



Airworthiness Directive

AD No.: 2020-0086

Issued: 14 April 2020

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 SA 330 helicopters

Effective Date: 28 April 2020

TCDS Number(s): EASA.R.002

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2019-0195 dated 13 August 2019.

ATA 64 – Tail Rotor – Hub Assembly – Inspection / Replacement

Manufacturer(s):

Airbus Helicopters (AH), formerly Eurocopter, Eurocopter France, Aerospatiale, Sud Aviation

Applicability:

AS 332 C, AS 332 C1, AS 332 L, AS 332 L1 and SA 330 J helicopters, all manufacturer serial numbers.

Definitions:

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

Affected flapping hinge components: Flapping hinge components installed on a tail rotor (TR) transmission assembly, having a Part Number (P/N) as listed in Table 1 of this AD.

Affected spindle bolts: A spindle bolt installed on a TR transmission assembly, having a P/N as listed in Table 1 of this AD.

Serviceable parts: Affected flapping hinge components which are new (not previously installed on a helicopter).

The applicable ASB: AH Alert Service Bulletin (ASB) AS332-05.01.11 and ASB SA330-05.107, as applicable.



Groups:

Group 1 are SA 330 helicopters with affected flapping hinge components installed that have not been inspected in accordance with AH ASB SA330-65.132 (see EASA AD 2018-0042), nor with affected flapping hinge components replaced in accordance with AH ASB SA330-05.105; and AS 332 helicopters with affected flapping hinge components installed that have not been inspected in accordance with AH ASB AS332-64.00.43 (see EASA AD 2018-0042), nor with affected flapping hinge components replaced in accordance with AH ASB AS332-05.01.10.

Group 2 are SA 330 helicopters with affected flapping hinge components installed that have been inspected and, depending on findings, corrected in accordance with AH ASB SA330-65.132 (see EASA AD 2018-0042), except those with affected flapping hinge components replaced in accordance with AH ASB SA330-05.105; and AS 332 helicopters with affected flapping hinge components installed that have been inspected and, depending on findings, corrected in accordance with AH ASB AS332-64.00.43 (see EASA AD 2018-0042), except those with affected flapping hinge components replaced in accordance with AH ASB AS332-05.01.10.

Group 3 are SA 330 helicopters with affected flapping hinge components installed that have been inspected and, depending on findings, corrected in accordance with AH ASB SA330-65.132 (see EASA AD 2018-0042), and with affected flapping hinge components replaced in accordance with AH ASB SA330-05.105; and AS 332 helicopters with affected flapping hinge components installed that have been inspected and, depending on findings, corrected in accordance with AH ASB AS332-64.00.43 (see EASA AD 2018-0042), and with affected flapping hinge components replaced in accordance with AH ASB AS332-05.01.10.

Group 4 helicopters are all other AS 332 and SA 330 helicopters.

Reason:

Damage of a flapping hinge link on one of the five TR blades was reported.

This condition, if not detected and corrected, could lead to failure of flapping hinge link and unbalance of the TR, possibly resulting in detachment of TR gearbox and TR hub, with consequent loss of control of the helicopter.

To address this potentially unsafe condition, AH issued ASB AS332-64.00.43, ASB AS332-05.01.10, ASB AS332-64.00.44, ASB SA330-65.132, ASB SA330-65.135 and ASB SA330-05.105 to provide inspection instructions and EASA issued several ADs (EASA AD 2017-0232-E, AD 2018-0042 and AD 2018-0248), each superseding the previous one, the latest of which was EASA AD 2019-0195, to require repetitive inspections of the affected spindle bolts until the replacement of flapping hinge components starts, and repetitive replacements. That AD also required to send the removed flapping hinge components back to AH to support investigation of deterioration mechanism and scenario of those components.

Since that AD was issued, analysis of feedback received from operators indicated that a more stringent measure is necessary to ensure the continued serviceability of the affected flapping hinge components, and safe operation of helicopters.



Prompted by this development, AH issued the applicable ASB, incorporating all previously issued ASBs (referenced above) and, at the same time, reducing the compliance time for initial replacement of affected flapping hinge components.

For the reason described above, this AD retains the requirements of EASA AD 2019-0195, which is superseded, and reduces the compliance time for initial replacement of affected flapping hinge components.

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

Required as indicated, unless accomplished previously:

Table 1 – TR Transmission Assemblies

Helicopter	P/N
AS 332	332A330001.02, 332A330001.03, 332A330001.04, 332A330001.05 and 332A330001.06
	332A330009.00 and 332A330009.01
SA 330	330A330000.04, 330A330000.05, 330A330000.06, 330A330000.07, 330A330000.08, 330A330000.09, 330A330000.10, 330A330000.11, 330A330000.12, 330A330000.13, 330A330000.14, 330A330000.15, 330A330000.16, 330A330000.17, 330A330000.18 and 330A330000.19

Repetitive Replacement:

- (1) For Group 1 helicopters: Within 25 flight hours (FH) or during the next scheduled 50 FH inspection, whichever occurs later after the effective date of this AD, and thereafter, at intervals not to exceed the applicable value as defined in Table 2 of this AD, replace each affected flapping hinge component in accordance with the instructions specified in paragraph 3.B.2 of the applicable ASB.

