



## Airworthiness Directive

**AD No.:** 2022-0168R1

**Issued:** 12 September 2025

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I Part M.A.301, or Annex Vb Part ML.A.301, as applicable, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I Part M.A.303, or Annex Vb Part ML.A.303, as applicable] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

### Design Approval Holder's Name:

AIRBUS HELICOPTERS DEUTSCHLAND GmbH  
AIRBUS HELICOPTERS

### Type/Model designation(s):

EC135, EC635 and MBB-BK117 helicopters  
H160-B helicopters

**Effective Date:** Revision 1: 26 September 2025  
Original Issue: 26 August 2022

**TCDS Number(s):** EASA.R.009, EASA.R.010 and EASA.R.516

**Foreign AD:** Not applicable

**Revision:** This AD revises EASA AD 2022-0168 dated 12 August 2022, which superseded EASA AD 2022-0143 dated 08 July 2022.

## ATA – Rotorcraft Flight Manual – Section Emergency Procedures – Amendment

## ATA 42 – Integrated Modular Avionics – Ethernet Network – Inspection

### Manufacturer(s):

Airbus Helicopters Deutschland (AHD) GmbH, formerly Eurocopter Deutschland GmbH; Eurocopter España S.A.; Kawasaki Heavy Industries, Ltd.; and Airbus Helicopters (AH), formerly Eurocopter, Eurocopter France

### Applicability:

AHD EC135 P3H, EC135 T3H, EC635 P3H and EC635 T3H helicopters, all serial numbers (s/n);

AHD MBB-BK117 D-2, MBB-BK117 D-3 and MBB-BK117 D-3m helicopters, all variants, all s/n; and

AH H160-B helicopters, all s/n.



**Definitions:**

For the purpose of this AD, the following definitions apply:

**The ASB:** AH Alert Service Bulletin (ASB) EC135H-05A-001, ASB MBB-BK117 D-2-05A-003, ASB MBB-BK117 D-3-05A-001 and ASB H160-46-31-0001, as applicable.

**Maintenance mode test procedure:** In accordance with the instructions of section 3.B.1 of the ASB (EC135 and MBB-BK117 helicopters) or section 'Accomplishment Procedure - 4.2' of the ASB (H160 helicopters), as applicable.

**Operational mode test procedure:** In accordance with the instructions of section 3.B.3 of the ASB (EC135 and MBB-BK117 helicopters) or section 'Accomplishment Procedure - 4.4' of the ASB (H160 helicopters), as applicable.

**Troubleshooting instructions:** In accordance with the instructions of sections 3.B.2 and 3.B.4 of the ASB (EC135 and MBB-BK117 helicopters) or sections 'Accomplishment Procedure - 4.3' and 'Accomplishment Procedure - 4.5' of the ASB (H160 helicopters), as applicable.

**Operational limitation:** Prohibition to operate a helicopter in Instrument Meteorological Conditions (IMC) and Night Visual Meteorological Conditions (VMC); and installation of a placard in the cockpit in accordance with the instructions of the ASB.

**The RFM Emergency Procedure:** Rotorcraft Flight Manual (RFM) emergency procedure as identified in Appendix 1 of this AD, as applicable.

**Reason:**

Occurrences were reported of multiple Multi-Function Display (MFD) failures. Investigations identified design deficiencies in the Ethernet network management of the Integrated Modular Avionics suite (IMA), which caused MFD failures after damage to an Ethernet wiring connector and/or an avionics equipment.

This condition, if not detected and corrected, could lead to reduced situational awareness of the pilot, possibly resulting in reduced control of the helicopter.

Due to similarity of design, several types may be affected by similar failures. To address this potential unsafe condition, AH issued the ASB, as defined in this AD, providing instructions for inspections, and EASA issued AD 2022-0143 to require repetitive checks of the functional status of the IMA Ethernet network and, depending on findings, accomplishment of applicable corrective action(s), which may include an operational limitation.

After that AD was issued, AH developed the RFM Emergency Procedure, as defined in this AD, providing procedures to be applied in case of loss of all MFD. AH also issued, for the affected helicopters, updated RFMs and Temporary Revision of the RFM, including the RFM Emergency Procedure. Consequently, EASA issued AD 2022-0168, retaining the requirements of EASA AD 2022-0143, which was superseded, and additionally requiring incorporation of the RFM Emergency Procedure into the applicable RFM.



