



Notification of a Proposal to issue an Airworthiness Directive

PAD No.: 21-019

Issued: 11 February 2021

Note: This Proposed Airworthiness Directive (PAD) 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.

In accordance with the EASA Continuing Airworthiness Procedures, the Executive Director is proposing the issuance of an EASA Airworthiness Directive (AD), applicable to the aeronautical product(s) identified below.

All interested persons may send their comments, referencing the PAD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation date indicated.

Design Approval Holder's Name:

AIRBUS HELICOPTERS

Type/Model designation(s):

AS 332 and EC 225 helicopters

Effective Date: [TBD - standard: 14 days after AD issue date]

TCDS Number(s): EASA.R.002

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA Emergency AD 2014-0098-E dated 25 April 2014.

ATA 53 – Fuselage – Splice of Frame X5295 – Inspection / Repair / Modification

Manufacturer(s):

Airbus Helicopters (AH), formerly Eurocopter (EC), Eurocopter France, Aerospatiale

Applicability:

AS 332 L2 helicopters, all serial numbers, if equipped with extended aluminium splices on frame X5295 installed in accordance with AH modification (MOD) 0726517, or EC AS332 Service Bulletin (SB) 53.01.52, or AH repair design 332-53-507-06, or 332-53-21-07, or 332-53-82-06; except helicopters embodying AH MOD 0728463, or AH SB AS 332-53.01.97, or repair design 332-53-409-12, or 332-53-1284-13, or 332-53-1079-16, or 332-53-1358-16; and

EC 225 LP helicopters, all serial numbers, if equipped with extended aluminium splices on frame X5295 installed in accordance with AH MOD 0726517, or EC EC225 SB 53-003 (pre MOD 0726493 and post MOD 0726517), except helicopters embodying AH MOD 0728463, or SB EC225-53-061.

Definitions:

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

The applicable inspection ASB: AH Alert Service Bulletin (ASB) AS332-05.00.97 Revision 1 and ASB EC225-05A038 Revision 1, as applicable.



The applicable modification SB: AH SB AS332-53.01.97 and SB EC225-53-061, as applicable.

ALF: After last flight (ALF) of the day inspection.

Reason:

Prompted by several reports of finding cracks on fuselage frame X5295, EASA issued AD 2006-0103R1 and AD 2007-0079 for AS332 L2 helicopters, and AD 2006-0102R1 for EC225 LP helicopters, to require repetitive inspections of the affected frame. Those ADs also introduced an optional terminating action for the repetitive inspections, which consisted of reinforcement of the frame X5295 by installing aluminium splices on both right-hand (RH) and left-hand (LH) fuselage external skins of the helicopter in accordance with AH MOD 0726517 or SB 53.01.52 or repair design 332-53-507-06 or EC225 SB 53-003, as applicable to helicopter model. Since those ADs were issued, during a scheduled inspection of a helicopter on which that terminating action had been embodied, a crack was detected on the modified frame.

The subsequent investigation revealed that the crack initiated on one splice, in an area hidden by overlapping junction profile of the cabin sliding door rail support, and then propagated to the frame. Optional AH MODs are available (MOD 332A081354.00 or SB 05.00.84 for AS332 L2 helicopters, and MOD 0728090 or MOD 332A081354.00 or SB 05-019 for EC225 LP helicopters), installing a cut-out of affected sliding door rail support junction profile to allow convenient inspection access to identify cracks in an affected splice. Modification of a helicopter to embody the sliding door rail support cut-out allows earlier detection of the crack initiation, therefore limits further damage at frame X5295. However, the modification had not been embodied on the affected helicopter.

This condition, if not detected and corrected, could lead to loss of structural integrity of the helicopter frame.

To address this potential unsafe condition, AH issued ASB AS332-05.00.97 and ASB EC225-05A038 (both original issue) to provide inspection instructions and instructions for a cut-out of junction profiles on the supports of both RH and left LH cabin sliding door rails. Consequently, EASA issued Emergency AD 2014-0098-E to require repetitive inspections and, depending on the helicopter configuration, modification of both RH and LH cabin sliding door rail supports.

Since that AD was issued, AH developed MOD 0728463, available for helicopters in service through the applicable modification SB, providing instructions to replace aluminium splices with steel splices on the X5295 frame. AH also issued the applicable inspection ASB, as defined in this AD, accordingly.