Table 2 – Replacement interval of affected Flapping Hinge Components

Helicopter	Replacement (see Note 1 of this AD)
AS 332	250 FH
SA 330	300 FH

Note 1: The FH specified in Table 2 of this AD are those accumulated by the affected flapping hinge components since first installation on a helicopter.

- (2) For Group 2 helicopters: Within 300 FH for SA330 helicopters, or within 250 FH for AS332 helicopters, after accomplishment of the last flapping hinge components inspection in accordance with the instructions of AH ASB SA330-65.132 or ASB AS332-64.00.43, as applicable, and thereafter, at intervals not to exceed the applicable value as defined in Table 2 of this AD, replace each affected flapping hinge component in accordance with the instructions specified in paragraph 3.B.2 of the applicable ASB.
- (3) For Group 3 helicopters: Within 300 FH for SA330 helicopters, or within 250 FH for AS332 helicopters, after replacement of each affected flapping hinge component in accordance with



the instructions of AH ASB SA330-05.105 or ASB AS332-05.01.10, as applicable, and thereafter at intervals not to exceed the applicable value as defined in Table 2 of this AD, replace each affected flapping hinge component in accordance with the instructions specified in paragraph 3.B.2 of the applicable ASB.

- (4) For Group 4 SA330 helicopters: Within 300 FH after replacement of each affected flapping hinge component in accordance with the instructions of AH ASB SA330-05.105 or before exceeding 300 FH accumulated by the affected TR Transmission Assembly since new, whichever occurs first, and thereafter at intervals not to exceed the applicable value as defined in Table 2 of this AD for SA 330 helicopters, replace each affected flapping hinge component in accordance with the instructions specified in paragraph 3.B.2 of the applicable ASB.
- (5) For Group 4 AS332 helicopters: Within 250 FH after replacement of each affected flapping hinge component in accordance with the instructions of AH ASB AS332-05.01.10, or before exceeding 250 FH accumulated by the affected TR Transmission Assembly since new, whichever occurs first, and thereafter at intervals not to exceed the applicable value as defined in Table 2 of this AD for AS332 helicopters, replace each affected flapping hinge component in accordance with the instructions specified in paragraph 3.B.2 of the applicable ASB.

Inspection:

- (6) For Group 2 helicopters: Within 50 FH after accomplishment of the last flapping hinge components inspection in accordance with the instructions of AH ASB SA330-65.132 or ASB AS332-64.00.43, as applicable, or within 25 FH after the effective date of this AD, whichever occurs later, and thereafter at intervals not to exceed 50 FH, inspect each affected spindle bolt and accomplish all the applicable maintenance actions in accordance with the instructions specified in paragraph 3.B.2 of the applicable ASB.
- (7) For Group 2 helicopters: Within 50 FH after accomplishment of the last flapping hinge components inspection in accordance with the instructions of AH ASB SA330-65.132 or ASB AS332-64.00.43, as applicable, or within 25 FH after the effective date of this AD, whichever occurs later, inspect the inner ring and needle bearings of each flapping hinge in accordance with the instructions specified in paragraph 3.B.2 of the applicable ASB.

Corrective Actions:

- (8) If, during any inspection as required by paragraph (6) of this AD, any crack is detected, before next flight, replace each affected flapping hinge component in accordance with the instructions specified in paragraph 3.B.2 of the applicable ASB.
- (9) If, during any inspection as required by paragraph (7) of this AD, any discrepancy is detected, as defined in the applicable ASB, before next flight, replace each affected flapping hinge component in accordance with the instructions specified in paragraph 3.B.2 of the applicable ASB.



Terminating Action:

(10) Replacement of all affected flapping hinge components on each flapping hinge of a helicopter, as required by paragraph (8) or (9) of this AD, as applicable, constitutes terminating action for the repetitive inspections as required by paragraph (6) or (7) of this AD, as applicable, for that helicopter.

Parts Installation:

(11) From the effective date of this AD, it is allowed to install affected flapping hinge components (see Note 2 of this AD) on any helicopter, provided that they are serviceable parts, as defined in this AD.

Note 2: For the purpose of this AD, removal of an affected flapping hinge component from a helicopter and subsequent re-installation of that component in the same position on the TR transmission assembly of that same helicopter within the same maintenance visit, is not an 'installation' as specified in paragraph (11) of this AD.

Ref. Publications:

AH ASB AS332-05.01.11 original issue dated 08 April 2020.

AH ASB SA330-05.107 original issue dated 08 April 2020.

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 Programming and Continued Airworthiness 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](#).
5. For any question concerning the technical content of the requirements in this AD, please contact: Airbus Helicopters (EBSESB) – Aéroport de Marseille Provence, 13725 Marignane Cedex, France; Telephone +33 (4) 42 85 97 97; Fax +33 (4) 42 85 99 66; E-mail: Directive.technical-support@airbus.com.