Since that AD was issued, AH has developed a design change for EC 175 B helicopters, solving the previously identified deficiencies in the design for this helicopter type, and issued ASB EC175-46-40-0006, requiring modification of the aircraft management computer (AMC) and the MFDs, and ASB EC175-05-00-0003, to introduce a recurring check of the Ethernet connection of equipment with the MFDs to limit the risk of a multiple MFD failure in flight.

For the reason described above, EASA AD 2025-0196 is issued taking over the requirements of this AD for EC 175 B helicopters, and this AD is revised to remove EC 175 B helicopters from its Applicability, including deletion of all references to EC 175 B related documents throughout this AD, incorporating also some minor administrative amendments to meet the latest standard for EASA ADs.

For the other (remaining) helicopter types, this revised AD is still considered to be an interim action and further AD action may follow.

#### **Required Action(s) and Compliance Time(s):**

Required as indicated by this AD, unless the action(s) required by this AD have been already accomplished:

#### **Inspection(s):**

- (1) Within 55 flight hours (FH) after 15 July 2022 [the effective date of EASA AD 2022-0143], and, thereafter, at intervals not to exceed 110 FH, accomplish a check in accordance with the maintenance mode test procedure, and in accordance with the operational mode test procedure, as defined in this AD.

#### **Corrective Action(s):**

- (2) If, during any check as required by paragraph (1) of this AD, any discrepancy, as identified in the ASB, is detected, before next flight, accomplish the applicable corrective action(s) in accordance with the troubleshooting instructions, as defined in this AD.

#### **Additional Maintenance Requirements:**

- (3) From 15 July 2022 [the effective date of EASA AD 2022-0143], following accomplishment of any maintenance task on a helicopter that includes disconnection and subsequent re-connection of any connector of the IMA Ethernet network, or following any MFD failure, before next flight, accomplish a check in accordance with the maintenance mode test procedure, and in accordance with the operational mode test procedure, and, depending on findings, accomplish the applicable corrective action(s) in accordance with the troubleshooting instructions.

#### **Operational Limitation:**

- (4) If, after accomplishment of troubleshooting instructions as required by paragraph (2) or (3) of this AD, as applicable, any discrepancy cannot be removed or corrected, before next flight, implement the operational limitation, as defined in this AD, inform all flight crews and, thereafter, operate the helicopter accordingly.

#### **Alternative Method:**

- (5) Implementing the operational limitation on a helicopter as specified in paragraph (4) of this AD is an acceptable alternative method to defer compliance with the requirements of paragraphs



(1) and (2) of this AD for that helicopter. Following accomplishment of the checks and corrective action(s), as applicable, as required by paragraphs (1) and (2) of this AD, the operational limitation can be removed, provided any discrepancy has been removed or corrected, as applicable.

**Terminating Action(s):**

(6) None.

**RFM Amendment:**

- (7) Within 7 days after 26 August 2022 [the effective date of the original issue of this AD], amend the applicable RFM by incorporating the RFM Emergency Procedure, as defined in this AD, inform all flight crews and, thereafter, operate the helicopter accordingly.
- (8) Amending the applicable RFM of a helicopter by incorporating the RFM revision as listed in Table 1 of this AD, as applicable, or a later RFM revision which includes the same content as the RFM Emergency Procedure, is an acceptable method to comply with the requirements of paragraph (7) of this AD for that helicopter.

