Airworthiness Directive

AD No.: 2017-0080

Issued: 05 May 2017

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:
AIRBUS HELICOPTERS

Type/Model designation(s):
EC 130 B4 and T2 helicopters

Effective Date: 19 May 2017

TCDS Number(s): EASA.R.008

Foreign AD: Not Applicable

Supersedure: This AD supersedes EASA Emergency AD 2017-0066-E dated 21 April 2017.

ATA 53 – Fuselage – Tail Boom / Fenestron Junction Frame – Inspection

---

Manufacturer(s):
Airbus Helicopters (formerly Eurocopter, Eurocopter France)

Applicability:
EC 130 B4 and EC 130 T2 helicopters, all serial numbers.

Reason:
Two events of crack propagation through the junction frame of the tail boom / Fenestron were reported following inspections of EC 130 B4 helicopters. The investigation revealed that the cracks initiated in the lower right hand part of the frame between the web and the flange where the lower spar of the tail boom is joined. Although the cracks were of significant length, no deterioration was visible from the outside of the helicopter.

This condition, if not detected and corrected, could lead to structural failure, possibly resulting in Fenestron detachment and consequent loss of control of the helicopter.

To address this potential unsafe condition, Airbus Helicopters (AH) issued EC130 Emergency Alert Service Bulletin (ASB) 05A017 to provide instructions for detailed visual inspections on the inside of the tail boom. Prompted by these findings, EASA issued Emergency AD 2014-0145-E (later revised) to require repetitive inspections of the affected area and, depending on findings, accomplishment of applicable corrective action(s).

After EASA AD 2014-0145R1 was published, it was determined that, apart from the existing flight hours (FH) inspection interval, an inspection interval defined in sling cycles was necessary. In addition, AH issued Service Bulletin (SB) EC130-53-029 which provides a modification (MOD 350A087421) that allowed the inspections to be accomplished from outside the tailboom. AH revised EC130 Emergency ASB 05A017 (Revision 2) accordingly, to define this alternative method. Consequently, EASA issued Emergency AD 2015-0033-E (later revised), retaining the requirements of EASA AD 2014-0145R1, which was superseded, to allow, for post-MOD 350A087421 and post-SB EC130-53-029 helicopters, an alternative visual (external) inspection method, although with reduced inspection intervals, in combination with the internal inspections at extended intervals. That AD also introduced an additional sling cycle interval, as defined in AH EC130 Emergency ASB 05A017 Revision 2, and specified that certain tasks can be accomplished by the pilot.

After EASA AD 2015-0033R1 was issued, an additional case of cracking was reported in the same area as the previous two events. Subsequent investigation determined that the detection of the crack was delayed as a result of insufficient cleaning of the area. Prompted by this occurrence, AH published EC130 Emergency ASB 05A017 Revision 4 to introduce a periodic cleaning of the inspected area inside of the tail boom / Fenestron junction frame. Consequently, EASA issued AD 2016-0240, retaining the requirements of EASA AD 2015-0033R1, which was superseded, and additionally required cleaning before accomplishment of an inspection.

After EASA AD 2016-0240 was issued, an additional case of cracking was reported in the same area as the previous three events. The latest event occurred on a junction frame that had accumulated significantly less FH than those of the previous events. Consequently, EASA issued Emergency AD 2017-0066-E, retaining the requirements of EASA AD 2016-0240, which was superseded, and reduced the inspection threshold for pre-MOD 350A087421 and pre-SB EC130-53-029 helicopters. AH revised EC130 Emergency ASB 05A017 (to Revision 5) accordingly, to reflect this reduced compliance time.

After EASA Emergency AD 2017-0066-E was issued, improved instructions of EC130 Emergency ASB 05A017 were determined necessary to specify that for each 660-FH inspection of post-MOD 350A087421 and post-SB EC130-53-029 helicopters, the removal of the stabilizer before the cleaning and visual inspection of the frame is necessary. EC130 Emergency ASB 05A017 was revised (to Revision 6) accordingly.

For the reasons described above, this AD retains the requirements of EASA AD 2017-0066-E, which is superseded, and requires removal of the stabilizer before the cleaning and visual inspection of the frame during each 660-FH inspection of post-MOD 350A087421 and post-SB EC130-53-029 helicopters.

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

Required as indicated, unless accomplished previously:

Inspection (except post-MOD AH 350A087421 and post-SB EC130-53-029 helicopters):

(1) Within the compliance time as specified in Table 1 of this AD, as applicable, accomplish the cleaning and detailed visual inspection of the frame web in the radius between the web and the flange on the tail cone side in accordance with the instructions of paragraphs 3.B.5 and 3.B.1 of AH EC130 Emergency ASB 05A017 Revision 4.

Table 1 – Inspection Threshold

FH accumulated (see Note 1)	**Compliance Time**
Less than 325 FH	Before exceeding 350 FH
325 FH or more, but less than 675 FH	Within 25 FH after 25 April 2017 [the effective date of EASA AD 2017-0066-E]
675 FH or more, but less than 690 FH	Before exceeding 700 FH
690 FH or more	Within 10 FH 25 April 2017 [the effective date of EASA AD 2017-0066-E]

Note 1: Unless specified otherwise, the FH referenced in Table 1 of this AD are those accumulated by the junction frame since first installation on a helicopter.

