



Notification of a Proposal to issue an Airworthiness Directive

PAD No.: 23-108

Issued: 10 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

Type/Model designation(s):

AS 332 helicopters

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

TCDS Number(s): EASA.R.002

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2018-0260 dated 03 December 2018.

ATA 53 – Fuselage – Main Gearbox Suspension Bar Fittings and Screws – Life Limit / Replacement / Modification

Manufacturer(s):

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

Applicability:

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

Definitions:

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

The replacement ASB: AH Alert Service Bulletin (ASB) AS332-01.00.90 Revision 2.

The modification ASB: AH ASB AS332-53.02.13.

The applicable ALS: AH Airworthiness Limitations Section (ALS) AS 332 C, AS 332 C1, AS 332 L and AS 332 L1 helicopters, including AH AS332 C/C1/L/L1 Instructions for Continued Airworthiness Delivery Note DN.002.0018 which contains Service Life Limits (SLL) and mandatory inspections for parts in post-modification ASB configuration and subject to airworthiness limitations, as applicable.



Affected part:

- Main gearbox (MGB) suspension bar right hand (RH) side rear attachment fitting (Part Number (P/N) 330A22-2702-07) and screws (P/N 330A22-0135-20);
- MGB suspension bar left hand (LH) side rear attachment fitting (P/N 330A22-2702-06) and screws (P/N 330A22-0135-20); and
- MGB suspension bar front attachment fitting screws (P/N 330A22-0134-20).

Serviceable part:

- MGB suspension bar RH side rear attachment fitting (P/N 330A22-2702-07) and screws (P/N 330A22-0135-20);
- MGB suspension bar LH side rear attachment fitting (P/N 330A22-2702-06) and screws (P/N 330A22-0135-20);
- MGB suspension bar front attachment fitting screws (P/N 330A22-0134-20) that are new (never installed).

Post-modification ASB screws: MGB suspension bar front attachment fitting screws P/N 332A22-3643-20 and MGB suspension bar rear attachment screws (RH and LH side) P/N 332A22-3644-20.

Major inspection (G): A maintenance check defined in AH AS 332 C, AS 332 C1, AS 332 L and AS 332 L1 Maintenance Manual (MM) instruction MET 05-29-00-601, as applicable.

Groups: Group 1 helicopters are those in pre-modification ASB configuration.

Group 2 helicopters are those in post-modification ASB configuration. Helicopters having AH modification (mod) 0728496 or mod 0729200 embodied in production, as applicable, are Group 2 helicopters, provided that they remain in that configuration.

Reason:

Review of EC 225 LP helicopter in-service data revealed installation findings of loss of tightening torque of the attachment screws of the upper deck fittings of the three MGB suspension bars. Due to design similarities, AS 332 L2 helicopters could also be affected by the same findings.

This condition, if not corrected, could lead to structural failure of the affected parts on EC 225 LP and AS 332 L2 helicopters, possibly resulting in detachment of MGB suspension bars and in consequent loss of control of the helicopter.

Investigations identified that the SLL of the affected parts on EC 225 LP and AS 332 L2 helicopters, as published in the applicable ALS of these helicopters, remain valid provided that an add-on service life penalty factor is applied.

As a result of these investigations, EASA issued AD 2017-0133, AD 2017-0189 and AD 2022-0021 for the EC 225 LP and AS 332 L2 helicopters, each one superseding the other, to provide SLL recalculation methods and replacement instructions of the affected parts.

Since EASA AD 2017-0189 was issued, taking into account the design similarities, AH performed additional tests and analyses on AS 332 C, AS 332 C1, AS 332 L and AS 332 L1 helicopters to assess the SLL of the affected parts installed on these helicopters in tightened and untightened conditions.



Consequently, AH issued original issue of ASB AS332-01.00.90 for the AS 332 C, AS 332 C1, AS 332 L and AS 332 L1 helicopters to provide replacement instructions of the affected parts on the basis of reduced SLL differing from those published in the applicable ALS. Prompted by this development EASA issued AD 2018-0260 requiring determination of the accumulated service life and introducing life limits to replace the affected parts with serviceable parts.

Since that AD was issued AH developed mod 0728496 (for helicopters with machined frames) and mod 0729200 (for helicopters with sheet metal frame) to improve the link of the suspension bar attachment fittings of the MGB suspension bars, including the introduction of MGB suspension bar attachment fitting screws of improved design. AH issued the modification ASB providing modification instructions for in-service helicopters.

For the reasons described above, this AD retains the requirement of EASA AD 2018-0260, which is superseded, and requires modification of the helicopter which constitutes terminating action for some actions required by EASA AD 2018-0260 for that helicopter.

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

Required as indicated, unless accomplished previously:

Service Life Determination:

- (1) For Group 1 helicopters: Within 50 flight hours (FH) after 17 December 2018 [the effective date of EASA AD 2018-0260], determine the FH accumulated since new (first installation on a helicopter) by the RH side and LH side rear attachment fittings of the MGB suspension bars in accordance with the instructions of the replacement ASB.

Replacement of MGB RH side rear attachment fitting and screws:

- (2) Within the compliance time defined in Table 1 of this AD, as applicable, depending on the accumulated FH determined as required by paragraph (1) of this AD and, thereafter, at intervals not to exceed 1 470 FH, replace the MGB RH side rear attachment fitting and screws with serviceable parts in accordance with the instructions of paragraph 3.B.3 of the replacement ASB.

Table 1 – MGB RH Side Rear Attachment Fitting/Screws Replacement (see Note 1 of this AD)

Accumulated Service Life	Compliance Time
Less than 1 370 FH	Before exceeding 1 470 FH
1 370 FH or more	Within 100 FH after 17 December 2018 [the effective date of EASA AD 2018-0260]

Note 1: Unless specified otherwise, the FH indicated in Tables 1, 2 and 3 of this AD are those accumulated by an affected part since first installation on a helicopter.

