



## Airworthiness Directive

**AD No.:** 2019-0182

**Issued:** 26 July 2019

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, 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 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:** 02 August 2019

**TCDS Number(s):** EASA.R.005

**Foreign AD:** Not applicable

**Supersedure:** None

### ATA 32 – Landing Gear – Enhanced Main Landing Gear Strut Assembly – Inspection

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**Manufacturer(s):**

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

**Applicability:**

A109E, A109LUH, A109S and AW109SP helicopters, all serial numbers (s/n).

**Definitions:**

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

**The applicable SB:** Leonardo Service Bulletin (SB) 109EP-168, SB 109L-106, SB 109S-090 and SB 109SP-131, as applicable.

**Affected part:** Left-hand side (LH) wheel axles, having Part Number (P/N) M019-01H003-101 and having a s/n 1 to 146 (inclusive), or a s/n 152 to 172 (inclusive); and right-hand side (RH) wheel axles, having P/N M019-01H003-102 and having a s/n 1 to 147 (inclusive), or a s/n 153 to 173 (inclusive).

**Affected assembly:** Enhanced main landing gear (MLG) strut assemblies, having P/N 109-0503-45-101 (LH) or P/N 109-0503-45-102 (RH), and having an affected part installed.



**Serviceable assembly:** An MLG strut assembly which is not an affected assembly; or an affected assembly which, within 12 months before installation, has passed an inspection and had corrosion preventive compound applied in accordance with the instructions of the applicable SB.

**Reason:**

Occurrences have been reported of MLG wheel assembly failure on A109E helicopters. Subsequent investigations identified stress corrosion and hydrogen embrittlement on the threaded end of the MLG strut, where lack of cadmium plating was observed, and determined that a certain batch of 'Enhanced' MLG may be affected.

This condition, if not detected and corrected, could lead to cracks on the affected assembly, possibly resulting in damage or failure of the MLG, with consequent damage to the helicopter and injury to occupants. Due to similarity of design, other A109 models are also affected.

To address this potential unsafe condition, Leonardo issued the applicable SB, providing inspection instructions.

For the reasons described above, this AD requires repetitive inspections of each affected assembly, and, depending on findings, replacement, or application of corrosion preventive compound.

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

Required as indicated, unless accomplished previously:

**Inspection(s):**

- (1) Within 50 flight hours, or 200 landings, or 6 months, whichever occurs first after the effective date of this AD, and, thereafter, at intervals not exceeding 12 months, inspect each affected assembly in accordance with the instructions of the applicable SB.

**Corrective Action(s):**

- (2) If, during any inspection as required by paragraph (1) of this AD, any crack is detected on an affected assembly, before next flight, replace that affected assembly with a serviceable assembly in accordance with the instructions of the applicable SB.

**Corrosion Protection:**

- (3) If, during any inspection as required by paragraph (1) of this AD, no crack is detected on an affected assembly, before next flight, apply corrosion preventive compound on that affected assembly in accordance with the instructions of the applicable SB.

**Terminating Action:**

- (4) None.

**Part(s) installation:**

- (5) From the effective date of this AD, it is allowed to install on any helicopter an affected assembly, provided it is a serviceable assembly, as defined in this AD.

**Ref. Publications:**

Leonardo S.p.A. SB 109EP-168 original issue dated 28 June 2019.



Leonardo S.p.A. SB 109L-106 original issue dated 28 June 2019.

Leonardo S.p.A. SB 109S-090 original issue dated 28 June 2019.

Leonardo S.p.A. SB 109SP-131 original issue dated 28 June 2019.

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 05 July 2019 as PAD 19-118 for consultation until 19 July 2019. The Comment Response Documents 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 Programming and Continued Airworthiness 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](#).
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 DPT, via Giovanni Agusta 520, 21017 Cascina Costa di Samarate (VA) – Italy  
Telephone: +39 0331 711439, Fax: +39 0331 225988,  
E-mail: [aw109.mbx.AW@leonardocompany.com](mailto:aw109.mbx.AW@leonardocompany.com).

