# Airworthiness Directive

**AD No.: 2024-0139**

**Issued: 12 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):**

AS 350 and AS 355 helicopters

| | |
|---|---|
| Effective Date: | 26 July 2024 |
| TCDS Number(s): | EASA.R.008 and EASA.R.146 |
| Foreign AD: | Not applicable |
| Supersedure: | This AD supersedes EASA AD 2023-0089 dated 04 May 2023. |

**ATA 55 – Stabilizers – Vertical Fin – Inspection / Modification**
**ATA 11 – Placards and Markings – Interior Placards – Installation**
**ATA – Aircraft Flight Manual / Airspeed Limitations – Amendment**

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**Manufacturer(s):**

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

**Applicability:**

AS 355 E, AS 355 F, AS 355 F1, AS 355 F2, AS 355 N and AS 355 NP helicopters, all serial numbers (s/n); and

AS 350 B3 helicopters, all s/n, except those that have embodied modification (MOD) 073148 in production.

**Definitions:**

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

**The ASB**: AH AS350 Alert Service Bulletin (ASB) 05.00.90 and AS355 ASB 05.00.76, as applicable, at Revision 5 (published as single document).

**The modification ASB**: AH ASB AS355-55.00.18 at Revision 1.

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**Groups:** Group 1 helicopters are all AS 355 E, AS 355 F, AS 355 F1, AS 355 F2, AS 355 N and AS 355 NP helicopters, and those AS 350 B3 helicopters that are pre-MOD 073148.
Group 2 helicopters are AS 350 B3 helicopters that have MOD 073148 embodied in service in accordance with the instructions of AH AS350 Service Bulletin (SB) 55.00.14.

**Affected part:** Upper fin assembly, having a Part Number as listed in section 1.A of the ASB.

**Reason:**
During an unscheduled post-flight inspection of the tail cone area of an AS 355 NP helicopter, a crack was found in the spar of the upper fin, and the two front attachment screws of the fin were found fractured.

This condition, if not detected and corrected, may lead to in-flight separation of the upper part of the vertical fin, possibly resulting in loss of control of the helicopter.

Pre-MOD 073148 AS 350 B3 helicopters have a similar vertical fin configuration and are subject to comparable load levels, therefore, the same unsafe condition may develop on those helicopters.

To address this potential unsafe condition, AH issued AS350 ASB 05.00.90 and AS355 ASB 05.00.76 (original issue) and EASA published AD 2017-0114 to require repetitive visual inspections of the upper fin attachments screws and the fin spar, as well as repetitive cleaning and detailed inspections of the vertical fin attachments and, depending on findings, accomplishment of applicable corrective action(s). That AD also provided an optional terminating action modification for AS 350 B3 helicopters.

After that AD was published, AH issued AS350 ASB 05.00.90 and AS355 ASB 05.00.76 Revision 1 to reduce the visual inspection interval and optimize inspection instructions. Consequently, EASA issued AD 2020-0186, retaining the requirements of EASA AD 2017-0114, which was superseded, reducing the inspection interval for, and amending the instructions of, the visual inspections.

After that AD was issued, analysis identified that AS 350 B3 helicopters modified through AS350 SB 55.00.14 to implement MOD 073148 may also be affected, due to possible fatigue damage previously accumulated with initial tail fin configuration, and AH issued ASB AS350 ASB 05.00.90 and AS355 ASB 05.00.76 Revision 2 accordingly. Consequently, EASA issued AD 2021-0099, retaining the requirements of EASA AD 2020-0186, which was superseded, and expanding the Applicability to include AS 350 B3 helicopters on which AH SB 55.00.14 has been embodied in service.

After that AD was issued, a further occurrence of a crack has been reported on an AS 355 NP helicopter. The results of the complementary investigation concluded that there is a need to temporary reduce the ‘never-exceed speed’ (Vne) for all AS355 helicopters, and AH issued ASB AS350 ASB 05.00.90 and AS355 ASB 05.00.76 Revision 3 accordingly, to introduce a speed limitation.

Furthermore, it was determined that certain compliance times for the first inspection for Group 2 helicopters was incorrectly defined in EASA AD 2021-0099. Consequently, EASA issued AD 2023-0075, which retained the requirements of EASA AD 2021-0099, which was superseded, but amended certain compliance times for Group 2 helicopters, and additionally required for all AS 355

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helicopters amendment of the Rotorcraft Flight Manual (RFM) to temporary limit the Vne and installation of a placard indicating the temporary reduced Vne.

After that AD was issued, it was determined that, following the accomplishment of certain maintenance tasks, a maintenance flight must be accomplished including specific test points above the temporary reduced Vne, and AH issued the ASB AS350 ASB 05.00.90 and AS355 ASB 05.00.76 Revision 4, to give instructions for related additional inspections. Consequently, EASA issued AD 2023-0089, retaining the requirements of EASA AD 2023-0075, which is superseded, and additionally required accomplishment of inspections before and after certain maintenance flights.

