



Airworthiness Directive

AD No.: 2023-0036

Issued: 13 February 2023

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, or Annex Vb Part ML.A.301, as applicable, 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 Annex Vb Part ML.A.303, as applicable] 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 120 B helicopters

Effective Date: 27 February 2023

TCDS Number(s): EASA.R.508

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2021-0046 dated 12 February 2021.

ATA 62 – Main Rotor – Hub Scissors Assembly / Attachment Bolts – Inspection / Replacement

Manufacturer(s):

Airbus Helicopters (AH), formerly Eurocopter, Eurocopter France

Applicability:

EC 120 B helicopters, all serial numbers.

Definitions:

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

Affected part: Main rotor (MR) hub scissors attachment bolts, installed on an MR hub scissors assembly having Part Number (P/N) C623A2110104 or P/N C623A2110105.

Serviceable part: MR hub scissors attachment bolts that are new (never installed before); or have passed an inspection (no defects found) in accordance with the instructions of the marking ASB.

The inspection ASB: AH Alert Service Bulletin (ASB) EC120-62A020.

The marking ASB: AH ASB EC120-05A019 Revision 1.

The modification SB: AH Service Bulletin (SB) EC120-62-021.



Reason:

An occurrence was reported where, during a pre-flight inspection, a broken MR hub scissors attachment bolt was found, and another bolt was found bent. The preliminary result of the technical investigation revealed that the event might be due to exceedance of acceptable criteria of corrosion and some other efforts applied to the affected MR hub scissors attachment bolts.

This condition, if not detected and corrected, could lead to detachment of an MR hub scissors attachment bolt, possibly resulting in complete loss of control of the helicopter.

To address this unsafe condition, AH issued the inspection ASB to provide inspection instructions, and consequently, EASA issued AD 2018-0186 to require a one-time inspection of the affected parts and, depending on findings, accomplishment of applicable corrective action(s).

After that AD was issued, AH issued (marking) ASB EC120-05A019 at original issue to provide instructions to apply red line markings on the bolt head, washer, the scissor branch and the mast ring, and for following repetitive inspections. Consequently, EASA issued AD 2019-0139, retaining the requirements of EASA AD 2018-0186, which was superseded, to require applications of red line markings and, following that action, repetitive inspections to detect bolt rotation and, depending on findings, accomplishment of applicable corrective action(s).

After that AD was issued, AH revised the marking process, and issued the marking ASB, as defined in this AD, to provide instructions to apply additional (red line) markings on the corresponding nut side, washer, scissor branch and mast ring, and also to control the integrity of the pin to make sure that it is not sheared. Consequently, EASA issued AD 2021-0046, retaining the requirements of EASA AD 2019-0139, which was superseded, to require the additional instructions of the marking ASB.

Since that AD was issued, further investigation determined that affected parts might be exposed to premature breaking, when installed on an MR hub scissors assembly on which CARBIDE bushes are fitted (having a P/N as identified in the affected part definition in this AD). Therefore, AH published the modification SB, as defined in this AD, providing instructions for replacement of scissors links fitted with CARBIDE bushes, with improved scissors links fitted with AMPEP bushes, having P/N C623A2005102.

For the reasons described above, this AD partially retains the requirements of EASA AD 2021-0046, which is superseded, amends the definition of affected part, introduces an (optional) modification that constitutes terminating action for the marking and repetitive marking inspection requirements, and prohibits installation of certain MR hub scissors assemblies on certain helicopters.

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

Required as indicated, unless accomplished previously:

Inspection(s) / Markings:

- (1) Within 50 flight hours (FH) after 05 September 2018 [the effective date of EASA AD 2018-0186], inspect each affected part in accordance with the instructions of the inspection ASB.
- (2) Within 50 FH after 26 February 2021 [the effective date of EASA AD 2021-0046], apply markings on each affected part (red lines, on the bolt head side and on the nut side) in accordance with



the instructions of the marking ASB, and, thereafter, during each “15 FH / 7 D check”, as defined in the Aircraft Maintenance Manual (AMM), inspect the installation of each affected part in accordance with the instructions of the marking ASB.

Corrective Action(s):

- (3) If, during the inspection as required by paragraph (1) of this AD, any discrepancies are detected as defined in the inspection ASB, before next flight, remove the affected bolts from service in accordance with the instructions of the inspection ASB, contact AH for approved repair instructions and accomplish those instructions accordingly, or modify the helicopter in accordance with the instructions of the modification SB.
- (4) If, during any inspection as required by paragraph (2) of this AD, any discrepancies are detected as defined in the marking ASB, before next flight, accomplish the applicable corrective action(s) in accordance with the instructions of the marking ASB, or modify the helicopter in accordance with the instructions of the modification SB.

Terminating Action:

- (5) Replacement on a helicopter of affected parts and accomplishment of approved repair instructions as required by paragraph (3) of this AD, and accomplishment of corrective action(s) as specified in paragraph (4) of this AD, do not constitute terminating action for the marking and repetitive marking inspection as required by paragraph (2) of this AD for that helicopter.
- (6) Modification of a helicopter in accordance with the instructions of the modification SB constitutes terminating action for the marking and repetitive marking inspection as required by paragraph (2) of this AD for that helicopter.

Parts Installation:

- (7) For helicopters that have an MR hub scissors assembly having P/N C623A2110103 installed: From the effective date of this AD, do not install on this helicopter an MR hub scissors assembly having P/N C623A2110104 or P/N C623A2110105.
- (8) After modification of a helicopter in accordance with the instructions of the modification SB as specified in paragraph (6) of this AD, do not install on this helicopter an MR hub scissors assembly having P/N C623A2110104 or P/N C623A2110105.

Ref. Publications:

AH ASB EC120-62A020 original issue dated 23 August 2018.

AH ASB EC120-05A019 original issue dated 11 June 2019, Revision 1 dated 5 October 2020 and Revision 2 dated 08 February 2023.

AH SB EC120-62A021 original issue dated 08 February 2023.

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 Safety 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](#). This may include reporting on the same or similar components, other than those covered by the design to which this AD 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.
5. 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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