

Airworthiness Directive

AD No.: 2024-0004

Issued: 05 January 2024

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:

LEONARDO S.p.A.

Type/Model designation(s):

A109 helicopters

Effective Date: 19 January 2024

TCDS Number(s): EASA.R.005

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2022-0153 dated 28 July 2022.

ATA 53 – Fuselage – Centre Fuselage Frame Assembly – Inspection / Repair / Modification

Manufacturer(s):

Leonardo S.p.A. Helicopters, formerly Finmeccanica S.p.A., AgustaWestland S.p.A., Agusta S.p.A.

Applicability:

A109E helicopters, all serial numbers (s/n);
 A109S helicopters, all s/n up to 22199 inclusive; and
 A109LUH helicopters, all s/n.

Definitions:

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

The ASB: Leonardo Alert Service Bulletins (ASB) 109EP-173 Revision (Rev.) B, ASB 109EP-179 Rev. A, ASB 109S-109 Rev. A or ASB 109L-120 Rev. A, as applicable.

Affected area: Centre fuselage frame assembly at station (STA) 1815 at the intersection of lateral pylon with floor spar, left-hand (LH) and right-hand (RH) sides.

Groups: Group 1 helicopters are A109E helicopters having an s/n from 11001 to 11674 inclusive. Group 2 helicopters are those which are not Group 1 helicopters.

Reason:

Occurrences have been reported of finding cracks in the affected area on A109E helicopters.

This condition, if not detected and corrected, could affect the structural integrity of the helicopter.

To address this potential unsafe condition, Leonardo published ASB 109EP-173, original issue, providing inspection instructions for the affected area, and EASA issued AD 2020-0256 to require accomplishment of those inspections and, depending on findings, repair.

After that AD was issued, it was determined that additional helicopter models are likely affected by a similar potential unsafe condition. Leonardo published the previous revision of the ASB, as defined in this AD, to provide inspection instructions accordingly, and EASA issued AD 2022-0153, retaining the requirements of EASA AD 2020-0256, which was superseded, and expanding the Applicability to all A109E helicopters, and by adding A109LUH and certain A109S helicopters.

Since that AD was issued, Leonardo developed a modification for the affected area, and published the ASB, as defined in this AD, providing modification instructions.

For the reasons described above, this AD retains the requirements of EASA AD 2022-0153, which is superseded, and additionally requires modification of the affected area, which provides terminating action for the repetitive inspections.

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

Required as indicated, unless accomplished previously:

Repetitive Inspections:

- (1) For Group 1 helicopters: Within the compliance time as defined in Table 1 of this AD, as applicable, and, thereafter, at intervals not exceeding 100 flight hours (FH), inspect each affected area in accordance with the instructions of the ASB.

Table 1 – Initial Inspection (see Note 1 of this AD) for Group 1 helicopters

FH and Landings	Compliance Time
Less than 1 000 FH and less than 3 500 landings	Within 100 FH after accumulation of 1 000 FH or 3 500 landings, whichever occurs first
1 000 FH or more, or 3 500 landings or more	Within 100 FH after 01 December 2020 [the effective date of EASA AD 2020-0256]

Note 1: Unless otherwise specified, the FH and landings indicated in Table 1 of this AD are those accumulated on 01 December 2020 [the effective date of EASA AD 2020-0256] by the helicopter since first flight.

- (2) For Group 2 helicopters: Within the compliance time as identified in Table 2 of this AD, as applicable, and, thereafter, at intervals not exceeding 100 FH, inspect each affected area in accordance with the instructions of the ASB.



Table 2 – Initial Inspection (see Note 2 of this AD) for Group 2 helicopters

FH and Landings	Compliance Time
Less than 1 000 FH and less than 3 500 landings	Within 100 FH after accumulation of 1 000 FH or 3 500 landings, whichever occurs first
1 000 FH or more, or 3 500 landings or more	Within 100 FH after 11 August 2022 [the effective date of EASA AD 2022-0153]

Note 2: Unless otherwise specified, the FH and landings indicated in Table 2 of this AD are those accumulated on 11 August 2022 [the effective date of EASA AD 2022-0153] by the helicopter since first flight.

