



Emergency Airworthiness Directive

AD No.: 2017-0127-E

Issued: 21 July 2017

Note: This Emergency 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:

AIRBUS HELICOPTERS

Type/Model designation(s):

EC175 B helicopters

Effective Date: 25 July 2017

TCDS Number(s): EASA.R.150

Foreign AD: Not Applicable

Supersedure: This AD supersedes EASA Emergency AD 2016-0262-E dated 21 December 2016.

ATA 55 – Stabilizers – Horizontal Stabilizer Attachment Bolts – Inspection / Clearance Check

Manufacturer(s):

Airbus Helicopters (AH)

Applicability:

EC175 B helicopters, all serial numbers (s/n).

Reason:

During a daily inspection of an EC175 B helicopter, a gap was noticed between the horizontal stabilizer and its fitting. The subsequent torque check revealed the loss of torque of one of the nuts. After removal of the affected nut, the clearance was found to be above the maximum allowable value of 0.1 millimetres (mm). During a daily inspection of another helicopter, one of the two horizontal stabilizer attachment bolts was found to be protruding from its seat. At a closer inspection, the bolt was found broken in its threaded section and kept in place by the sealant.

These conditions, if not detected and corrected, could lead to in-flight loss of the horizontal stabilizer, possibly resulting in loss of control of the helicopter.

To address these potential unsafe conditions, as a precautionary measure pending completion of the investigation, AH issued EC175 Emergency Alert Service Bulletin (ASB) 05A014, providing inspection instructions. Consequently, EASA issued Emergency AD 2016-0243-E to require a



one-time measurement and recording of the clearance between the horizontal stabilizer and its fitting, repetitive inspections of the affected bolts for integrity and cracks, repetitive measurement of the tightening torque of the related nuts and, depending on findings, accomplishment of applicable corrective action(s).

After that AD was issued, further analyses were conducted and it was determined that visual inspection of the attachment area of the horizontal stabilizer was also necessary. As a result, EASA issued AD 2016-0262-E, retaining the requirements of EASA AD 2016-0243-E, which was superseded, additionally requiring repetitive visual inspections of the attachment area of the horizontal stabilizer and, depending on findings, accomplishment of applicable corrective action(s).

Since that AD was published, occurrences were reported of horizontal stabilizers, developing fretting on the bushings at the interface with the horizontal stabilizer fitting, and of damaged bolts, possibly caused by installation of non-chamfered washers under their heads. Subsequent investigation determined the necessity of introduction of a service limit for the bolts securing the horizontal stabilizer to the tail boom and additional inspections. Also, further analysis on the possible consequences, if the clearance between the horizontal stabilizer and its fitting exceeds a value of 0.1 mm, concluded that the accumulated service life of the affected horizontal stabilizer fittings must be recalculated applying some penalty factors for certain helicopters. Prompted by these findings and developments, AH issued EC175 ASB 05A014 Revision 2 to provide additional and improved inspection instructions.

For the reason described above, this AD partially retains the requirements of EASA AD 2016-0262-E, which is superseded, and additionally requires reduction of the inspection interval for the affected horizontal stabilizer, inspection of the contact areas between the affected horizontal stabilizer and stabilizer fitting, introduction of a service limit for the affected bolts, and implementation of a penalty factor to the flight hours (FH) accumulated by certain helicopters. This AD is still considered an interim action and further AD action may follow.

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

Required as indicated, unless accomplished previously:

Note 1: For the purpose of this AD, a horizontal stabilizer fitting P/N M536A3401102 is hereafter referred to as “the affected fitting” in this AD; a horizontal stabilizer P/N M551H1B01056 is hereafter referred to as “the affected stabilizer” in this AD; and bolts, P/N M008A5511218, securing the horizontal stabilizer to the tail boom, are hereafter referred to as “affected bolt” in this AD.

Note 2: Airbus Helicopters EC175 Emergency ASB 05A014, Revision 2 dated 20 July 2017, is hereafter referred to as “the ASB” in this AD.

For helicopters with s/n 5002 to 5010 inclusive, and s/n 5018, if equipped with an affected stabilizer fitting (see Note 1 of this AD):

Consumed Service Life Re-calculation:

- (1) Before next flight after the effective date of this AD, re-calculate the life accumulated by the affected stabilizer fitting since new in accordance with the instructions of Paragraph 3.B.8 of the ASB.



Life Limit Implementation / Part Replacement:

- (2) From the effective date of this AD, before the re-calculated service life of the affected stabilizer fitting, determined as required by paragraph (1) of this AD, exceeds the applicable limit as defined in the EC175 B Airworthiness Limitations Section (ALS), replace the affected fitting with a serviceable part in accordance with approved maintenance instructions.

For all helicopters:

Life Limitation:

- (3) From the effective date of this AD, before each affected bolt exceeds 1 000 FH since new, replace that affected bolt with a serviceable part in accordance with the instructions of paragraph 3.B.7 of the ASB.

One Time Visual Inspection:

- (4) Within 10 FH after the effective date of this AD, accomplish a visual inspection of the affected bolts installation in accordance with the instructions of paragraph 3.B.9 of the ASB.

