



Airworthiness Directive

AD No.: 2016-0244

Issued: 14 December 2016

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 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 (EC) 216/2008, Article 14(4) exemption].

Design Approval Holder's Name:

LEONARDO S.p.A.

Type/Model designation(s):

AB412 helicopters

Effective Date: 28 December 2016

TCDS Number(s): EASA.R.114

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2013-0187 dated 16 August 2013.

ATA 63 – Main Rotor Drive – Rotor Brake Pinion – Replacement

Manufacturer(s):

AgustaWestland S.p.A. (formerly Agusta S.p.A., Costruzioni Aeronautiche Giovanni Agusta)

Applicability:

AB412 and AB412EP helicopters, all serial numbers.

Reason:

One case was reported of a cracked rotor brake pinion, part number (P/N) 412-040-301-101, installed in the rotor brake quill P/N 412-040-123-103 of an AB412 helicopter.

This condition, if not detected and corrected, could lead to the failure of the pinion with detachment of parts inside the transmission that could cause its malfunction or jamming, finally resulting in loss of control of the helicopter.

To address this potential unsafe condition, AgustaWestland issued Bollettino Tecnico (BT) 412-135 to provide inspection instructions, and EASA issued AD 2013-0187 to require a one-time magnetic particle inspection (MPI) of the pinion and, depending on findings, replacement with a serviceable part.

Since that AD was issued, a new case of a cracked pinion has been reported. The results of the investigation revealed that this crack was due to a defect generated during the pinion



manufacturing process. In agreement with EASA, Leonardo issued BT 412-147, providing instructions to identify and replace all the pinions belonging to the same manufacturing batch.

Considering the fact that only a limited number of parts is affected, it was agreed to postpone AD action, waiting for feedback from the operators of affected helicopters. Unfortunately, Leonardo received confirmation of replacement only for one pinion, out of three belonging to the affected manufacturing batch.

For the reasons described above, this AD retains the requirements of EASA AD 2013-0187, which is superseded, and requires replacing some pinions identified by serial number (s/n).

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

Required as indicated, unless accomplished previously:

Note 1: For the purpose of this AD, the rotor brake pinion, P/N 412-040-301-101, is referred to as “the pinion”.

Restatement of the requirements of EASA AD 2013-0187:

Inspection:

- (1) Within 100 flight hours or 5 months, whichever occurs first after 30 August 2013 [the effective date of EASA AD 2013-0187], for a rotor brake quill assembly P/N 412-040-123-103 which has never been overhauled, accomplish an MPI of the pinion (see Note 1 of this AD) in accordance with the instructions of AgustaWestland BT 412-135 Rev. A.

Corrective Action:

- (2) If, during the inspection as required by paragraph (1) of this AD, a crack is detected, before next flight, replace the pinion with a serviceable part in accordance with the instructions of AgustaWestland BT 412-135 Rev. A.

Parts Installation:

- (3) From 30 August 2013 [the effective date of EASA AD 2013-0187], installation on a helicopter of a pinion (see Note 1 of this AD) is allowed, provided it is new, or it is overhauled, or it has passed an inspection in accordance with the instructions of AgustaWestland BT 412-135 Rev. A.

New requirements of this AD:

Inspection:

- (4) Within 3 months after the effective date of this AD, inspect the helicopter in accordance with the instructions of Leonardo BT 412-147 to determine whether an affected pinion (see Note 2 of this AD) is installed. A review of helicopter maintenance records is acceptable to make the determination as required by this paragraph, provided those records can be relied upon for that purpose.

Note 2: For the purpose of this AD, a pinion (see Note 1 of this AD) is an “affected pinion” if it has s/n C17987 or s/n C17991.



Corrective Action:

- (5) If, during the inspection as required by paragraph (4) of this AD, an affected pinion is found installed (see Note 2 of this AD), before next flight, replace that pinion with a serviceable part in accordance with the instructions of Leonardo BT 412-147.

Parts Installation:

- (6) From the effective date of this AD, do not install an affected pinion (see Note 2 of this AD) on any helicopter.

Ref. Publications:

AgustaWestland BT 412-135 Rev. A dated 29 July 2013.

Leonardo S.p.A. Helicopters BT 412-147 original issue, dated 12 September 2016.

The use of later approved revisions of these 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. For any question concerning the technical content of the requirements in this AD, please contact: Leonardo S.p.A. Helicopters, Customer Support & Services
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