Since that AD was issued AH developed a reinforced upper fin assembly for AS 355 helicopters, and published the modification ASB, as defined in this AD, providing modification instructions. Additionally, AH published the ASB, as defined in this AD, amending the inspection instructions with the terminating action.

For the reasons described above, this AD retains the requirements of EASA AD 2023-0089, which is superseded, and additionally requires modification of AS 355 helicopters, providing terminating action for the repetitive inspections and allowing removal of the RFM amendment and placard related to the reduced Vne.

## 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:

**RFM Amendment and Placard Installation:**

(1) For AS 355 E, AS 355 F, AS 355 F1, AS 355 F2, AS 355 N and AS 355 NP helicopters: Within the compliance times specified in Table 1 of this AD, as applicable, amend the applicable RFM to incorporate speed limitation as specified in the ASB, and install a placard in accordance with the instructions of the ASB; thereafter inform all flight crew and operate the helicopter accordingly.

Table 1 – RFM Amendment

| **Flight Hours (FH) Accumulated by the helicopter since first flight on 14 April 2023 [the effective date of EASA AD 2023-0075]** | **Compliance Time** |
|---|---|
| Less than 660 | Before exceeding 660 FH |
| 660 or more | Within 7 days after 14 April 2023 [the effective date of EASA AD 2023-0075] |

(2) Following replacement of an affected part of a helicopter with an affected part which has accumulated less than 660 FH since first installation on a helicopter, the RFM amendment and the placard, as required by paragraph (1) of this AD for that helicopter, can be temporarily removed, until that affected part accumulates 660 FH since first installation on a helicopter; thereafter, the RFM must be (re)amended and a placard must be (re)installed as required by paragraph (1) of this AD.

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(3) Amending the applicable RFM of a helicopter by incorporating an RFM revision, which includes the RFM amendment as required by this AD, is an acceptable method to comply with the requirements of paragraph (1) of this AD for that helicopter.

**Inspection(s) / Cleaning**:

(4) For Group 2 helicopters: Before exceeding 660 FH since first flight, or within 55 FH after 14 April 2023 [the effective date of EASA AD 2023-0075], whichever occurs later (but not exceeding 660 FH since embodiment of AS350 SB 55.00.14, or 55 FH after 23 April 2021 [the effective date of EASA AD 2021-0099], whichever occurs later), accomplish a visual inspection of the right-hand side of the vertical fin spar in accordance with the instructions of paragraph 3.B.2 of the ASB.

(5) For Group 1 and Group 2 helicopters: Within the compliance time specified in Table 2 of this AD, as applicable, but, for Group 2 helicopters (only), not exceeding 660 FH since embodiment of AS350 SB 55.00.14 or 165 FH since 23 April 2021 [the effective date of EASA AD 2021-0099], whichever occurs later; and, thereafter, at intervals not to exceed 660 FH, accomplish the cleaning and the detailed inspection of the vertical fin spar and vertical fin upper attachments in accordance with the instructions of paragraph 3.B.3 of the ASB.

Table 2 – Initial Cleaning and Detailed Inspection (see Note 1 of this AD)

| Group | FH Accumulated | Compliance Time |
|---|---|---|
| 1 | 605 FH or less | Before exceeding 660 FH |
| | More than 605 FH | Within 165 FH after 12 July 2017 [the effective date of EASA AD 2017-0114] |
| 2 | 605 FH or less | Before exceeding 660 FH |
| | More than 605 FH | Within 165 FH after 14 April 2023 [the effective date of EASA AD 2023-0075] |

Note 1: Unless specified otherwise, the FH indicated in Table 2 of this AD for Group 1 helicopters are those accumulated by the helicopter on 12 July 2017 [the effective date of EASA AD 2017-0114], since first flight; unless specified otherwise, the FH indicated in Table 2 of this AD for Group 2 helicopters are those accumulated by the helicopter on 14 April 2023 [the effective date of EASA AD 2023-0075], since first flight.

(6) For Group 1 and Group 2 helicopters: Within 10 FH after the initial inspection and cleaning as required by paragraphs (4) and (5) of this AD, and, thereafter, at intervals not to exceed 10 FH, accomplish a visual inspection of the right-hand side of the vertical fin spar in accordance with the instructions of paragraph 3.B.2 of the ASB.

(7) Following replacement of an affected part of a helicopter with an affected part which has accumulated less than 660 FH since first installation on a helicopter, the inspections, as required by paragraphs (4), (5) and (6) of this AD, as applicable, for that helicopter, can be postponed until that affected part accumulates 660 FH since first installation on a helicopter; thereafter, subsequent inspections must be accomplished as required by this AD.

