

Airworthiness Directive

AD No.: 2024-0144**Issued:** 19 July 2024

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 130 helicopters

Effective Date: 02 August 2024**TCDS Number(s):** EASA.R.008**Foreign AD:** Not applicable**Supersedure:** This AD supersedes EASA AD 2023-0190R1 dated 20 February 2024, which revised EASA AD 2023-0190-E dated 02 November 2023.**ATA 65 – Tail Rotor Drive – Shaft-Line – Check / Measurement / Modification****Manufacturer(s):**

Airbus Helicopters (AH), formerly Eurocopter

Applicability:

EC 130 T2 helicopters, all serial numbers on which AH modification 079809 has been embodied in production.

Definitions:

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

Affected part: Rotor drive shafts, having Part Number (P/N) 350A34-5020-00 or P/N 350A34-5020-01 (rear rotor drive shaft); sliding flange, having P/N 350A34-5035-20 or P/N 350A34-5035-01; and equipped splined sleeve, having P/N 350A34-5025-00 or P/N 350A34-5025-01.

The ASB: AH Emergency Alert Service Bulletin (ASB) EC130-05A042 Revision 3.

The modification ASB 1: AH ASB EC130-65-11-0001 original issue.

The modification ASB 2: AH ASB EC130-65-11-0002 original issue.

The maintenance task A: AH EC130 Aircraft Maintenance Manual (AMM) Task 65-11-01,5-1A (“Balancing of the tail rotor drive line”).

The maintenance task B: AH EC130 AMM Task 65-11-01,5-1B (“Balancing of the tail rotor drive shaft”).

Groups: Group 1, Group 2, Group 3 and Group 4 helicopters are those that have rear rotor drive shaft, sliding flange, and equipped splined sleeve installed, with P/N as specified in Table 1 of this AD.

Table 1 – Helicopter Groups

Helicopter Group	Rear Rotor Drive Shaft P/N	Sliding Flange P/N	Equipped Splined Sleeve P/N
1	350A34-5020-00	350A34-5035-20	350A34-5025-00
2	350A34-5020-01	350A34-5035-20	350A34-5025-00
3	350A34-5020-00	350A34-5035-01	350A34-5025-01
4	350A34-5020-01	350A34-5035-01	350A34-5025-01

Reason:

An occurrence was reported where, during an inspection in accordance with the instructions of ASB EC130-05A039 (ref. EASA AD 2021-0283R1), a crack was found on the tailboom of an EC 130 T2 helicopter. During the preceding flight, the pilot experienced a humming sound and vibrations in the pedals. A subsequent balancing of the tail rotor drive shaft revealed a high vibration level.

This condition, if not detected and corrected, could lead to failure of the tail rotor drive shaft and subsequent loss of yaw control of the helicopter.

To address this potential unsafe condition, as a precautionary/protective measure, AH issued ASB EC130-05A042 to provide measurement instructions. Consequently, EASA issued AD 2022-0251-E to require repetitive checks of the balancing of the tail rotor drive shaft by means of measurement of the vibration level. That AD also required the reporting of inspection results to AH.

After that AD was issued, it was identified that one of the vibration measurement tool, mentioned in maintenance task B, was providing different results than expected and the threshold had to be changed. Consequently, AH published ASB EC130-05A042 Revision 1, providing amended checks instructions, and EASA issued AD 2023-0190-E retaining the requirements of AD 2022-0251-E, which was superseded, requiring additional work and introducing balance correction prohibition.

After that AD was issued, it has been determined that used spline sleeve equipped and sliding flange may be installed provided certain conditions are met. Subsequently, AH published ASB EC130-05A042 Revision 2 to specify the type of part to be used in case of replacement, and EASA issued AD 2023-0190R1 accordingly.

Since that AD was issued, AH developed a modification, introducing a new rear rotor drive shaft, a new sliding flange, and a new equipped splined sleeve, and published the ASB, as defined in this AD, to extend its applicability to the new parts. These parts are less susceptible to cracks; however,



available data does not allow yet to consider these parts as terminating action for the repetitive actions required by this AD.

For the reasons described above, this AD retains the requirements of EASA AD 2023-0190R1, which is superseded, requires the modification of Group 1, Group 2 and Group 3 helicopters and expands the required actions to the affected part having P/N 350A34-5020-01, P/N 350A34-5035-20, P/N 350A34-5035-01, P/N 350A34-5025-00 and P/N 350A34-5025-01.

This AD is still considered an interim action and further AD action may follow.

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

Required as indicated by this AD, unless the actions required by this AD have been already accomplished:

Repetitive Checks:

- (1) For all helicopters: Within 50 FH since the installation of any affected part on the helicopter, or since first flight of the helicopter, or before next flight after the effective date of this AD, whichever occurs later, and, thereafter, at intervals not to exceed 50 FH, measure the vibration level of the tail rotor drive shaft in accordance with the instructions of the ASB (see Note 1 of this AD).