- (3) For MGB RH side rear attachment fittings which accumulated 1 370 FH or more, determined as required by paragraph (1) of this AD: As an alternative to the first replacement as required by paragraph (2) of this AD, if no attachment screw replacement or re-tightening torque occurred since first installation of the attachment fitting, as applicable, measure the



tightening torque of each attachment screw in accordance with the instructions of paragraph 3.B.4 of the replacement ASB.

- (4) If, during the measurement, as required by paragraph (3) of this AD, it is determined that the tightening torque of any attachment screw is less than 80 % of the minimum torque value of 3.4 daN·m / 301 lbf·in (i.e. 2.72 daN·m / 240.8 lbf·in), within 100 FH after 17 December 2018 [the effective date of EASA AD 2018-0260] and, thereafter, at intervals not to exceed 1 470 FH, replace the MGB RH side rear attachment fitting and screws with serviceable parts in accordance with the instructions of paragraph 3.B.3 of the replacement ASB.
- (5) If, during the measurement, as required by paragraph (3) of this AD, it is determined that the tightening torque of each attachment screw is 80 % of the minimum torque value of 3.4 daN·m / 301 lbf·in (i.e. 2.72 daN·m / 240.8 lbf·in) or more, before exceeding the applicable SLL of MGB RH side rear attachment fitting and screws as defined in the applicable ALS, and, thereafter, at intervals not to exceed 1 470 FH, replace the MGB RH side rear attachment fitting and screws with serviceable parts in accordance with the instructions of paragraph 3.B.3 of the replacement ASB.

Replacement of MGB LH side rear attachment fitting and screws:

- (6) If, during the determination as required by paragraph (1) of this AD, the MGB LH side rear attachment fitting is found to have accumulated 13 500 FH or more, within 100 FH after 17 December 2018 [the effective date of EASA AD 2018-0260], and, thereafter, at intervals not exceeding the applicable value defined in Table 2 of this AD, replace the MGB LH side rear attachment fitting and screws with serviceable parts in accordance with the instructions of paragraph 3.B.3 of the replacement ASB.

Table 2 – MGB LH Side Rear Attachment Fitting/Screws Replacement (see Note 1 of this AD)

Attachment Part	Interval (not to exceed)
Attachment fitting	13 600 FH
Attachment screws	During each major inspection (G)

- (7) If, during the determination as required by paragraph (1) of this AD, the MGB LH side rear attachment fitting is found to have accumulated less than 13 500 FH, within the compliance time defined in Table 3 of this AD, as applicable, and, thereafter, during each major inspection (G), replace the MGB LH side rear attachment screws with serviceable parts in accordance with the instructions of paragraph 3.B.2 of the replacement ASB.

Table 3 – MGB LH Side Rear Attachment Screws Replacement (see Note 1 of this AD)

Major inspection (G) accomplished before the effective date of this AD	Compliance Time (after 17 December 2018 [the effective date of EASA AD 2018-0260])
Yes	Within 100 FH
No	During the next major inspection (G)



- (8) If, during the determination as required by paragraph (1) of this AD, the MGB LH side rear attachment fitting is found to have accumulated less than 13 500 FH, before exceeding 13 600 FH since first installation of the fitting on a helicopter, and, thereafter, at intervals not to exceed 13 600 FH, replace the MGB LH side rear attachment fitting with a serviceable part in accordance with the instructions of paragraph 3.B.3 of the replacement ASB.

Replacement of MGB front attachment fitting screws:

- (9) For Group 1 helicopters: During the next major inspection (G) after 17 December 2018 [the effective date of EASA AD 2018-0260] and, thereafter, during each major inspection (G) replace each MGB front attachment fitting screw with serviceable parts in accordance with the instructions of paragraph 3.B.2 of the replacement ASB.

Modification:

- (10) For Group 1 helicopters: Within 825 FH or 27 months, whichever occurs first after the effective date of this AD, modify the helicopter in accordance with the instructions of the modification ASB. Following modification, a helicopter becomes effectively a Group 2 helicopter.

Part(s) Installation:

- (11) For Group 1 helicopters: From 17 December 2018 [the effective date of EASA AD 2018-0260], it is allowed to install an affected part on any helicopter, provided that the part is a serviceable part.
- (12) For Group 2 helicopters: After modification of a helicopter as required by paragraph (10) of this AD, installation of a MGB suspension bar front and rear attachment fitting screw is allowed, provided that the screw is a post-modification ASB screw.

Terminating Action:

- (13) For Group 1 helicopters: Replacement of an affected part on a helicopter as required by paragraphs (2), (4), (5), (6), (7), (8) and (9) of this AD does not constitute terminating action for the repetitive replacement of that affected part as required by this AD.
- (14) Modification of a helicopter as required by paragraph (10) of this AD constitutes terminating action for the requirements as required by paragraphs (1) to (9) of this AD for that helicopter.

Credit:

- (15) Service life determination, inspection(s) and replacements accomplished on a helicopter before the effective date of this AD in accordance with the instructions of the original issue or Revision 1 of the AH ASB AS332-01.00.90 are acceptable to comply with the requirements of paragraphs (1) to (9) of this AD for that helicopter.

Ref. Publications:

AH ASB AS332-01.00.90 original issue dated 21 November 2018, or Revision 1 dated 02 March 2020, or Revision 2 dated 28 September 2023.

AH AS332-53.02.13 original issue dated 28 September 2023.



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

Remarks:

1. This Proposed AD will be closed for consultation on 07 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 – Aéroport de Marseille Provence, 13725 Marignane Cedex, France
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