making an entry in the Aircraft Maintenance Record/Logbook as prescribed by the applicable regulations. The item is then either rectified or may be deferred per the MEL or other approval means acceptable to the competent Authority 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.

When these requirements are met, an Airworthiness Release, Aircraft Maintenance Record/Logbook entry, or other approved documentation is issued as prescribed by the applicable regulations. Such documentation is required prior to operation with any item of equipment inoperative.

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

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.

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

## **DEFINITIONS AND EXPLANATORY NOTES**

### **DEFINITIONS:**

The following Definitions are used throughout this document.

#### **Category A**

No standard interval is specified, however, items in this category shall be rectified in accordance with the conditions stated in the Remarks column (5) of the MMEL.

Where a time period is specified 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.

Three asterix (\*\*\*) in column 1 indicates an item which is not required by the airworthiness Regulations but may have been installed in the airplane. It should be noted that neither this definition nor the use of this symbol provides authority to install or remove an item from an aircraft.

#### **As required by Operating Requirements:**

The associated item must comply with EU-OPS 1 or any other legislation in force during the flight. Operators should refer to MEL Policy Document (Administrative and Guidance Material, Section Four: Operations, Part Three: Temporary Guidance Leaflet number 26) for suitable alleviations based upon the required equipment identified within EU-OPS 1, subparts K and L.

EXPLANATORY NOTES:

**NOTE 1:** EMBRAER corporate airplanes are commercially designated as “LEGACY 600” or “LEGACY 650”.

The EMB-135 BJ airplanes mentioned in MMEL are related to those airplanes equipped with:  
LEGACY 600: EMB-135BJ equipped with winglets, auxiliary fuel tanks (two forward and two aft fuel tanks), personalized interior arrangement and AE3007A1P or AE3007A1E engines.

LEGACY 650: EMB-135BJ equipped with winglets, auxiliary fuel tanks (one ventral tank, two forward and two aft fuel tanks), personalized interior arrangement and AE3007A2 engines.

For all other “LEGACY”, equipped with personalized interior arrangement but not equipped with winglets or auxiliary fuel tanks, they should be considered as standard EMB-135 airplanes for the purpose of MMEL.

**NOTE 2:** This revision shall not incorporate the inclusion of the word ‘AND’ between each proviso, mainly due the aeronautical standard present in the MMEL. Most of other manufacturer’s MMELs comply with the standard applied herein, which is the word AND only before the last proviso.

**NOTE 3:** The ANAC MMEL also includes items for models EMB-135KE/KL and EMB-145XR which are currently not yet approved by EASA. Therefore all MMEL items applicable to those models must be disregarded.

**NOTE 4:** When EMB-135BJ is considered for approval under the provisions of EU-OPS 1.245 (a)(2) for 180 minutes diversion with one engine inoperative provided a special approval is granted for operation. It should be noted that this supplement reflects the conclusion in terms of systems capability as per Embraer GP-135/3763 on item 24-31-01 Engine Driven Generator only. Other items have not been reviewed and may need to be revised at MEL level as part of the operator approval to ensure compliance with EU-OPS 1.245 (a)(2) requirements, as applicable.

GUIDANCE FOR USE OF THIS SUPPLEMENT

1. This supplement defines the standard of MMEL recommended for the above aircraft type by the European Aviation Safety Agency (EASA) by identifying the differences from the ANAC MMEL at the latest revision.
2. The information presented in the ANAC MMEL for the aircraft type is acceptable to the European Aviation Safety Agency (EASA) except where superseded by an item in this supplement.

NOTE: Items within this supplement will use the same reference number as the corresponding item in the ANAC MMEL.

3. Unless superseded by information within this supplement, where the ANAC MMEL refers to an item "as required by FAR (local) regulations" it shall be interpreted as meaning, "As required by Operating Requirements".
4. Unless otherwise stated within this Supplement the Definition and Preamble contained in the ANAC MMEL are applicable. However, European equivalents must be assumed in reading and applying both.
5. The Preamble and Definitions of the ANAC MMEL, adjusted by use of European equivalents, should be applied to any MEL generated by use of this supplement in conjunction with the ANAC MMEL.
6. This supplement is based upon the ANAC approved EMBRAER 145 MMEL up to Revision 12 dated September 10, 2010 and JAR OPS TGL 26 Revision 10 (June 2008).

