



Notification of a Proposal to issue an Airworthiness Directive

PAD No.: 23-109

Issued: 11 October 2023

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 DEUTSCHLAND GmbH
Type/Model designation(s): EC135 and EC635 helicopters

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

TCDS Number(s): EASA.R.009

Foreign AD: Not applicable

Supersedure: None

ATA 65 – Tail Rotor Drive – Flexible Couplings and Tail Rotor Shafts – Inspection

Manufacturer(s):

Airbus Helicopters Deutschland GmbH (AHD), formerly Eurocopter Deutschland GmbH; Eurocopter España S.A.

Applicability:

EC135 P1, EC135 P2, EC135 P2+, EC135 P3, EC135 T1, EC135 T2, EC135 T2+, EC135 T3, EC635 P2+, EC635 P3, EC635 T1, EC635 T2+ and EC635 T3 helicopters, all variants, all serial numbers (s/n).

Definitions:

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

The ASB: Airbus Helicopters (AH) Alert Service Bulletin (ASB) EC135-65-13-0001.

Flexible couplings: Rear and front flexible coupling, having part number L651A1001101.

Tail rotor drive shaft: Tail rotor forward drive shaft, tail rotor long drive shaft, or tail rotor aft drive shaft.



Reason:

Occurrences have been reported of ruptured/deformed flexible couplings. Relevant investigations determined that a flexible coupling installed with high axial displacement develops increased stresses and friction between its sheets.

This condition, if not detected and corrected could lead to cracks and extensive deformation of flexible couplings and consequent high vibration of the tail rotor drive shaft, possibly resulting in reduced control of the helicopter.

To address this potential unsafe condition, AH issued the ASB, to provide instructions for a one-time inspection of the axial displacement and, depending on findings, inspection of the flexible couplings. That ASB also provides updated instructions for the installation of tail rotor drive shafts.

For the reason described above, this AD requires a one-time inspection of the axial displacement of the tail rotor drive shaft and, depending on findings, corrective action(s). This AD also provides additional requirements for installation of tail rotor drive shafts.

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

Required as indicated, unless accomplished previously:

Inspection:

- (1) For helicopters having an s/n up to 2212 (inclusive): Within 100 flight hours (FH) or 12 months after the effective date of this AD, whichever occurs first, determine the axial displacement in accordance with the instructions of section 4.1 of the Accomplishment Procedure of the ASB.

Corrective Action(s):

- (2) If, during the inspection as required by paragraph (1) of this AD, it is determined that the axial displacement is 1.8 mm or more, before next flight, replace both flexible couplings with new flexible couplings and correct the axial displacement in accordance with the instructions of sections 4.1 and 4.2 of the Accomplishment Procedure of the ASB.
- (3) If, during the inspection as required by paragraph (1) of this AD, it is determined that the axial displacement is equal to or more than 0.6 mm but less than 1.8 mm, before next flight, inspect the flexible couplings in accordance with the instructions of section 4.1 of the Accomplishment Procedure of the ASB.
- (4) If, during the inspection as required by paragraph (3) of this AD, any discrepancy, as identified in the ASB, is found on a flexible coupling, before next flight, replace that flexible coupling in accordance with the instructions of section 4.1 of the Accomplishment Procedure of the ASB.
- (5) If, during the inspection as required by paragraph (1) of this AD, it is determined that the flexible coupling axial displacement is equal to or more than 0.6 mm but less than 1.8 mm, before next flight after the inspection and replacement as required by paragraphs (3) and (4) of this AD, as applicable, correct the axial displacement in accordance with the instructions of section 4.2 of the Accomplishment Procedure of the ASB.



- (6) If, during the inspection as required by paragraph (1) of this AD, it is determined that the flexible coupling axial displacement is equal to or more than 1.2 mm but less than 1.8 mm, within 200 FH after that inspection, unless already done as required by paragraph (4) of this AD, replace the flexible couplings (rear and/or front, as applicable) with new flexible couplings in accordance with the instructions of section 4.1 of the Accomplishment Procedure of the ASB.

Part(s) Installation:

- (7) For all helicopters: From the effective date of this AD, it is allowed to install a tail rotor drive shaft on an helicopter, provided that installation is accomplished in accordance with the instructions of section 4.3 of the Accomplishment Procedure of the ASB, as applicable, or in accordance with the instructions of an AHD EC135 and EC635 Aircraft Maintenance Manual revision which includes the technical content of section 4.3 of the Accomplishment Procedure of the ASB.

Ref. Publications:

AH ASB EC135-65-13-0001 issue 001 (original issue) dated 14 March 2023.

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

Remarks:

1. This Proposed AD will be closed for consultation on 08 November 2023.
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 Deutschland GmbH, Industriestrasse 4, 86609 Donauwörth, Federal Republic of Germany, Telephone: + 33 (0)4 42 85 97 97;
Web portal: <https://keycopter.airbushelicopters.com>
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