Emergency Airworthiness Directive

AD No.: 2017-0066-E

Issued: 21 April 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):

EC 130 B4 and T2 helicopters

Effective Date:	25 April 2017
TCDS Number(s):	EASA.R.008
Foreign AD:	Not applicable
Revision:	This AD supersedes EASA AD 2016-0240 dated 02 December 2016.

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 (RH) 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 unsafe condition, Airbus Helicopters (AH) issued EC130 Emergency Alert Service Bulletin (ASB) No. 05A017 to provide instructions for detailed visual checks 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 actions.

Since 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 is necessary. In addition, AH issued Service Bulletin (SB) EC130-53-029 which provides a modification (MOD) that will allow the inspections to be accomplished from outside the tailboom. AH have revised EC130 ASB No. 05A017 (Revision 2) accordingly, to define this alternative method.

Consequently, EASA issued Emergency AD 2015-0033-E, 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 ASB 05A017 Revision 2. That AD also specified that certain tasks can be accomplished by the pilot.

After EASA AD 2015-0033-E was issued, it was determined that, for helicopters with a tail boom / Fenestron junction frame installed, which has accumulated less than 1 200 FH, inspection was not necessary. To reflect this development, AH revised EC130 Emergency ASB No. 05A017 (Revision 3) and EASA issued AD 2015-0033R1 to extend the compliance time for the affected detailed visual inspection.

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 which retained the requirements of EASA AD 2015-0033R1, 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.

For the reasons described above, this AD retains the requirements of EASA AD 2016-0240, which is superseded, and reduces the inspection threshold for helicopters not modified in accordance with MOD AH 350A087421 or AH SB EC130-53-029. It is expected that the applicable inspection SB will be revised to reflect this reduced compliance time.

Required Action(s) and Compliance Time(s):
Required as indicated, unless accomplished previously:

Inspection for helicopters not modified in accordance with MOD AH 350A087421 or AH SB EC130-53-029

(1) Within the compliance time as specified in Table 1 of this AD, as applicable, accomplish a 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 the effective date of this AD
675 FH or more, but less than 690 FH	Before exceeding 700 FH
690 FH or more	Within 10 FH after the effective date of this AD

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 Inspection:

(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, accomplish an inspection 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 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 No. 05A017 Revision 4.

Credit:

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

(5) Accomplishment of the cleaning and detailed visual inspection and corrective action(s), before the effective date of this AD, in accordance with the instructions of paragraphs 3.B.5 and 3.B.1 of AH EC130 Emergency ASB 05A017 Revision 4 is acceptable to comply with the inspection as required by paragraph (1) of this AD.

Inspection for helicopters modified in accordance with MOD AH 350A087421 or AH SB EC130-53-029

(6) For helicopters modified in production by AH MOD 350A087421, or in service in accordance with the instructions of AH SB EC130-53-029, accomplish the inspections as specified in paragraphs (6.1) and (6.2) of this AD.

(6.1) Within 10 FH or 250 sling cycles, whichever occurs first after modification of the helicopter, and, thereafter, at intervals not to exceed 10 FH or 250 sling cycles, whichever occurs first, accomplish a visual inspection (see Note 3) 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).

(6.2) Within 660 FH after modification of the helicopter, and, thereafter, at intervals not to exceed 660 FH, accomplish a 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 paragraph 3.B.1 or 3.B.2 of AH Emergency EC130 ASB 05A017 Revision 2 (or later approved revisions).

Note 3: The visual inspection as specified in paragraph 3.B.3 (a) of AH Emergency ASB EC130 No. 05A017 Revision 2 (or later approved revisions) may be carried out by the pilot.

Corrective Action(s):

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

Terminating Action(s):

(8) Repair of a helicopter, as required by paragraph (7) 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:

(9) Installation of a replacement (new) junction frame on a helicopter is allowed, provided that, before exceeding 350 FH after installation, the 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 Airbus Helicopters EC130 Emergency ASB No. 05A017 Revision 4, and, following installation, the helicopter is inspected as required by paragraph (2), (3), or (6) 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.

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. 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 – Aéroport de Marseille Provence, 13725 Marignane Cedex, France
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