Table 1 – RFM Revisions

Helicopter Type/Model	RFM Revision
EC135 P3H	EC135 P3H Flight Manual, Effectivity: HLX Step 2+, Rev. 19.4 EC135 P3H Flight Manual, Effectivity: HLX Step 3.1, Rev. 19.4 EC135 P3H Flight Manual Supplement 9.1-4 Effectivity: HLX Step 3.1, Rev. 1.1
EC135 T3H	EC135 T3H Flight Manual, Effectivity: HLX Step 2+, Rev. 20.2 EC135 T3H Flight Manual, Effectivity: HLX Step 3.1, Rev. 20.2 EC135 T3H Flight Manual Supplement 9.1-4 Effectivity: HLX Step 3.1, Rev. 1.1
EC635 P3H	EC635 P3H Flight Manual, Effectivity: HLX Step 2+, Rev. 19.4 EC635 P3H Flight Manual, Effectivity: HLX Step 3.1, Rev. 19.4 EC635 P3H Flight Manual Supplement 9.1-4 Effectivity: HLX Step 3.1, Rev. 1.1
EC635 T3H	EC635 T3H Flight Manual, Effectivity: HLX Step 2+, Rev. 20.2 EC635 T3H Flight Manual, Effectivity: HLX Step 3.1, Rev. 20.2 EC635 T3H Flight Manual Supplement 9.1-4 Effectivity: HLX Step 3.1, Rev. 1.1
MBB-BK117 D-2	BK117 D-2 FLM HLX 2, Rev. 25.2
MBB-BK117 D-2m	BK117 D-2 FLM HLX 2, Rev. 16.2
MBB-BK117 D-3	BK117 D-3 FLM, Rev. 14.1
MBB-BK117 D-3m	BK117 D-3m FLM, Rev. 12.1
[DELETED]	[DELETED]
H160-B	<i>Paper format:</i> RFM H160-B issue dated 29 June 2022 (approval reference 2983)



	<i>e-RFM data package: AIRCREW H160-000 dated 29 June 2022 (approval reference 2984)</i>
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**Ref. Publications:**

AH ASB EC135H-05A-001 original issue dated 07 July 2022.

AH ASB MBB-BK117 D-2-05A-003 original issue dated 07 July 2022.

AH ASB MBB-BK117 D-3-05A-001 original issue dated 07 July 2022.

[DELETED]

AH ASB H160-46-31-0001 original issue dated 07 July 2022.

The use of later approved revisions of the above-mentioned documents is acceptable for compliance with the requirements of this AD.

**Remarks:**

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
2. Based on the required actions and the compliance time, the original issue of this AD was posted on 12 August 2022 as a Final AD with Request for Comments, postponing the public consultation process until after its publication.
3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).
4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the [EU aviation safety reporting system](#). This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
5. For any question concerning the technical content of the requirements in this AD, please contact: Airbus Helicopters Deutschland GmbH, Industriestrasse 4, 86609 Donauwörth, Federal Republic of Germany, Telephone: + 33 (0)4 42 85 97 97 or, Web portal: <https://airbusworld.helicopters.airbus.com>; E-mail: [customersupport.helicopters@airbus.com](mailto:customersupport.helicopters@airbus.com),  
or  
Airbus Helicopters (Technical Support), Telephone +33 (0)4 42 85 97 89 or, Web portal: <https://airbusworld.helicopters.airbus.com> ; E-mail: [TechnicalSupport.Helicopters@airbus.com](mailto:TechnicalSupport.Helicopters@airbus.com).



## Appendix 1 – RFM Emergency Procedure



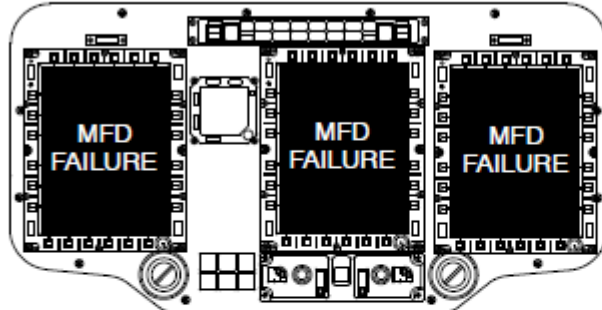
# MBB-BK117 (all models / variants)

## Loss of all MFD

Page 1/2

### Conditions/Indications

- MFDs:



- MFD FAILURE displayed on all MFDs
- If autopilot upper modes were coupled, they may decouple after 10 seconds (indicated by an „autopilot decouple“ voice message).

### Procedure

#### ● ON GROUND

1. Double engine emergency shutdown - Perform

#### ● IN FLIGHT

1. Aircraft trajectory - Maintain using IESI and stand-by compass.  
- Use AFCS “recovery” or “go-around” modes, if desired  
- Operate aircraft within the approved performance
2. MFD2 pb - OFF

**CAUTION** IF THE MFD IS RESTARTED AT NIGHT, THE MFD WILL REBOOT WITH FULL BRIGHTNESS AND MAY DISTURB THE PILOT BRIEFLY. RESTARTING AN MFD DURING CRITICAL FLIGHT PHASES SHALL BE AVOIDED.

