

Airworthiness Directive

AD No.: 2023-0105

Issued: 23 May 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:

LEONARDO S.p.A.

Type/Model designation(s):

A109C, A109E, A109K2, A109LUH, A109S, AW109SP helicopters

Effective Date: 06 June 2023

TCDS Number(s): EASA.R.005

Foreign AD: Not applicable

Supersedure: None

ATA 64 – Tail Rotor – Tail Rotor Duplex Bearing Housing and Slider Group Assembly – Replacement

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:

A109C, A109E, A109K2, A109LUH, A109S and AW109SP helicopters, all serial numbers.

Definitions:

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

The ASB: Leonardo Alert Service Bulletin (ASB) 109-158, ASB 109EP-180, ASB 109K-076, ASB 109L-121, ASB 109S-115 and ASB 109SP-154, as applicable.

The updated procedure: MM Paragraph 64-30-3 Rev. 5 (for A109C helicopters), MM Paragraph 64-31-6 Rev. 16 (for A109E helicopters), MM Paragraph 64-30-5 Rev. 5 (for A109K2 helicopters), AM DM 64-31-10-00A-710A-B Issue 13 (for A109LUH helicopters) or AMP DM 0B-A-64-31-06-00A-710A-B Issue 13 (for A109S and AW109SP helicopters), as applicable, or later revisions.

Affected part: Any tail rotor duplex bearing housing having Part Number (P/N) 109-0130-94-XXX and any pitch change slider assembly having P/N 109-0130-91-XXX (where 'XXX' represents any numerical sequence) which has been disassembled and (re)assembled in service; except those which have been last time assembled in accordance with the instructions of the updated procedure (as referenced in Annex A of the ASB).

Serviceable part: Tail rotor duplex bearing housings and pitch change slider assemblies, eligible for installation, which are not affected parts (see Note 1 of this AD).

Groups: Group 1 are helicopters which have an affected part installed. Group 2 are helicopters which do not have an affected part installed.

Reason:

Loosening of the tail rotor duplex bearing locking nut have been reported. Relevant investigations identified incorrect accomplishment of the assembly and continued maintenance instructions of the tail rotor duplex bearing housing and slider group as the most likely root cause of the reported events.

This condition, if not detected and corrected, could lead to failure of the tail rotor function, possibly resulting in loss of control of the helicopter.

To address this potentially unsafe condition, Leonardo improved the maintenance instructions to minimize the likelihood of occurrence of potential human errors by providing additional guidelines and including a better identification of the Vital Points in the assembly procedure of the tail rotor duplex bearing support.

Leonardo also issued the ASB, providing instructions to (re)assemble the tail rotor duplex bearing housing and slider group assembly in accordance with the updated instructions.

For the reason described above, this AD requires replacement of affected parts with serviceable parts and provides additional requirements for installation of the tail rotor duplex bearing housing and slider group assembly.

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

Required as indicated, unless accomplished previously:

Replacement:

- (1) For Group 1 helicopters: Within 100 flight hours or 6 months, whichever occurs first after the effective date of this AD, replace the affected part with a serviceable part in accordance with the instructions of Part I of the ASB (see Note 1 of this AD).

Note 1: After having been disassembled in accordance with the instructions of the applicable Aircraft Maintenance Manual instructions and assembled in accordance with the instructions of the updated procedure (as referenced in Annex A of the ASB), an affected part is considered to be a serviceable part, as defined in this AD.



Parts Installation:

- (2) For Group 1 and Group 2 helicopters: From the effective date of this AD, do not install an affected part on any helicopter.

Ref. Publications:

Leonardo ASB 109-158 original issue dated 21 March 2023.

Leonardo ASB 109EP-180 original issue dated 21 March 2023.

Leonardo ASB 109K-076 original issue dated 21 March 2023.

Leonardo ASB 109L-121 original issue dated 21 March 2023.

Leonardo ASB 109S-115 original issue dated 21 March 2023.

Leonardo ASB 109SP-154 original issue dated 21 March 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 19 April 2023 as PAD 23-048 for consultation until 17 May 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, Customer Support & Services, Product Support Engineering, E-mail: absereng.aw@leonardocompany.com.