Corrective Action(s):

- (3) For Group 1 and Group 2 helicopters: If, during any inspection as required by paragraph (1) or (2) of this AD, as applicable, one crack is detected on the FWD CAP, LH or RH side, having a length of 50 mm or less, and no other damage is detected in the affected area, within 25 FH after detection of the crack, accomplish the fuselage reinforcement, LH or RH side, as applicable, in accordance with the instructions of the ASB.
- (4) For Group 1 and Group 2 helicopters: If, during any inspection as required by paragraph (1) or (2) of this AD, as applicable, any crack is detected on the FWD CAP, LH or RH side, or both, as applicable, having a length of more than 50 mm, but not exceeding the boundaries of the FWD CAP, INNER FORWARD ANGLE or WEB, or any other damage is detected in the affected area, before next flight, accomplish the fuselage reinforcement, LH or RH side, or both, as applicable, in accordance with the instructions of the ASB.
- (5) For Group 1 and Group 2 helicopters: If, during any inspection as required by paragraph (1) or (2) of this AD, as applicable, any crack is detected exceeding the boundaries of the FWD CAP, INNER FORWARD ANGLE or WEB, before next flight, contact Leonardo for approved repair instructions and accomplish those instructions accordingly.

Modification:

- (6) For Group 1 and Group 2 helicopters: Unless already accomplished as required by paragraph (3) or (4) of this AD, as applicable, within 32 months after the effective date of this AD accomplish the fuselage reinforcement, LH and RH sides, in accordance with the instructions of the ASB.

Credit:

- (7) For Group 1 and Group 2 helicopters: Inspections, accomplished on a helicopter before the effective date of this AD in accordance with the instructions of Leonardo ASB 109EP-173 original issue or Rev. A, ASB 109EP-179 original issue, ASB 109S-109 original issue or ASB 109L-120 original issue, as applicable, are acceptable to comply with the initial inspection requirement of paragraph (1) or (2) of this AD, as applicable, for that helicopter.
- (8) For Group 1 and Group 2 helicopters: Repair(s) accomplished on a helicopter before the effective date of this AD in accordance with the instructions of Leonardo ASB 109EP-173 original issue or Rev. A, ASB 109EP-179 original issue, ASB 109S-109 original issue or ASB 109L-



120 original issue, as applicable, or in accordance with applicable Leonardo approved repair instructions, are acceptable to comply with the requirements of paragraph (3), (4) or (5) of this AD, as applicable, for that helicopter (see also paragraph (12) of this AD).

- (9) For Group 1 and Group 2 helicopters: Following repair of a helicopter in an affected area as defined in paragraph (8) of this AD, or in accordance with repair drawing Part Number (P/N) 109-0952-67-117 (LH side) or P/N 109-0952-67-102 (RH side), as applicable, the next due inspection of that affected area, as required by paragraph (1) or (2) of this AD, as applicable, can be deferred up to 1 000 FH or 3 500 landings, whichever occurs first after the repair. Subsequently, inspections of that area must be accomplished at intervals not exceeding 100 FH.

Terminating Action:

- (10) Reinforcement of the affected area on a helicopter, LH and RH sides, in accordance with the instructions of the ASB, constitutes terminating action for the repetitive inspections as required by paragraph (1) or (2) of this AD, as applicable, for that helicopter.
- (11) Accomplishment of a repair (including post repair inspections, as applicable) on a helicopter in accordance with approved repair instructions as required by paragraph (5) of this AD does not constitute terminating action for the repetitive inspections as required by paragraph (1) or (2) of this AD, as applicable, for that helicopter, unless otherwise specified in those instructions.
- (12) Accomplishment of corrective action(s) on a helicopter, as defined in paragraph (8) of this AD, does not constitute terminating action for the repetitive inspections as required by paragraph (1) or (2) of this AD, as applicable, for that helicopter.

Ref. Publications:

Leonardo S.p.A. ASB 109EP-173 original issue dated 10 November 2020, rev. A dated 21 July 2022 and Rev. B dated 24 August 2023, including Errata Corrige dated 29 August 2023.

Leonardo S.p.A. ASB 109EP-179 original issue dated 21 July 2022 and Rev. A dated 24 August 2023.

Leonardo S.p.A. ASB 109S-109 original issue dated 21 July 2022 and Rev. A dated 24 August 2023.

Leonardo S.p.A. ASB 109L-120 original issue dated 21 July 2022 and Rev. A dated 24 August 2023.

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. This AD was posted on 16 October 2023 as PAD 23-110 for consultation until 13 November 2023. The Comment Response Document can be found in the [EASA Safety Publications Tool](#), in the compressed (zipped) file attached to the record for this AD.



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.

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