Airworthiness Directive

AD No.: 2023-0139

Issued: 13 July 2023

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

Type/Model designation(s):
H160-B helicopters

Effective Date: 27 July 2023
TCDS Number(s): EASA.R.516
Foreign AD: Not applicable
Supersedure: None

ATA – Rotorcraft Flight Manual – Amendment

ATA 46 – System Integration and Display – Software – Modification

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Manufacturer(s):
Airbus Helicopters (AH)

Applicability:
AH H160-B helicopters, serial numbers (s/n) 1002, 1004, 1006, 1008, 1009, 1010, 1015, 1016, 1020, 1023 and 1024.

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

The ASB: AH Alert Service Bulletin (ASB) H160-46-20-0001.

Required EECU SW: Engine Electronic Control Unit (EECU) software (SW) version V501 or later.

The DN: AH Delivery Note (DN) DN.516.0012.1 '[H160] Instructions for Continued Airworthiness'.

Reason:
Occurrences have been 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 avionics equipment.

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

To initially address this potential unsafe condition, AH issued instructions for inspections, and a rotorcraft flight manual (RFM) emergency procedure, to be applied in case of loss of all MFDs. EASA issued, as an interim action, AD 2022-0168, applicable to various helicopter types and models, to require repetitive checks of the functional status of the IMA Ethernet network and, as applicable, corrective action(s), and the incorporation of that emergency procedure into the applicable RFM.

Since that AD was issued, AH developed, specific for the H160-B, various SW updates (collectively identified as Helionix V9.1 / step 3.3), to increase the robustness of the avionics system, and issued the ASB, as defined in this AD, to provide instructions for retrofit installation.

For the reason described above, this AD requires an upgrade of the avionics system, an update of the RFM and to implement new repetitive operational checks for the aircraft management computer (AMC).

This AD is still considered to be an interim action and further AD action may follow. This AD does not supersede EASA AD 2022-0168.

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

Required as indicated, unless accomplished previously:

Modification:

(1) Within 3 months after the effective date of this AD, concurrently upload AMC SW and Primary Configuration File (PCF), MFD SW and PCF, and Dynamic Monitoring Acquisition Unit (DMAU) Configuration File, as applicable, depending on helicopter configuration as defined in the ASB, in accordance with the instructions of the ASB.

Concurrent Requirements:

(2) Prior or concurrently with the modification as required by paragraph (1) of this AD, upgrade the EECU by uploading required EECU SW, as defined in this AD, as applicable, depending on helicopter configuration. This can be accomplished in accordance with the instructions of Safran Helicopter Engines SB SHE-356-73-0001.

RFM Amendment:

(3) Before next flight after the modification as required by paragraph (1) of this AD, amend the applicable RFM by incorporating the RFM revision specified in Table 1 of this AD, or later approved revision, inform all flight crews and, thereafter, operate the helicopter accordingly.

Table 1 – RFM Revisions

RFM Revision
Paper format: RFM H160-B issue dated 06 October 2022 (approval reference 3223) *e-RFM data package*: AIRCREW H160-000 dated 06 October 2022 (approval reference 3224)

(4) Amending the applicable RFM of a helicopter as required by paragraph (3) of this AD constitutes an acceptable method to comply with the requirements of paragraph (7) of EASA AD 2022-0168 for that helicopter.

Repetitive Check(s):

(5) After the modification as required by paragraph (1) of this AD, within the thresholds and intervals as specified in the DN, as defined in this AD, accomplish operational checks of the AMC in accordance with the instructions of the DN.

Corrective Action(s):

(6) In case of finding discrepancies during accomplishment of any operational check as required by paragraph (5) of this AD, before next flight, accomplish the applicable corrective action(s) in accordance with the applicable AH maintenance documentation.

Ref. Publications:

AH ASB H160-46-20-0001 original issue dated 06 July 2023.

AH DN.516.0012.1 dated 07 June 2023.

AH RFM H160-B issue dated 06 October 2022 (approval reference 3223).

AH e-RFM data package AIRCREW H160-000 dated 06 October 2022 (approval reference 3224).

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, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication.

3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: 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 (Technical Support) at:
Web portal: https://airbusworld.helicopters.airbus.com
E-mail: TechnicalSupport.Helicopters@airbus.com, or Telephone +33 (0)4 42 85 97 89.