Repetitive Inspections:

(2) Within 25 FH or 390 sling cycles (see Note 2 of this AD), whichever occurs first after the inspection as required by paragraph (1) of this AD, and, thereafter, at intervals not to exceed 25 FH or 390 sling cycles, whichever occurs first, inspect the frame web in the radius between the web and the flange on the tail cone side in accordance with the instructions of paragraph 3.B.1 or 3.B.2 of AH EC130 Emergency ASB 05A017 Revision 4.

(3) Within 150 FH after the inspection as required by paragraph (1) of this AD and, thereafter, at intervals not to exceed 150 FH, accomplish the cleaning and detailed visual inspection of the frame web in the radius between the web and the flange on the tail cone side in accordance with the instructions of paragraphs 3.B.5 and 3.B.1 of AH EC130 Emergency ASB 05A017 Revision 4.

Note 2: The definition of sling cycles can be found in paragraph 1.E.2 (b) of AH EC130 Emergency ASB 05A017 Revision 4.

Credit:

(4) Accomplishment of a cleaning and detailed visual inspection on a helicopter, as required by paragraph (3) of this AD, is acceptable for compliance with an inspection as required by paragraph (2) of this AD for that helicopter.

Inspection of post-MOD AH 350A087421 or post-SB EC130-53-029 helicopters:

(5) Before exceeding 350 FH accumulated by the junction frame since first installation on a helicopter, or within 10 FH after modification (SB EC130-53-029 installation in-service), whichever occurs later, accomplish a visual inspection of the tailboom from outside in accordance with the instructions of paragraph 3.B.3 of AH EC130 Emergency ASB 05A017 Revision 6.

Repetitive Inspections:

(6) Within 10 FH or 250 sling cycles, whichever occurs first after the inspection as required by paragraph (5) of this AD, and, thereafter, at intervals not to exceed 10 FH or 250 sling cycles, whichever occurs first, accomplish a visual inspection (see Note 3 of this AD) of the tailboom

from outside in accordance with the instructions of paragraph 3.B.3 of AH Emergency ASB EC130 05A017 Revision 2 (or later approved revisions).

(7) Within 660 FH after the inspection as required by paragraph (5) of this AD, and, thereafter, at intervals not to exceed 660 FH, remove the stabilizer and accomplish the cleaning and detailed visual inspection of the frame web in the radius between the web and the flange on the tail cone side in accordance with the instructions of paragraphs 3.B.5 and 3.B.1 of AH EC130 Emergency ASB 05A017 Revision 6.

Note 3: The visual inspection as specified in paragraph 3.B.3 (a) of AH EC130 Emergency ASB 05A017 Revision 2 (or later approved revisions) may be carried out by the pilot.

Credit:

(8) Accomplishment of a cleaning and detailed visual inspection on a helicopter, as required by paragraph (7) of this AD, is acceptable for compliance with an inspection as required by paragraph (6) of this AD for that helicopter.

(9) Accomplishment of cleaning and detailed visual inspection(s) and corrective action(s) on a helicopter, before the effective date of this AD in accordance with the instructions of AH EC130 Emergency ASB 05A017 Revision 4, or Revision 5, is acceptable to comply with the initial inspection(s) as required by paragraph (5) and (7) of this AD for that helicopter.

Corrective Action(s):

(10) If, during any inspection as required by paragraph (1), (2), (3), (5), (6) or (7) of this AD, as applicable, any crack is detected, before next flight, contact AH for approved repair instructions and accomplish those instructions accordingly.

Terminating Action(s):

(11) Repair of a helicopter, as required by paragraph (10) of this AD, does not constitute terminating action for the repetitive inspections as required by this AD for that helicopter, unless explicitly indicated in those repair instructions.

Part Installation:

(12) Installation of a replacement (new) junction frame on a helicopter is allowed, provided that, before exceeding 350 FH after installation, cleaning and a detailed visual inspection of the frame web in the radius between the web and the flange on the tail cone side is accomplished, in accordance with the instructions of paragraph 3.B.5 and 3.B.1 of AH EC130 Emergency ASB 05A017 Revision 4, and, following installation, the helicopter is inspected as required by paragraph (2) and (3), or (6) and (7) of this AD, as applicable.

Ref. Publications:

AH EC130 Emergency ASB No. 05A017 Revision 2 dated 20 February 2015, or Revision 3 dated 07 March 2016, or Revision 4 dated 30 November 2016, or Revision 5 dated 21 April 2017, and Revision 6 dated 03 May 2017.

AH SB EC130-53-029 original issue dated 20 February 2015, or Revision 1 dated 27 January 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: Airbus Helicopters – Aéroport de Marseille Provence, 13725 Marignane Cedex, France
Telephone: +33 (4) 42 85 97 97, Fax: +33 (4) 42 85 99 66,
E-mail: support.technical-airframe.ah@airbus.com,
Web portal: https://keycopter.airbushelicopters.com > Technical Requests Management.