For the reasons described above, this AD retains the requirements of EASA AD 2014-0098-E, which is superseded, and requires a modification, replacing aluminium splices with steel splices on helicopters on which any cracked aluminium splice has been detected. This AD also recognises this modification as terminating action for the repetitive inspections as required by this AD for those splices.



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

Required as indicated, unless accomplished previously:

Determination:

- (1) Before next flight after 30 April 2014 [the effective date of EASA AD 2014-0098-E], establish the helicopter configuration by reviewing helicopter delivery and/or maintenance records to make the following determinations:
 - (1.1) Determine if the helicopter is already modified (see Note 1 of this AD) to embody the cut-out of the junction profiles of the supports of the (both RH and LH) cabin sliding door rails.
 - (1.2) Determine the flight hours (FH) accumulated by the helicopter on the date when the aluminium splices on frame X5295 were installed (see Note 2 of this AD).
 - (1.3) Determine the FH accumulated on 30 April 2014 [the effective date of EASA AD 2014-0098-E] by the helicopter since installation of aluminium splices on frame X5295 (see Note 2 of this AD).

Note 1: Cut-out of the cabin sliding door rail supports corresponds to AH MOD 332A081354.00 or AS332 SB 05.00.84 for the AS332 L2 helicopters and AH MOD 0728090 or MOD 332A081354.00 or EC225 SB 05-019, for the EC225 LP helicopters.

Note 2: Installation of aluminium splices on frame X5295 corresponds to AH MOD 0726517 for both AS332 L2 and EC225 LP helicopters, or AS332 SB 53.01.52 or repair design 332-53-507-06 or EC225 SB 53-003, as applicable to helicopter model.

Inspection(s):

- (2) If, during the review as required by paragraph (1) of this AD, it is determined that the helicopter was already modified in accordance with AH AS332 SB 05.00.84 or EC225 SB 05-019, as applicable, within 110 FH after 30 April 2014 [the effective date of EASA AD 2014-0098-E], and, thereafter, at intervals not to exceed 110 FH, inspect both RH and LH aluminium splices on frame X5295 in accordance with instructions of paragraph 3.B.3 of the applicable inspection ASB.
- (3) If, during the review as required by paragraph (1) of this AD, it is determined that the helicopter has **not** been modified in accordance with AH AS332 SB 05.00.84 or EC225 SB 05-019, depending on configuration of the helicopter, within the compliance time(s) as specified in Table 1 of this AD, accomplish all the applicable actions.



Table 1 – Inspections of Aluminium Splices on Frame X5295

Helicopter Configuration	Action / Threshold(s)
Aluminium splices on Frame X5295 installed when the helicopter had accumulated 12 000 FH or more	Within 50 FH after 30 April 2014 [the effective date of EASA AD 2014-0098-E], initiate compliance with paragraph (3.1) of this AD,
Aluminium splices on Frame X5295 installed before the helicopter had accumulated 12 000 FH, and on 30 April 2014 [the effective date of EASA AD 2014-0098-E] the helicopter had accumulated more than 1 650 FH since splices installation	or Within 50 FH after 30 April 2014 [the effective date of EASA AD 2014-0098-E], initiate compliance with paragraph (3.2) of this AD, and within 750 FH after 30 April 2014 [the effective date of EASA AD 2014-0098-E], initiate compliance with paragraph (3.1) of this AD
Aluminium splices on Frame X5295 installed before the helicopter had accumulated 12 000 FH, and on 30 April 2014 [the effective date of EASA AD 2014-0098-E] the helicopter had accumulated less than or equal to 1 650 FH since splice installation.	Before exceeding 1 700 FH accumulated since splices installation, initiate compliance with paragraph (3.1) of this AD or Before exceeding 1 700 FH accumulated since installation of the splices, initiate compliance with paragraph (3.2) of this AD, and within 750 FH after the initial inspection as required by paragraph (3.2) of this AD, initiate compliance with paragraph (3.1) of this AD

(3.1) Within the compliance time specified in Table 1 of this AD, as applicable, inspect and cut-out the junction profiles of the supports of both RH and left LH cabin sliding door rails, and, thereafter, at intervals not to exceed 110 FH, inspect both RH and LH aluminium splices on frame X5295 in accordance with instructions of the applicable inspection ASB.

(3.2) Within the compliance time as specified in Table 1 of this AD, as applicable, and, thereafter, at intervals not to exceed 50 FH, inspect the frame X5295 and the inner fuselage skins of frame X5295 in accordance with the instructions of the applicable inspection ASB.

