



Airworthiness Directive

AD No.: 2020-0042

Issued: 28 February 2020

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:

AIRBUS HELICOPTERS

Type/Model designation(s):

EC 175 B helicopters

Effective Date: 13 March 2020

TCDS Number(s): EASA.R.150

Foreign AD: Nor applicable

Supersedure: This AD supersedes AD 2019-0169 issued on 16 July 2019.

ATA 63 – Main Rotor Drive – Main Gearbox Top Sensor / Main Rotor Mast Lubrication System – Inspection

Manufacturer(s):

Airbus Helicopters (AH)

Applicability:

EC 175 B helicopters, all serial numbers (s/n).

Definitions:

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

ASB1: AH EC175 Emergency Alert Service Bulletin (ASB) 05A027 Revision 1.

ASB2: AH EC175 Emergency ASB 05A031.

Affected part 1: Any main gearbox (MGB) with a manufacturing date before 01 December 2018, except MGB having s/n M105, M109, M126, M138, M141, M143, M152, M154, M157, M159, M161, M166, M167 and M171, and except MGB which passed an inspection in accordance with the instructions of section 3.B.3 or 3.B.5 of ASB1, or ASB2.



Serviceable part 1: Any MGB which is not an affected part 1, or an affected part 1 which, before next flight after installation, has passed an inspection (no defects detected) in accordance with the instructions of section 3.B.3 of ASB1, or ASB2.

Affected part 2: Any MGB identified as “applicable” in the flowcharts included in the effectivity section of ASB2, except MGB having s/n M174.

Serviceable part 2: Any MGB which is not an affected part 2, or an affected part 2 which, before next flight after installation, has passed an inspection (no defects detected) in accordance with the instructions of ASB2.

Groups: Group 1 helicopters are those that have an affected part 1 installed.

Group 2 helicopters are those that have an affected part 2 installed.

Reason:

Some uneventful occurrences were reported of finding foreign object debris (FOD), generated during the manufacturing and/or overhaul of MGB assemblies. Results of the technical investigation identified that FOD in the MGB may lead to a loss of lubrication of the mast bearing.

This condition, if not detected and corrected, could subsequently lead to mast bearing seizure, possibly resulting in loss of control of the helicopter.

To address this potential unsafe condition, AH published the original issue of EC175 Emergency ASB 05A027 to provide inspection instructions. Consequently, EASA issued AD 2019-0003 to require repetitive inspections of the top sensor installed on the MGB and, depending on findings, accomplishment of applicable corrective action(s).

After that AD was issued, AH developed an inspection of the main rotor (MR) mast bearing lubrication system for foreign objects. If the MR mast passed the inspection, that constituted terminating action for the repetitive inspections as required by AD 2019-0003. Accordingly, AH issued ASB1, as defined in this AD, to provide those inspection instructions. Consequently, EASA issued AD 2019-0169, retaining the requirement of EASA AD 2019-0003, which was superseded, and adding a one-time inspection of the mast bearing lubrication line and, depending on findings, accomplishment of applicable corrective action(s). Following that action, no further inspections were required by that AD.

Since that AD was issued, a further occurrence has been reported on an MGB not subject to the inspections required by AD 2019-0169, and AH issued ASB2, providing instructions to accomplish the same inspections as provided by ASB1 on a wider population of MGB.

For the reasons described above, this AD partially retains the requirement of AD 2019-0169, which is superseded, and requires repetitive inspections of the additional MGB, until accomplishment of a one-time inspection of the MR mast lubrication system and, depending on findings, applicable corrective action(s).



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

Required as indicated, unless accomplished previously:

Inspection(s):

- (1) For Group 1 helicopters: Within 400 flight hours (FH) or 6 months, whichever occurs first after 30 July 2019 [the effective date of EASA AD 2019-0169], inspect the MR mast lubrication system in accordance with the instructions of section 3.B.3 of ASB1 or of ASB2.
- (2) For Group 2 helicopters: Within 10 FH after the effective date of this AD, and, thereafter, at intervals not to exceed 60 FH, inspect the MGB top sensor of the affected part 2 in accordance with the instructions of ASB2.
- (3) For Group 2 helicopters: Within 600 FH or 6 months, whichever occurs first after the effective date of this AD, inspect the MR mast lubrication system in accordance with the instructions of section 3.B.3 of ASB2.

Corrective Action(s):

- (4) If, during the inspection as required by paragraph (1) of this AD, any foreign objects are detected, before next flight, replace the MGB with serviceable part 1 and, concurrently, replace the main rotor mast assembly in accordance with the instructions of ASB1.
- (5) If, during any inspection as required by paragraph (2) of this AD, the top sensor is not covered with an oil film, before next flight, replace the MGB with serviceable part 2 and, concurrently, replace the main rotor mast assembly in accordance with the instructions of ASB2.
- (6) If, during the inspection as required by paragraph (3) of this AD, any foreign objects are detected, before next flight, replace the MGB with serviceable part 2 and, concurrently, replace the main rotor mast assembly in accordance with the instructions of ASB2.

Terminating Action:

- (7) Inspection and, depending on findings, correction of a helicopter as required by paragraphs (3) and (6) of this AD, as applicable, constitute(s) terminating action for the repetitive inspections as required by paragraph (2) of this AD for that helicopter.

Parts Installation:

- (8) For all helicopters: From the effective date of this AD, it is allowed to install on any helicopter an MGB, provided that it is a serviceable part 2, as defined in this AD. Following installation on a helicopter of an affected part 2, as defined in this AD, repetitive inspections are required by paragraph (2) of this AD for that helicopter, pending inspection as required by paragraph (3) of this AD.

Ref. Publications:

AH EC175 Emergency ASB 05A027 original issue dated 19 December 2018, and Revision 1 dated 08 May 2019.

AH EC175 Emergency ASB 05A031 original issue dated 12 February 2020.



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. 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 Programming and Continued Airworthiness 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](#).
5. For any question concerning the technical content of the requirements in this AD, please contact: Airbus Helicopters (Technical Support), Aéroport de Marseille Provence 13725 Marignane Cedex, France, Telephone +33 (0)4 42 85 97 97
Web portal: <https://keycopter.airbushelicopters.com> Technical Requests Management, or
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