3. MFD2 pb - ON

If MFD2 restarts (all functions linked to MFD are recovered):

4. MFD2 - Maintain in FND format
5. LAND AS SOON AS PRACTICABLE

- NOTE**
- For HTAWS to be available, SVS must be switched off (select FDS). After restarting MFD2, it takes 2 minutes before HTAWS is available.
  - TCAS alerts are lost.
  - Weather radar RDR2000 is lost; weather radar RDR1600 remains operational.



**MBB-BK117 (all models / variants)**  
**Loss of all MFD**  
**Page 2/2**

If MFD2 does not restart (all MFDs remain off):

4. VMC conditions – Establish

5. LAND AS SOON AS PRACTICABLE

**NOTE** ● GPS navigation information can be obtained from the FMS.

- The following AFCS functions are available:
  - Basic stabilization (attitude hold)
  - AFCS “recovery” (double forward press on the AP/BKUP ON pb on the cyclic) will engage ALT, IAS, HDG/TRK modes on the current values. After engagement, individual upper modes can be disengaged through the APCP or AP UM OFF pb on cyclic grip.
  - Go-around mode will be available through the GA pb on the collective. This will engage V/S or FPA and IAS.
  - The AFCS status (engaged upper modes IAS, ALT, V/S, FPA, HDG, TRK) is visible on the APCP.
  - It is not possible to engage upper modes through the APCP.
  - It is not possible to change the upper mode references through the cyclic/collective beep or rotary knob on APCP.
- All vehicle related aural alerts (tones and voice message) remain available.
- HTAWS and TCAS aural alerts are lost.
- Transponder Mode C (altitude reporting) is lost.
- Warning unit is still operating.





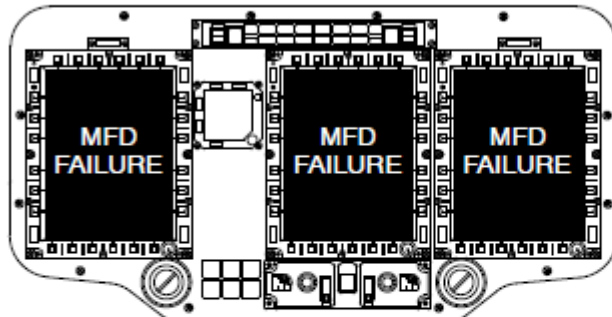
## EC 135 / EC635 (all models / variants)

## Loss of all MFD

Page 1/2

## Conditions/Indications

- MFDs:



BAC2\_EUH\_0400\_R

- MFD FAILURE displayed on all MFDs
- If autopilot upper modes were coupled, they may decouple after 10 seconds (indicated by an „autopilot decouple“ voice message).

## Procedure

## ● ON GROUND

1. Double engine emergency shutdown - Perform

## ● IN FLIGHT

1. Aircraft trajectory - Maintain using IESI and stand-by compass.  
- Use AFCS "recovery" or "go-around" modes, if desired  
- Operate aircraft within the approved performance
2. MFD2 pb - OFF

**CAUTION** IF THE MFD IS RESTARTED AT NIGHT, THE MFD WILL REBOOT WITH FULL BRIGHTNESS AND MAY DISTURB THE PILOT BRIEFLY. RESTARTING AN MFD DURING CRITICAL FLIGHT PHASES SHALL BE AVOIDED.

3. MFD2 pb - ON

If MFD2 restarts (all functions linked to MFD are recovered):

4. MFD2 - Maintain in FND format
5. LAND AS SOON AS PRACTICABLE

**NOTE** ● For HTAWS to be available, SVS must be switched off (select FDS). After restarting MFD2, it takes 2 minutes before HTAWS is available.

- TCAS alerts are lost.
- Weather radar RDR2000 is lost; weather radar RDR1600 remains operational.



**EC 135 / EC635 (all models / variants)****Loss of all MFD****Page 2/2**

If MFD2 does not restart (all MFDs remain off):

4. VMC conditions – Establish
5. LAND AS SOON AS PRACTICABLE

**NOTE** ● GPS navigation information can be obtained from the FMS.

- The following AFCS functions are available:
  - Basic stabilization (attitude hold)
  - AFCS "recovery" (double forward press on the AP/BKUP ON pb on the cyclic) will engage ALT, IAS, HDG/TRK modes on the current values. After engagement, individual upper modes can be disengaged through the APCP or AP UM OFF pb on cyclic grip.
  - Go-around mode will be available through the GA pb on the collective. This will engage V/S or FPA and IAS.
  - The AFCS status (engaged upper modes IAS, ALT, V/S, FPA, HDG, TRK) is visible on the APCP.
  - It is not possible to engage upper modes through the APCP.
  - It is not possible to change the upper mode references through the cyclic/collective beep or rotary knob on APCP.
- All vehicle related aural alerts (tones and voice message) remain available.
- HTAWS and TCAS aural alerts are lost.
- Transponder Mode C (altitude reporting) is lost.
- Warning unit is still operating.