(4) If, during modification of a helicopter as required by paragraph (3.1) of this AD, any crack is found on one of the RH or LH splices, before next flight, inspect the frame X5295 and the inner fuselage skins of frame X5295 in accordance with instructions of the applicable inspection ASB.

Corrective Action(s):

(5) If, during any inspection as required by paragraph (2) or (3.1) of this AD, as applicable, any crack is found on one of the RH or LH splices, before next flight, modify the helicopter in accordance with the instructions of the applicable modification SB.



- (6) If, during any inspection as required by paragraph (3.2) or (4) of this AD, as applicable, any crack is found on frame X5295, before next flight, contact AH for approved repair instructions and accomplish those instructions accordingly.
- (7) If, during any inspection as required by paragraph (3.2) or (4) of this AD, as applicable, any crack is found on inner fuselage skins of frame X5295, before next flight, contact AH for approved repair instructions and accomplish all the actions as required by paragraphs (7.1) and (7.2) of this AD.
 - (7.1) During each ALF, inspect the frame X5295 in accordance with the instructions of the applicable inspection ASB. If, during any ALF inspection, any further crack (in addition of that found on inner fuselage skin of frame X5295) is found, before next flight, contact AH for approved repair instructions and accomplish those instructions accordingly.
 - (7.2) Within 50 FH, repair the affected inner fuselage skins of frame X5295 in accordance with approved AH repair instructions. Concurrently with the repair, accomplish a dye-penetrant inspection of frame X5295 and, if any further crack (in addition of that found on inner fuselage skin of frame X5295) is found, before next flight, contact AH for approved repair instructions and accomplish those instructions accordingly.

Credit:

- (8) Inspection(s) of a helicopter, accomplished before the effective date of this AD in accordance with the instructions of AH ASB AS332-05.00.97 or ASB EC225-05A038 at original issue, as applicable, is acceptable to comply with the requirements of paragraphs (2), (3.1), (3.2) and (4) of this AD for that helicopter.

Terminating Action:

- (9) Modification of a helicopter as required by paragraph (3.1) of this AD constitutes terminating action for the repetitive inspections as required by paragraph (3.2) of this AD for that helicopter.
- (10) Modification of a helicopter as required by paragraph (5) of this AD constitutes terminating action for the repetitive inspections as required by paragraphs (2) and (3.1) of this AD for that helicopter.

Ref. Publications:

EC AS332 SB 53.01.52 original issue dated 29 September 2006 or Revision 1 dated 02 March 2007 or Revision 2 dated 21 April 2008 or Revision 3 dated 05 December 2008 or Revision 4 dated 22 February 2010 or Revision 5 dated 23 July 2010.

EC EC225 SB 53-003 original issue dated 12 October 2006 or Revision 1 dated 02 March 2007 or Revision 2 dated 05 December 2008 or Revision 3 dated 22 February 2010 or revision 4 dated 23 July 2010.

AH AS332 SB 05.00.84 original issue dated 23 February 2010 or Revision 1 dated 15 July 2010 or Revision 2 dated 28 September 2011 or Revision 3 dated 19 July 2012 or Revision 4 dated 22 September 2014.



AH EC225 SB 05-019 original issue dated 23 February 2010 or Revision 1 dated 15 July 2010 or Revision 2 dated 28 September 2011 or Revision 3 dated 19 July 2012 or Revision 4 dated 22 September 2014.

AH ASB AS332-05.00.97 original issue dated 15 April 2014 or Revision 1 dated 09 February 2021.

AH ASB EC225-05A038 original issue dated 15 April 2014 or Revision 1 dated 09 February 2021.

AH SB AS332-53.01.97 original issue dated 09 February 2021.

AH SB EC225-53-061 original issue dated 09 February 2021.

The use of later approved revisions of the above-mentioned documents is acceptable for compliance with the requirements of this AD.

Remarks:

1. This Proposed AD will be closed for consultation on 11 March 2021.
2. Enquiries regarding this PAD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
3. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this PAD, and which may occur, or have occurred on a product, part or appliance not affected by this PAD, can be reported to the [EU aviation safety reporting system](#). This may include reporting on the same or similar components, other than those covered by the design to which this PAD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
4. For any question concerning the technical content of the requirements in this PAD, please contact: Airbus Helicopters (Technical Support)
Web portal: <https://keycopter.airbushelicopters.com> > Technical Requests Management, or
E-mail: TechnicalSupport.Helicopters@airbus.com.