HIGHLIGHTS OF CHANGE

Revision 8:

PREAMBLE	- Updated to reflect EASA terminology
DEFINITIONS	- Updated to reflect EASA terminology
EXPLANATORY NOTES	- Updated to include EMB-135BJ commercial designations
GUIDANCE FOR USE OF THIS SUPPLEMENT	- Paragraph 6 updated to refer to latest ANAC MMEL revision
S21-1	- Item 21-32-02 updated to reflect EASA terminology
S23-1	- Item 23-33-01 Passenger Cabin Speakers – supplement item deleted as ANAC MMEL REV 12 is now acceptable
S23-1	- Item 23-30-01 (Passenger Address System (PA) ) - new item introduced to supersede ANAC MMEL REV 12
S23-1	- Item 23-31-01-a) Crewmember Interphone System(s) - Flight Deck to Cabin, Cabin to Flight Deck Function - new item introduced to supersede ANAC MMEL REV 12
S23-2	- Item 23-31-03-2) Handset System(s) Cabin - new item introduced to supersede ANAC MMEL REV 12
S23-2	- Item 23-71-00 Cockpit Voice Recorder System – remarks or Exceptions are clarified.
S24-2	- Item 24-31-01 Engine Driven Generators (EMB-135BJ only) - new item introduced to reflect GP-135/3763 180 minutes diversion with one engine inoperative.
S25-1	- Item 25-21-05-3) Passenger Seats – Armrest - supplement item deleted as ANAC MMEL REV 12 is now acceptable
S25-1	- Item 25-21-05-4) Passenger Seats – Rear Facing Executive Seat - Supplement item deleted as ANAC MMEL REV 12 is now acceptable
S25-1	- Item 25-21-05-5) Forward Facing Executive Double Seat - Supplement item deleted as ANAC MMEL REV 12 is now acceptable
S25-1	- Item 25-60-02-2) Passenger Convenience/NEF Item(s) - Non-Essential Equipment & Furnishings - updated to reflect EASA terminology
S26-1	- Item 26-15-00-3) Baggage Compartment Smoke Detection System – Airplanes equipped with Class B Baggage Compartment - updated to reflect EASA terminology
S27-1	- Item 27-60-00 Spoiler System – Supplement item deleted as ANAC MMEL REV 12 does not allow relief on this item and is then acceptable.

- S28-1 - Item 28-14-00 Forward Auxiliary Tank Vent Valve - new item introduced to supersede ANAC MMEL REV 12
- S28-1 - Item 28-40-00 Wing Tank Fuel Quantity Indications (EICAS and MFD)- item is updated.
- S28-1 - Item 28-44-00 FUEL 1 (or 2) LO LEVEL Message - item is updated.
- S28-2 - Item 28-45-10 Forward Auxiliary Tank Vent Valve- new item introduced to supersede ANAC MMEL REV 12.
- S28-2 - Item 28-45-16 Aft Auxiliary Tank Vent Valve - new item introduced to supersede ANAC MMEL REV 12.
- S28-2 - Item 28-45-17 Ventral Tank Vent Valve - new item introduced to supersede ANAC MMEL REV 12.
- S31-1 - Item 31-30-01 Digital Flight Data Recorder System (DFDRS) – item revised to remove reference to the next heavy maintenance visit.
- S32-1 - Item 32-32-00 Landing Gear Retraction System - Supplement item deleted as ANAC MMEL REV 12 does not allow relief on this item and is then acceptable.
- S32-1 - Item 32-60-00 Landing Gear Proximity Switches - Supplement item deleted as ANAC MMEL REV 12 is acceptable.
- S33-1 - Item 33-20-00-2) Cabin Interior Illumination System - Airplane with Photoluminescent Emergency Escape Path Marking System - Supplement item deleted as ANAC MMEL REV 12 is acceptable.
- S33-1 - Item 33-50-01 Photoluminescent Emergency Escape Path Marking System - Supplement item deleted as ANAC MMEL REV 12 is acceptable.
- S34-1 - Item 34-41-00 Enhanced Ground Proximity Warning System (EGPWS) - new item introduced to supersede ANAC MMEL REV 12.
- S52-1 - Item 52-51-00-1) C&D Aerospace Flight Deck Security Door – Door Latch - new item introduced to supersede ANAC MMEL REV 12.

