Emergency Airworthiness Directive

AD No.: 2022-0209-E

Issued: 12 October 2022

Note: This Emergency 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:

LEONARDO S.p.A.

Type/Model designation(s):

AB139 and AW139 helicopters

Effective Date: 14 October 2022

TCDS Number(s): EASA.R.006

Foreign AD: Not applicable

Supersedure: None

ATA 91 – Harness Installation – Forward Roof Area – Inspection

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Manufacturer(s):

Leonardo S.p.A. Helicopters, formerly Finmeccanica S.p.A, AgustaWestland S.p.A., Agusta S.p.A.; and AgustaWestland Philadelphia Corporation, formerly Agusta Aerospace Corporation

Applicability:

AB139 and AW139 helicopters, serial number (s/n) 31005 to 31984 inclusive (except s/n 31007, 31803, 31959, 31967, 31969, 31974, 31982 and 31983), 41001 to 41580 inclusive, and from 41801 to 41806 inclusive.

Definitions:

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

The ASB: Leonardo Emergency Alert Service Bulletin (ASB) 139-731.

Torque Tube: Collective torque tube C3, Part Number (P/N) 3E6711A00433.

The diode: Diode A77, P/N 3G2430V00352.

Reason:

An occurrence was reported of smoke and fire ignition in the cockpit of an AW139 helicopter, leading to reduced control. The initial investigation evidence revealed signs of short circuit inside the forward cabin roof ceiling panel, due to chafing of an electrical cable against the rivets of the upper torque tube. It was determined that the chafed electrical cable was not routed in accordance with the applicable production drawings. Investigation is still ongoing to determine the root cause of the event.

This condition, if not detected and corrected, could lead to damage of electrical wiring, possibly resulting in a fire in the forward cabin roof ceiling and consequent loss of control of the helicopter.

To address this potential unsafe condition, Leonardo issued the ASB, to provide inspection instructions.

For the reasons described above, this AD requires a one-time visual inspection of the condition and routing of the electrical cables, the torque tube and the diode, all located inside the forward roof cabin ceiling, and, depending on findings, accomplishment of applicable corrective action(s).

This AD is considered to be an interim action and further AD action may follow.

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

Required as indicated, unless accomplished previously:

Inspections:

(1) Within 10 flight hours (FH) after the effective date of this AD accomplish a borescope inspection of the cable installation inside the forward cabin roof ceiling, in accordance with the instructions of section 3 PART I of the ASB.

(2) Within 25 FH after the effective date of this AD accomplish a visual inspection for damage of the cables and the diode in the forward cabin roof ceiling in accordance with the instructions of section 3 PART II of the ASB.

Corrective Action(s):

(3) If, during the inspection as required by paragraph (1) of this AD, an incorrect installation of cables, as specified in the ASB, is detected, before next flight, accomplish a visual inspection of the forward cabin roof ceiling for chafing of the cables and damage of the torque tube in accordance with the instructions of section 3 PART I of the ASB.

(4) If, during the inspection as required by paragraph (3) of this AD, any discrepancy, as identified in the ASB, is detected, before next flight, contact Leonardo for approved corrective action(s) instructions and accomplish those instructions accordingly.

(5) If, during the inspection as required by paragraph (1) of this AD, an incorrect installation of cables, as specified in the ASB, is detected, before next flight, restore the correct installation of the cables in accordance with the instructions of section 3 PART I of the ASB.

(6) If, during the inspection as required by paragraph (2) of this AD, any cable chafing is detected, before next flight, contact Leonardo for approved corrective action(s) instructions and accomplish those instructions accordingly.

(7) If, during the inspection as required by paragraph (2) of this AD, a clearance of less than 10 mm between the cable and the diode is found, before next flight, restore the required clearance in accordance with the instructions of section 3 PART II of the ASB.

(8) If, during the inspection as required by paragraph (2) of this AD, the diode is found damaged, before next flight, contact Leonardo for approved corrective action(s) instructions and accomplish those instructions accordingly.

Reporting:

(9) If, during any inspection as required by this AD, any discrepancy is detected, as identified in the ASB, within 30 days after that inspection report the results to Leonardo.

Ref. Publications:

Leonardo ASB 139-731 original issue dated 11 October 2022.

The use of later approved revisions of the above-mentioned document 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. The results of the safety assessment have indicated the need for immediate publication and notification, without the full consultation process.

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: Leonardo S.p.A. Helicopters. E-mail: engineering.support.lhd@leonardocompany.com.