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(8) For AS 355 E, AS 355 F, AS 355 F1, AS 355 F2, AS 355 N and AS 355 NP helicopters: From 18 May 2023 [the effective date of EASA AD 2023-0089], following the RFM amendment as required by paragraph (1) or (2) of this AD, as applicable, it is allowed to exceed the temporary reduced Vne during a maintenance flight provided that (see Note 2 of this AD):

(8.1) Before that maintenance flight, the right-hand side of the vertical fin spar passes a visual inspection (no discrepancy found) in accordance with the instructions of paragraph 3.B.2 of the ASB.

(8.2) The temporary reduced Vne exceedance during that maintenance flight is scheduled only as part of, and in accordance with the instructions of, any of the test conditions as listed in section 1.E.2.c of the ASB.

(8.3) Before next flight after that maintenance flight, the cleaning and the detailed inspection of the vertical fin spar and vertical fin upper attachments are accomplished in accordance with the instructions of paragraph 3.B.3 of the ASB.

Note 2: It is allowed to temporarily remove the RFM amendment and the placard, as required by paragraph (1) or (2) of this AD, as applicable, only for the maintenance flight(s) during which the temporary reduced Vne is expected to be exceeded, as described in paragraph (8) of this AD.

(9) For AS 355 E, AS 355 F, AS 355 F1, AS 355 F2, AS 355 N and AS 355 NP helicopters: From 18 May 2023 [the effective date of EASA AD 2023-0089], if, following the RFM amendment as required by paragraph (1) or (2) of this AD, as applicable, an exceedance of the temporary reduced Vne is reported on a helicopter, except as specified in paragraph (8) of this AD, before next flight, accomplish a visual inspection of the right-hand side of the vertical fin spar in accordance with the instructions of paragraph 3.B.2 of the ASB.

**Corrective Action(s)**:

(10) If, during any inspection as required by paragraphs (4) to (9) of this AD, as applicable, discrepancies are detected, before next flight, contact AH for approved repair instructions and accomplish those instructions accordingly.

**Modification:**

(11) For AS 355 E, AS 355 F, AS 355 F1, AS 355 F2, AS 355 N and AS 355 NP helicopters: Within 26 months after the effective date of this AD, replace the affected part with an upper fin assembly P/N 355A14-0522-1751 (see Note 3 of this AD), in accordance with the instructions of the modification ASB.

Note 3: The modification ASB provides instructions to modify an affected part into an upper fin assembly P/N 355A14-0522-1751.

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**Part(s) Installation:**

(12) For AS 355 E, AS 355 F, AS 355 F1, AS 355 F2, AS 355 N and AS 355 NP helicopters: After modification of a helicopter as required by paragraph (11) of this AD, do not install an affected part on that helicopter.

**Terminating Action**:

(13) Accomplishment of the corrective action(s) on a helicopter, as required by paragraph (10) of this AD, does not constitute terminating action for the repetitive inspections as required by paragraphs (4) to (9) of this AD for that helicopter, unless otherwise specified in those instructions.

(14) Modification of helicopter as required by paragraph (11) of this AD constitutes terminating action for the repetitive inspections as required by paragraphs (4) to (9) of this AD for that helicopter.

(15) Following modification of a helicopter as required by paragraph (11) of this AD, it is allowed to remove the RFM amendment and the placard, as required by paragraph (1), from that helicopter.

**Credit**:

(16) Inspections, cleaning, and corrective action(s) on a helicopter, accomplished before 18 May 2023 [the effective date of EASA AD 2023-0089] in accordance with the instructions of AH AS350 ASB 05.00.90 or AS355 ASB 05.00.76 (single document) at original issue, Revision 1, Revision 2, or Revision 3, or Revision 4, as applicable, are acceptable to comply with the initial requirements of paragraphs (4) to (9), as applicable, of this AD for that helicopter.

(17) Modification of a helicopter accomplished before the effective date of this AD in accordance with the instruction of AH ASB AS355-55.00.18 at original issue is acceptable to comply with the requirements of paragraph (11) of this AD for that helicopter.

**Ref. Publications:**

AH AS355 ASB 05.00.76 original issue dated 27 June 2017, Revision 1 dated 22 July 2020, Revision 2 dated 04 March 2021, Revision 3 dated 06 April 2023, Revision 4 dated 02 May 2023, and Revision 5 dated 09 July 2024.

AH ASB AS355-55.00.18 original issue dated 07 December 2023 and Revision 1 dated 06 June 2024.

AH AS350 ASB 05.00.90 original issue dated 27 June 2017, Revision 1 dated 22 July 2020, Revision 2 dated 04 March 2021, Revision 3 dated 06 April 2023, Revision 4 dated 02 May 2023 and Revision 05 dated 09 July 2024.

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

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**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 09 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.

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