EUROPEAN AVIATION SAFETY AGENCY		MASTER MINIMUM EQUIPMENT LIST SUPPLEMENT TO ANAC MMEL REVISION NO: 8 DATE: 10.09.10		
AIRCRAFT: <b>EMBAER 145 Family</b>		REVISION N° DATE:	<b>8</b> 15.10.2010	PAGE <b>S21-1</b>
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
<b>21 AIR CONDITIONING</b>				
-32-02 Cabin Pressure Control *** System High Altitude Mode	-	-	-	Not applicable to EASA operators.

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(1) System & Sequence Numbers ITEM	(2) Rectification Interval			
<b><u>23 COMMUNICATIONS</u></b>	(3) Number installed			
	(4) Number required for dispatch			
				(5) Remarks or Exceptions
-00-00 Communications Systems (VHF, HF, UHF)				
-1) Very High Frequency (VHF) Communication System	-	-	-	As required by Operating Requirements.
-00-00 Communications Systems (VHF, HF, UHF)				
-2) High Frequency (HF) Communication System	D	-	-	Any in excess of those required by local regulations may be inoperative
	C	-	1	(O) Any in excess of one may be inoperative while conducting operations that require two Long Range Communication Systems (LRCS) provided: a) SATCOM (High or Low Gain) Data Link system operates normally, b) SATCOM communications with Air Navigation Service Provider(s) are available for the intended route, c) Prior to each flight, coordination with the appropriate Air Navigation Service Provider(s) is established where INMARSAT codes, or equivalent, are not available whilst using SATCOM voice function, and d) Alternate communication procedures are established and used.  <b>Note 1:</b> SATCOM is to be used only as a backup to normal HF communications unless otherwise authorised by the appropriate Air Navigation Service Provider(s). <b>Note 2:</b> For intended routes, consider the need for ACAS.

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(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
<b><u>23 COMMUNICATIONS</u></b>				
-30-01 Passenger Address System (PA)	B	1	0	(O) May be inoperative provided: a) Alternate normal and emergency procedures and/or operating restrictions are established and used, b) Flight crew compartment/cabin interphone system (including audio and visual alerting system) is operative, and c) Operations are conducted with a cabin attendant on duty occupying a cabin attendant seat. <u>Note:</u> Any station function(s) that operate normally may be used.
-a) Lavatory Speakers	C	1	0	(O) May be inoperative provided alternate procedures are established and used.
-31-01 Crewmember Interphone System(s) a) Flight Deck to Cabin, Cabin to Flight Deck Function	B	-	-	(O) May be inoperative provided: a) The cabin handset at standard (FWD) cabin attendant seat occupied by a required cabin attendant is operative, and b) Alternate communication procedures are established and used. <u>Note:</u> Any station function(s) that operate normally may be used.

EUROPEAN AVIATION SAFETY AGENCY		MASTER MINIMUM EQUIPMENT LIST SUPPLEMENT TO ANAC MMEL REVISION NO: 8 DATE: 10.09.10		
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(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
<b>23 COMMUNICATIONS</b>				
-31-03 Handset System(s) 2) Cabin ***	B	-	-	(O) May be inoperative provided: a) The cabin handset at standard (FWD) cabin attendant seat occupied by a required cabin attendant is operative, b) Alternate communication procedures are established and used, and c) Flight deck audio alerting system is operative. Note: Any station function(s) that operate normally may be used.
-71-00 Cockpit Voice Recorder System	A	-	0	May be inoperative provided: a) The aeroplane does not exceed 8 further consecutive flights with the CVR inoperative, b) No more than 72 hours have elapsed since the CVR became inoperative, and c) Any FDR required to be carried is operative.