**H160-B**  
**Loss of all MFD**  
**Page 1/3**

<div style="display: flex; justify-content: space-between; width: 100%;"> <div style="width: 20%; background: repeating-linear-gradient(45deg, transparent, transparent 2px, #ffc000 2px, #ffc000 4px);"></div> <div style="text-align: center; flex-grow: 1;"> <h2 style="margin: 0;">LOSS OF ALL MFD</h2> </div> <div style="width: 20%; background: repeating-linear-gradient(-45deg, transparent, transparent 2px, #ffc000 2px, #ffc000 4px);"></div> </div>	
SYMPTOMS	
No content	
<b>TEMPORARY INFORMATION</b>  Reason for change: HELIONIX issue impacting MFD	
SYMPTOMS	
Loss of all MFD (MFD failure displayed on all MFD)	
CORRECTIVE ACTIONS	
No content	
<b>TEMPORARY INFORMATION</b>  Reason for change: HELIONIX issue impacting MFD	<div style="margin-top: 10px;"> <b>■ ON GROUND :</b>            1. Engine shutdown .....PERFORM  <div style="text-align: right; margin-top: -10px;">(Refer to <a href="#">4.3.7 "ENGINE SHUTDOWN"</a>)</div> </div> <div style="margin-top: 10px;"> <b>■ IN FLIGHT :</b>            1. Aircraft trajectory                a. Maintain using IESI and stand-by compass                b. Use AFCS RECOVERY (or GO AROUND) if necessary                c. Operate aircraft within the approved performance            2. MFD2.....RESET (OFF/ON)         </div>
<div style="border: 1px solid orange; padding: 10px; margin: 10px auto; width: 80%;"> <p style="text-align: center; margin: 0;"><b>CAUTION</b></p> <p style="text-align: center; margin: 0; color: orange;">If the MFD is restarted at night, the MFD will reboot with full brightness and may disturb the pilot briefly. Restarting an MFD during critical flight phases shall be avoided.</p> </div>	



**H160-B**  
**Loss of all MFD**  
**Page 2/3**

- If MFD2 restarts (All functions linked to MFD are recovered):
  - 3. MFD 2.....Maintain in FND format

**LIMIT DURATION OF FLIGHT**

**NOTE**

- If autopilot upper modes were coupled they may decouple after 10 seconds (indicated by an "autopilot decouple" voice message).
- For HTAWS to be available, SVS must be switched off (select FDS ). After restarting MFD , it takes 2 minutes before HTAWS is available.
- TCAS alerts are lost.



**H160-B**  
**Loss of all MFD**  
**Page 3/3**

- If MFD2 does not restart (all MFD remain off):
  - 4. VMC conditions .....Establish

**LIMIT DURATION OF FLIGHT**

**NOTE**

- If autopilot upper modes were coupled they may decouple after 10 seconds (indicated by an "autopilot decouple" voice message).
- GPS navigation information can be obtained from the FMS .
- The following AFCS functions are available:
  - Basic stabilization (attitude hold),
  - AFCS RECOVERY (double press on the AP RECOV push-button on the cyclic grip) will engage ALT, IAS, HDG/ TRK modes on the current values. After engagement, individual upper modes can be disengaged through the APCP or AP UM OFF push-button on cyclic grip,
  - Go-around mode will be available through the GO AROUND push-button on the collective grip. This will engage V/S or FPA and IAS,
  - The AFCS status (engaged upper modes V/S or FPA, ALT, HDG or TRK, IAS) is visible on the APCP,
  - It is not possible to engage upper modes through the APCP,
  - It is not possible to change the upper mode references through the cyclic/collective beep or rotary buttons.
- All vehicle aural alerts (tones and voice message) remain available.
- HTAWS and TCAS aural alerts are lost.
- Transponder Mode C (altitude reporting) is lost.

