Airworthiness Directive

AD No.: 2021-0184R2

Issued: 12 January 2022

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, 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 (EU) 2018/1139, Article 71 exemption].

Design Approval Holder's Name:
AIRBUS HELICOPTERS

Type/Model designation(s):
AS 332 and EC 225 helicopters

Effective Date: Revision 2: 19 January 2022
Revision 1: 15 October 2021
Original issue: 19 August 2021

TCDS Number(s): EASA.R.002

Foreign AD: Not applicable

Revision: This AD revises EASA AD 2021-0184R1 dated 08 October 2021.

ATA 64 – Tail Rotor – Tail Gearbox Angular Clearance – Inspection

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Manufacturer(s):
Airbus Helicopters (AH), formerly Eurocopter (EC), Eurocopter France, Aerospatiale

Applicability:
AS 332 L2 and EC 225 LP helicopters, all serial numbers.

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

Affected part: Tail gearboxes (TGB) having Part Number (P/N) 332A36.3001.00 or P/N 332A36.3002.00 (for AS332 L2), or P/N 332A36.5001.01 (for EC225 LP).

The ASB: AH Alert Service Bulletin (ASB) AS332-64.00.46 or ASB EC225-64A011, as applicable.

Serviceable TGB: A part which is not an affected part; or an affected part that is new (not previously installed) or that has not been installed since overhaul; or an affected part that, before next flight after installation, passes an inspection (angular clearance determined to be less than 0,69 mm / 0.027 in) in accordance with the instructions of the ASB.

Groups: Group 1 helicopters are those which have an affected part installed.
Group 2 helicopters are those which do not have an affected part installed.

Reason:
Loss of tightening torque was reported on the nut that attaches the TGB bevel wheel. Additionally, the subsequent investigation highlighted that loss of the tightening torque may lead to degradation of the splines between tail rotor shaft and TGB bevel wheel. The investigation is still on-going to identify the root cause of the tightening torque loss.

This condition, if not detected and corrected, could lead to structural failure of the TGB drive, possibly resulting in reduced, or loss of, control of the helicopter.

To address this potential unsafe condition, AH issued the ASB providing instructions to inspect the angular clearance of the affected part and EASA issued AD 2021-0184 (later revised) to require repetitive inspections of the angular clearance of the affected part and, depending on findings, its replacement.

Since AD 2021-0184R1 was issued, it was identified that the allowable angular clearance range in paragraph (2) of that AD was defined stricter than the one defined in the ASB. This AD is therefore revised accordingly, correcting the allowable angular clearance range.

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

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

Check(s):
(1) For Group 1 helicopters: Within 110 flight hours (FH) after 19 August 2021 [the effective date of this AD at original issue] and, thereafter, at intervals not to exceed the value defined in Table 1 of this AD, as applicable, inspect the angular clearance of the affected part in accordance with the instructions of the ASB.

Table 1 – Inspection Interval

Helicopter Model	Interval (FH)
AS 332 L2	825
EC 225 LP	1 320

(2) If, during any inspection as required by paragraph (1) of this AD, angular clearance more than 0,34 mm (0.013 in), but less than 0,69 mm (0.027 in), is detected, within 100 FH and, thereafter, at intervals not to exceed 100 FH, accomplish inspection of the angular clearance of the affected part in accordance with the instructions of the ASB.

Corrective Action(s):
(3) If, during any inspection as required by paragraph (1) or (2) of this AD, angular clearance of 0,69 mm (0.027 in) or more is detected, before next flight, replace the affected part with a serviceable TGB in accordance with the instructions of the ASB.

Terminating Action:

(4) If, during two consecutive inspections of a helicopter, as required by paragraph (2) of this AD, the value of the measured angular clearance remains unchanged, this determination constitutes terminating action for repetitive inspections as required by paragraph (2) of this AD for that helicopter.

Parts Installation:

(5) For Group 1 and Group 2 helicopters: From 19 August 2021 [the effective date of this AD at original issue], it is allowed to install on any helicopter an affected part, provided it is a serviceable TGB, as defined in this AD, and that, following installation, it is inspected as required by this AD.

Ref. Publications:

AH ASB AS332-64.00.46 original issue dated 30 June 2021.

AH ASB EC225-64A011 original issue dated 30 June 2021.

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. The original issue of this AD was posted on 02 July 2021 as PAD 21-094 for consultation until 30 July 2021. No comments were received during the consultation period.

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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