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<b><u>24 ELECTRICAL POWER</u></b>				
-31-01 Engine Driven Generators (EMB-135BJ only)	C	4	3	(M) One may be inoperative provided: a) APU generator is operative and used to replace the affected generator during takeoff and landing, b) Operations are not conducted on routes which contain a point further from an adequate aerodrome than the distance flown in 120 minutes at the one-engine-inoperative cruise speed. Note: Refer to Explanatory Note 4 of this supplement for further information.

EUROPEAN AVIATION SAFETY AGENCY		MASTER MINIMUM EQUIPMENT LIST SUPPLEMENT TO ANAC MMEL REVISION NO: 8 DATE: 10.09.10		
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	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions	
<b><u>25 EQUIPMENT/FURNISHING</u></b>				
-11-02 Observer's Seat (Including associated equipment)	-	-	-	As required by Operating Requirements.
-26-07 Baggage Compartment *** Partition Door	C	1	0	Door frame may be damaged, and/or lock may be inoperative to keep door closed, and/or sealing fitness may be impaired to any extend provided cargo compartment remains empty or only non combustible materials are carried and tied down.
-60-02 Passenger Convenience/NEF Item(s) -2) Non-Essential Equipment & Furnishings				Not applicable to EASA operators.
-60-09 Emergency Medical Equipment				
1) Automatic External *** Defibrillator (AED) and/or associated equipment	-	-	-	As required by Operating Requirements.
2) Emergency Medical Kit *** (EMK) and/or associated equipment	-	-	-	As required by Operating Requirements.
-61-00 Crash axe / Crow Bar	D	-	-	Any in excess of those required may be inoperative or missing.
-61-01 Emergency Locator Transmitter / ELT	-	-	-	As required by Operating Requirements.
-64-02 Flotation Equipment	-	-	-	As required by Operating Requirements.

EUROPEAN AVIATION SAFETY AGENCY		MASTER MINIMUM EQUIPMENT LIST SUPPLEMENT TO ANAC MMEL REVISION NO: 8 DATE: 10.09.10		
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	(3) Number installed		(4) Number required for dispatch	
			(5) Remarks or Exceptions	
<b><u>26 FIRE PROTECTION</u></b>				
-15-00 Baggage Compartment *** Smoke Detection System				
3) Airplanes equipped with Class B Baggage Compartment	-	-	-	Not applicable to EASA operators.
-21-01 Fire Illumination Handle		2	2	

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(1) System & Sequence Numbers ITEM	(2) Rectification Interval			
	(3) Number installed		(4) Number required for dispatch	
			(5) Remarks or Exceptions	
<b><u>27 FLIGHT CONTROLS</u></b>				
-10-01 Aileron Damper	-	-	-	Not applicable to EASA Operators.
-36-03 Stick Shaker	B	2	1	May be inoperative provided the airspeed is monitored to avoid operation in or below the white range.

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(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed		(4) Number required for dispatch
				(5) Remarks or Exceptions
<b><u>28 FUEL</u></b>				
-14-00 FUEL TK VENT OPEN Message (EMB-135BJ) (only for Legacy 600)	B	1	0	(M) May be inoperative provided forward and aft tanks of both FUS Auxiliary Fuel Systems remain empty.
(EMB-135BJ) (only for Legacy 650)	B	1	0	(M) May be inoperative provided ventral tank and Forward and aft tanks of both FUS Auxiliary Fuel Systems remain empty.
-40-00 Wing Tank Fuel Quantity Indications (EICAS and MFD)	B	4	2	(M) (O) Indications for one tank may be inoperative provided: 1) Fuel quantity indication in other tank is operative, 2) Both fuel flow indications and fuel used indication is available and monitored throughout flight, 3) Direct quantity measuring sticks are available and the fuel quantity is directly measured prior to each flight, and 4) Corresponding FUEL LO LEVEL message is verified operative,
(EMB-135/140/145)	B	4	2	(M) (O) Indications for one tank may be inoperative provided: 1) Fuel quantity indication in other tank is operative, 2) Both fuel flow indications and fuel used indication is available and monitored throughout flight, 3) Direct quantity measuring sticks are available and the fuel quantity is directly measured prior to each flight, 4) Corresponding FUEL LO LEVEL message is verified operative, and 5) Ventral tank (only for Legacy 650), Forward and Aft tanks of both FUS 1 and FUS 2 Auxiliary Fuel Systems remain empty.
(EMB-135BJ)	B	4	2	(M) (O) Indications for one tank may be inoperative provided: 1) Fuel quantity indication in other tank is operative, 2) Both fuel flow indications and fuel used indication is available and monitored throughout flight, 3) Direct quantity measuring sticks are available and the fuel quantity is directly measured prior to each flight, 4) Corresponding FUEL LO LEVEL message is verified operative, and 5) Ventral tank (only for Legacy 650), Forward and Aft tanks of both FUS 1 and FUS 2 Auxiliary Fuel Systems remain empty.