Determination:

- (5) Before next flight after the effective date of this AD, determine the accumulated thickness loss (ATL) in accordance with the instructions of Paragraph 3.B.4 of the ASB.

Repetitive Inspections:

- (6) Within 10 FH after 13 December 2016 [the effective date of EASA AD 2016-0243-E], or since the last inspection as previously required by EASA AD 2016-0243-E, as applicable, and thereafter, at intervals not to exceed 10 FH, visually inspect each affected bolt in accordance with the instructions of Paragraph 3.B.3 of the ASB.
- (7) Within 10 FH after 23 December 2016 [the effective date of EASA AD 2016-0262-E], or since the last inspection as previously required by EASA AD 2016-0262-E, as applicable, and thereafter, at intervals not to exceed 10 FH, visually inspect the attachment area of the affected stabilizer in accordance with the instructions of Paragraph 3.B.3 of the ASB.
- (8) Within 55 FH after 13 December 2016 [the effective date of EASA AD 2016-0243-E], or since the last inspection as previously required by EASA AD 2016-0243-E, as applicable, and thereafter, at intervals not to exceed 55 FH, measure and record the tightening torque of the nuts of the affected bolts, including determination of the torque loss in compare with the value measured during latest inspection, or the nominal maximum value, as applicable, and accomplish a detailed inspection of the affected bolts, in accordance with the instructions of paragraph 3.B.4 of the ASB.
- (9) Within the compliance time defined in Table 1 of this AD, and, thereafter, at intervals not to exceed 200 FH, inspect the affected stabilizer and affected fittings in accordance with the instructions of Paragraph 3.B.6 of the ASB.



Table 1 – Horizontal Stabilizer Inspection (see Note 3 of this AD)

FH Accumulated	Compliance time
Less than 145 FH	Before exceeding 200 FH
145 FH or more	Within 55 FH after the effective date of this AD

Note 3: Unless specified otherwise, the FH indicated in Table 1 of this AD are those accumulated by the horizontal stabilizer since first installation on a helicopter.

Corrective Action(s):

- (10) If, during any inspection as required by paragraph (4), (6) or (8) of this AD, any bolt is found broken or, if during any inspection as required by paragraph (8), the loss of torque is more than 20%, before next flight, measure the clearance between the affected horizontal stabilizer and its fitting and determine the ATL in accordance with the instructions of Paragraph 3.B.4 of the ASB.
- (11) If, during any inspection as required by paragraph (4), any bolt is found damaged, before next flight, replace the damaged bolt(s) with a serviceable one in accordance with the instructions of the ASB. Alternatively, the damaged bolt(s) can be repaired in accordance with the instructions of the ASB and reinstalled, provided that, within 50 FH after reinstallation, each repaired bolt is replaced with a serviceable part.
- (12) If, during the determination, as required by paragraph (5) or (10) of this AD, as applicable, it is established that the ATL is 0.4 mm or more, within 50 FH after this determination, replace the affected stabilizer with a serviceable part in accordance with the instructions of the ASB.
- (13) If, during any inspection as required by paragraph (6) or (8) of this AD, as applicable, any cracked or any damaged bolt is detected, before next flight, replace both affected bolts with serviceable parts in accordance with the instructions of the ASB.
- (14) If, during any inspection, as required by paragraph (7) or (9) of this AD, as applicable, any damage (as defined in the ASB) to the affected stabilizer or an affected fitting is detected, before next flight, replace each damaged part with a serviceable part in accordance with the instructions of the ASB.

Credit:

- (15) Inspections and corrective action(s), accomplished on a helicopter before the effective date of this AD in accordance with the instructions of AH EC175 Emergency ASB 05A014 at original issue or Revision 1, as applicable, are acceptable to comply with the initial requirements of paragraphs (6), (7), (8), (13) and (14) of this AD, as applicable, for that helicopter.

Terminating Action:

- (16) None.

Reporting:

- (17) If, during any action as required by paragraph (10) of this AD, the clearance between the affected stabilizer and affected fitting is found to exceed the maximum allowable value, as



defined in the ASB, or if during any inspection as required by this AD, an affected bolt is found cracked or broken, within 30 days after that finding, report to AH the measured clearance value or the damage of the affected bolt. Using the 'Response Form' of the ASB is an acceptable method to comply with this reporting requirement.

Part Installation:

- (18) From the effective date of this AD, installation on a helicopter of an affected stabilizer, affected fitting, or affected bolt (see Note 1 of this AD) is allowed, provided the part is new, or has been inspected and, depending on findings, corrected in accordance with the instructions of the ASB.

Ref. Publications:

AH EC175 ASB 05A014, original issue dated 07 December 2016, or Revision 1 dated 21 December 2016, or Revision 2 dated 20 July 2017.

AH EC175 B ALS, Revision 7 dated 27 January 2017.

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. The results of the safety assessment have indicated the need for immediate publication and notification, without the full consultation process.
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: Airbus Helicopters (Technical Support), Aéroport de Marseille Provence 13725 Marignane Cedex, France, Telephone +33 (0)4 42 85 97 97, Fax +33 (0)4 42 85 99 66, E-mail: Web portal: <https://keycopter.airbushelicopters.com> > Technical Requests Management, or E-mail: support.technical-airframe.ah@airbus.com.

