



Notification of a Proposal to issue an Airworthiness Directive

PAD No.: 24-042

Issued: 09 April 2024

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 2018-0142R1 dated 09 December 2019.

ATA 25, 30, 53 – Equipment and Furnishings / Ice and Rain Protection / Fuselage – Dual Hoist Removable Parts or De-icing System – Removal

Manufacturer(s):

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

Applicability:

AS 332 C, AS 332 C1, AS 332 L, AS 332 L1 helicopters, all manufacturer serial numbers, if equipped with dual hoist installation and de-icing system.

Definitions:

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

The ASB 1: AH AS332 Emergency Alert Service Bulletin (ASB) 01.00.91.

The ASB 2: AH AS332 ASB 01.00.96.

The ASB 3: AH ASB AS332-04-00-0001.

Groups: Group 1 helicopters are helicopters in pre-modification (MOD) 0722907 configuration.
Group 2 helicopters are helicopters in post-MOD 0722907 configuration.



Reason:

During the first flight of an AS 332 L helicopter after a retrofit re-installing the de-icing system, a phenomenon involving vibrations around the 12 Hz frequency was observed. Subsequent flight tests determined that this vibration is due to the specific helicopter configuration, involving riveted main frames X3855 and X5295 (pre-MOD 0722907), additional weight created by parts of the rotor de-icing system on the main rotor head (the distributor and de-icing harnesses) and removable parts (hoist arm and hoists) of the dual hoist installation.

This condition, if not corrected, could potentially generate divergent aeromechanic coupling between the helicopter structure and the rotor, possibly resulting in mechanical failure of structural parts and/or loss of control of the helicopter.

To address this potential unsafe condition, AH issued the ASB 1, along with the Safety Information Notice No. 3234-S-67, and EASA issued Emergency AD 2018-0142-E to require removal of removable parts of the dual hoist installation, or removal of the de-icing system.

After that AD was issued, AH accomplished additional flight tests and demonstrated that AS 332 L and AS 332 L1 helicopters are free from 12 Hz vibratory phenomenon when limiting the operational flight envelope and Vne (never-exceed speed). Consequently, AH issued the ASB 2, applicable to AS 332 L and AS 332 L1 helicopters only, retaining the requirements of the ASB 1 and providing, as an alternative method to removal of the parts of the dual hoist installation or of the de-icing system, instructions for specific Rotorcraft Flight Manual (RFM) limitations of the operational flight envelope and Vne of these two helicopter models. Consequently, AH also revised the ASB 1 to remove from the applicability AS 332 L and AS 332 L1 helicopters which are now addressed by the ASB 2.

Consequently, EASA issued AD 2018-0142R1 to introduce RFM Amendment and locally made placard installation as an optional alternative method for AS 332 L or AS 332 L1 helicopters to comply with the requirements of that AD.

After EASA AD 2018-0142R1 was issued, the occurrence of 12 Hz vibratory phenomenon was reported on AS 332 L1, post-MOD 0722907, helicopter. In consequence AH issued the ASB 3 to provide a procedure for post-MOD 0722907 helicopters in order to measure vibrations in flight, to interpret the results and to modify the helicopter configuration in case of findings.

For the reason described above, this AD retains the requirements of EASA AD 2018-0142R1, which is superseded, extends the applicability to post-MOD 0722907 helicopters and requires, for post-MOD 0722907 helicopters, measurement of vibration level and, depending on findings, removal of the dual hoist installation, or removal of the de-icing system.

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

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

Required as indicated by this AD, unless the action(s) required by this AD have been already accomplished:



Removal:

- (1) For Group 1 helicopters: Before next flight after 06 July 2018 [the effective date of EASA AD 2018-0142-E], remove the removable parts of the dual hoist installation, or remove the de-icing system in accordance with the instructions of paragraph 3 of the ASB 1 or ASB 2, as applicable to helicopter model.

Alternative Method of Compliance:

- (2) For Group 1 helicopters: Amendment of the RFM of an AS 332 L or AS 332 L1 helicopter by inserting Appendix 4A, 4B or 4C of the ASB 2, as applicable to helicopter model and configuration, and installation of locally made placard on the instrument panel, in accordance with the instructions of the ASB 2, is an acceptable alternative method to comply with the requirements of paragraph (1) of this AD for that helicopter.

Initial Determination of Vibration Level:

- (3) For Group 2 helicopters: Within 110 flight hours after the effective date of this AD, measure the vibrations in flight and interpret the results in accordance with the instructions of the ASB 3.

Configuration Change(s):

- (4) For Group 2 helicopters: Depending on findings of the initial determination of vibration level, as required by paragraph (3) of this AD, before next flight, remove the dual hoist system in accordance with the instructions of paragraph 4.5.1.1 of the ASB 3, or remove the blade de-icing harnesses in accordance with the instructions of paragraph 4.5.2.1 of the ASB 3.
- (5) For Group 2 helicopters: From the effective date of this AD, it is allowed to re-install a dual hoist system on a helicopter, if previously removed as required by paragraph (4) or (6) of this AD, provided that the blade de-icing harnesses are removed from the helicopter in accordance with the instructions of paragraph 4.5.2.1 of the ASB 3.
- (6) For Group 2 helicopters: From the effective date of this AD, it is allowed to re-install the blade de-icing harnesses on a helicopter, if previously removed as required by paragraph (4) or (5) of this AD, provided that the dual hoist system is removed from the helicopter in accordance with the instructions of paragraph 4.5.1.1 of the ASB 3.

Determination of Vibration Level after a Configuration Change:

- (7) For Group 2 helicopters: From the effective date of this AD, during the first flight after re-installation of a dual hoist system as described in paragraph (5) of this AD, or during the first flight after removal of the blade de-icing harnesses as required by paragraph (4) or (5) of this AD, measure the vibrations in flight and interpret the results in accordance with the instructions of the ASB 3.
- (8) For Group 2 helicopters: If, during any measure of the vibrations, as required by paragraph (7) of this AD, any discrepancy is identified, as defined in the ASB 3, before next flight, contact AH for applicable instructions and accomplish those instructions accordingly.

Ref. Publications:

AH AS332 Emergency ASB 01.00.91 original issue dated 03 July 2018, or Revision 1 dated 04 December 2019.



AH AS332 Emergency ASB 01.00.96 original issue dated 04 December 2019.

AH ASB AS332-04-00-0001 original issue dated 27 March 2024.

The use of later approved revisions of 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 May 2024.
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 AD, please contact: Airbus Helicopters (Technical Support), Aéroport de Marseille Provence 13725 Marignane Cedex, France, Telephone +33 (0)4 42 85 97 97, Fax +33 (0)4 42 85 99 66, Web portal: <https://keycopter.airbushelicopters.com> > Technical Requests Management, E-mail: TechnicalSupport.Helicopters@airbus.com.