EUROPEAN AVIATION SAFETY AGENCY SUPPLEMENT TO ANAC MMEL REVISION NO: 8 DATE: 10.09.10		MASTER MINIMUM EQUIPMENT LIST			
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(1) System & Sequence Numbers ITEM		(2) Rectification Interval			
		(3) Number installed			
		(4) Number required for dispatch			
		(5) Remarks or Exceptions			
<b><u>28 FUEL</u></b>					
-44-00	FUEL 1 (or 2) LO LEVEL Message	B	2	1	(M) (O) One may be inoperative provided: 1) Fuel quantity indication is available and is monitored throughout the flight, and 2) FUEL LO LEVEL message on non-affected side is verified operative.
-45-01	E1 (or E2) Fuel Low Press Messages	B	2	1	(O) One may be inoperative provided: 1) The associated fuel pump automatic function operates normally, and 2) The associated electric fuel booster pump operating indication is operative.
45-10	Forward Auxiliary Tank Vent Valve				
	(EMB-135BJ) (only for Legacy 600)	-	-	-	ANAC MMEL REV. 12 is applicable.
	(EMB-135BJ) (only for Legacy 650)	B	2	0	(M) May be inoperative provided affected vent valves are secured closed. <b>NOTE:</b> Refueling of FUS Auxiliary Systems cannot be accomplished if this valve is inoperative secured closed.
45-16	Aft Auxiliary Tank Vent Valve (EMB-135BJ)	B	2	0	(M)(O) May be inoperative provided: a) Affected valves are secured closed, and b) Flight is conducted in an unpressurized configuration. <b>NOTE:</b> Refueling of FUS Auxiliary Systems cannot be accomplished if this valve is inoperative secured closed.
45-17	Ventral Tank Vent Valve (EMB-135BJ) (only for Legacy 650)	B	1	0	(M) May be inoperative provided affected valve is secured closed. <b>NOTE:</b> Refueling of FUS Auxiliary Systems cannot be accomplished if this valve is inoperative secured closed.

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	(3) Number installed			
	(4) Number required for dispatch			
	(5) Remarks or Exceptions			
<b><u>30 ICE AND RAIN PROTECTION</u></b>				
-21-01 Engine Anti-Icing Valves	B	2	0	(M)(O) May be inoperative provided: a) Valve is secured open, and b) Performance penalties are applied. <b>NOTE:</b> On airplanes equipped with EICAS version 16.5 and on, the message ENG A/ICE OVERPRES may be present.
-21-02 Engine Anti-Icing Valve Open Lights	B	2	1	(M) One may be inoperative provided airplane system is verified to operate normally.
	B	2	0	May be inoperative provided airplane is not operated in known or forecast icing conditions.