Note 1: Paragraph (1) of this AD constitutes a simplified restatement of the requirements of paragraph (1) of EASA AD 2023-0190R1.

Corrective Action(s):

- (2) If, during any check as required by paragraph (1) of this AD, the measured vibration level is more than 1.4 IPS for the maintenance task A, or more than 0.7 IPS for the maintenance task B, within the compliance times specified in the ASB, remove the parts, as specified in the ASB, and install the parts in accordance with the instructions of the ASB (see Note 2 of this AD).

Note 2: Revision 2 of the ASB EC130-05A042 introduces relaxed criteria for installation of parts.

Additional Work:

- (3) If, during the last check as required by paragraph (1) of this AD, accomplished before 06 November 2023 [the effective date of EASA AD 2023-0190-E], the measured vibration level was more than 0.7 IPS for the maintenance task B, within the compliance times specified in the ASB, remove the parts, as specified in the ASB, and install the parts in accordance with the instructions of the ASB (see Note 2 of this AD).
- (4) For all helicopters that, before 06 November 2023 [the effective date of the EASA AD 2023-0190-E], accomplished a balance correction in accordance with the instructions of the applicable AMM, except if this balance correction was accomplished before next flight after replacing the sliding flange and the splined sleeve equipped, before next flight after 06 November 2023 [the effective date of EASA AD 2023-0190-E], contact AH to obtain approved instructions, and within the compliance time(s) specified therein, accomplish those instructions accordingly.



Balance Correction Prohibition:

- (5) For all helicopters: From the effective date of this AD, it is prohibited to perform a balance correction, except if it is accomplished during parts replacement as specified in paragraph (2) or paragraph (3) of this AD.

Reporting:

- (6) Within 30 days after a vibration measurement as required by paragraph (1), where the measured vibration level was more than 1.4 IPS for the maintenance task A, or more than 0.7 IPS for the maintenance task B, of this AD, report the results to AH.

Credit:

- (7) Vibration measurements accomplished on a helicopter before 06 November 2023 [the effective date of EASA AD 2023-0190-E] in accordance with the instructions of AH ASB EC130-05A042 at original issue, are acceptable to comply with the initial requirements of paragraph (1) of this AD for that helicopter.
- (8) Vibration measurements accomplished on a helicopter before the effective date of this AD in accordance with the instructions of AH ASB EC130-05A042 at Revision 1 or Revision 2 are acceptable to comply with the initial requirements of paragraph (1) of this AD for that helicopter.
- (9) Accomplishment of the additional work on a helicopter, as required by paragraph (3) of this AD, is acceptable to comply with the initial requirements of paragraph (2) of this AD, as applicable, for that helicopter.

Modification:

- (10) For Group 1, Group 2 and Group 3 helicopters: Within 600 FH or 24 months, whichever occurs first after the effective date of this AD, modify the helicopter in accordance with the instructions as specified in Table 2 of this AD.

Table 2 – Modification Instructions

Helicopter Group	Instructions
Group 1	The modification ASB 1 and the modification ASB 2
Group 2	The modification ASB 1
Group 3	The modification ASB 2

Terminating Action:

- (11) None.

Part(s) Installation:

- (12) For all helicopters: From the effective date of this AD, do not replace a rear rotor drive shaft P/N 350A34-5020-01 with a rear rotor drive shaft P/N 350A34-5020-00 on any helicopter.
- (13) For all helicopters: From the effective date of this AD, do not replace a sliding flange P/N 350A34-5035-01 and an equipped splined sleeve P/N 350A34-5025-01 with a sliding flange



P/N 350A34-5035-20 and an equipped splined sleeve P/N 350A34-5025-00, respectively, on any helicopter.

Ref. Publications:

AH Emergency ASB EC130-05A042 original issue dated 14 December 2022, Revision 1 dated 02 November 2023, or Revision 2 dated 13 February 2024, or Revision 3 dated 17 April 2024.

AH ASB EC130-65-11-0001 original issue dated 12 July 2024.

AH ASB EC130-65-11-0002 original issue dated 12 July 2024.

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. All interested persons may send their comments, referencing the AD Number, to the E-mail address specified in below Remark 3, prior to 16 August 2024. Only if any comment is received during the consultation period, a Comment Response Document will be published in the [EASA Safety Publications Tool](#), in a compressed ('zipped') file, attached to the record for this AD.
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 Customer Support, Telephone +33 (0)4.42.85.97.89, Fax + 33 (0)4.42.85.99.66, E-mail: Airframe.Technical-Support@airbus.com, Keycopter Technical Request Management: TechnicalSupport.Helicopters@airbus.com.