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(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
<b><u>31 INDICATING/RECORDING SYSTEM</u></b>				
-21-01 Clocks 2) Pilot's Clock	A	1	0	May be inoperative provided: a) FDR is considered inoperative and, b) No more than 72 hours have elapsed since the FDR is considered or became inoperative.
3) Both Clocks	A	2	0	May be inoperative provided: a) Both pilot and copilot have ready access to a reliable timepiece which display seconds (a wrist watch is acceptable), b) Approach procedures do not require timing, c) FDR is considered inoperative, and d) No more than 72 hours have elapsed since the FDR is considered or became inoperative.
-30-01 Digital Flight Data Recorder System (DFDRS)	A	1	0	May be inoperative provided: a) The aeroplane does not exceed 8 further consecutive flights with the FDR inoperative, b) No more than 72 hours have elapsed since the FDR became inoperative, and c) Any CVR required to be carried is operative.  <u>Note1</u> : The flight data recorder is considered to be inoperative when any of the following conditions exist: (i) Loss of the flight recording function is evident to the flight crew during the pre-flight check e.g. by means of a system status monitor, or (ii) The need for maintenance has been identified by the system monitors, where available, with the setting of an indicator and the cause of that setting has not been determined, or (iii) Analyses of recorded data or maintenance actions have shown that more than 5% of the total number of individual parameters (variable and discrete) required to be recorded for the particular aircraft, are not being recorded properly.  <u>Note 2</u> : Where improper recording affects 5% of the parameters or less, timely corrective action will need to be taken by the aeroplane operator in accordance with approved maintenance procedures.

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(1) System & Sequence Numbers ITEM	(2) Rectification Interval			
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<b><u>32 LANDING GEAR</u></b>				
-50-02 Control Wheel Steering Disengage Button	2	2		

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(1) System & Sequence Numbers ITEM	(2) Rectification Interval			
	(3) Number installed			
	(4) Number required for dispatch			
	(5) Remarks or Exceptions			
<b><u>34 NAVIGATION</u></b>				
-32-00 VOR Navigation	-	-	-	As required by Operating Requirements.
-32-00 ILS	-	-	-	As required by Operating Requirements.
-41-00 Enhanced Ground Proximity Warning System (EGPWS)	-	-	-	As required by Operating Requirements.
-42-00 Weather Radar System (s), (Antenna(s), XCVR (s), Controller (s), Display (s))	-	-	-	As required by Operating Requirements.
-43-00 ACAS/TCAS	-	-	-	As required by Operating Requirements.
-51-00 DME System	-	-	-	As required by Operating Requirements.
-52-00 ATC Transponder and Automatic Reporting System	-	-	-	As required by Operating Requirements.
-53-00 ADF System	-	-	-	As required by Operating Requirements.
-55-00 Long Range Navigation Systems (LRNS) – (if installed)				
1) Unrestricted operations in MNPS airspace	C	-	2	Any in excess of two may be inoperative.
2) Operations along notified special routes within MNPS airspace	C	-	1	Any in excess of one may be inoperative provided the operational equipment is visible and usable to either crew member seated at their crew station.
3) Non MNPS Operations	D	-	0	One or more may be inoperative provided the routes to be flown do not require their use.

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(1) System & Sequence Numbers ITEM	(2) Rectification Interval			
	(3) Number installed		(4) Number required for dispatch	
			(5) Remarks or Exceptions	
<b><u>35 OXYGEN</u></b>				
-20-00 Passenger Oxygen System	-	-	-	As required by Operating Requirements.

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(1) System & Sequence Numbers ITEM	(2) Rectification Interval			
	(3) Number installed			
	(4) Number required for dispatch			
	(5) Remarks or Exceptions			
<b><u>46 INFORMATION SYSTEMS</u></b>				
-20-01 Electronic Flight Bag *** Systems (EFBs)	-	-	-	As required by Operating Requirements.
1) Data Connectivity (class 2) ***	C	-	-	As required by Operating Requirements.
2) Power Connection (class 1 *** and 2)	C	-	-	As required by Operating Requirements.
3) Mounting Device (class 2) ***	C	-	-	As required by Operating Requirements.

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(1) System & Sequence Numbers ITEM	(2) Rectification Interval			
	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions	
<b>52 DOORS</b>				
-51-00 C&D Aerospace Flight Deck *** Security Door				
1) Door Latch	B	1	0	(M)(O) May be inoperative provided: a) Latch is deactivated b) A safe position of the door is ensured for takeoff and landing, and, c) Alternate crew procedures are established and used for controlling access to the flight deck, in accordance with applicable Security requirements
2) Flight Deck Door Panel Pressure Relief Latch	A	1	0	(M)(O) May be inoperative provided the flight is conducted in an unpressurized configuration to a station where repair can be made.