

## Airworthiness Directive

**AD No.:** 2024-0125**Issued:** 02 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):**

EC 225 LP helicopters

**Effective Date:** 16 July 2024**TCDS Number(s):** EASA.R.002**Foreign AD:** Not applicable**Supersedure:** None**ATA 62 – Main Rotor – Rotating Swashplate Yokes – Inspection****Manufacturer(s):**

Airbus Helicopters (AH), formerly Eurocopter, Eurocopter France

**Applicability:**

EC 225 LP helicopters, all manufacturer serial numbers (s/n), except those helicopters that have been delivered (date of EASA form 52, or equivalent aircraft statement of conformity) after 19 June 2024.

**Definitions:**

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

**The ASB:** AH Alert Service Bulletin (ASB) EC225-62-32-0001.

**Affected part:** Main rotor (M/R) rotating swashplates, having Part Number (P/N) 332A31-3074-00 or P/N 332A31-3074-01, all s/n.

**Serviceable part:** An affected part having a time since manufacturing (TSM, see Note 2 of this AD) of less than 5 years; or an affected part having a TSM of 5 years or more, but less than 13 years, that, before installation, has passed an inspection (no defects found), or has been reworked in each yoke area, in accordance with the instructions of the ASB, as defined in this AD (see Note 1 of this AD).

Note 1: EASA AD 2023-0042 (already) requires that an affected part having a TSM of 5 years or more, but less than 13 years, is only considered serviceable when it, before installation, has passed an inspection (no defects found), or has been reworked in each yoke area, in accordance with the instructions of Section 3.B of AH EC225 Emergency ASB 05A051 (any revision).

**Groups:** Group 1 helicopters are those having installed an affected part with a TSM of more than 5 years at the effective date of this AD. Group 2 helicopters are those which are not Group 1.

Note 2: To determine the TSM of a rotating swashplate refer to AH EC225 Emergency ASB 05A051 Revision 6. If the s/n of the rotating swashplate is not listed in this ASB, the TSM is to be considered less than 5 years.

#### Reason:

It had been identified that the control rod attachment yokes of the M/R rotating swashplate of EC225 helicopters are susceptible to an ageing phenomenon with crack development, due to the fact that they are manufactured from a light alloy (7449 T76 aluminium) determined to be susceptible to Hydrogen Environmental Assisted Cracking (HEAC); ref. also EASA Safety Information Bulletin (SIB) 2018-04R2.

This condition, if not detected and corrected, could lead to structural failure of a control rod attachment yoke of the M/R rotating swashplate, possibly resulting in loss of control of the helicopter.

To address this potential unsafe condition, AH issued EC225 Emergency ASB 05A051 to provide inspection instructions, and consequently EASA issued Emergency AD 2017-0191-E (later revised) to require repetitive inspections of the affected parts (as defined in this AD) and, depending on findings, accomplishment of applicable corrective action(s).

After EASA AD 2017-0191R2 was issued, additional analysis determined that it was necessary to introduce a Service Life Limit (SLL) for the affected parts to ensure their serviceability. Therefore, AH published Revision 2 of EC225 Emergency ASB 05A051 to introduce an SLL for the affected parts and to provide reporting instructions. Consequently, EASA issued AD 2019-0074 (later revised) retaining the requirements of EASA AD 2017-0191R2, which was superseded, and requiring in addition application of the new SLL for affected parts and reporting.

After EASA AD 2019-0074R1 was issued, additional investigation, focusing on the HEAC cracking phenomenon, determined the need to reduce the inspection threshold for the yokes and yoke areas of affected parts. To reflect this development AH published Revision 6 of Emergency ASB 05A051, which also contains information about the date of manufacture (TSM) of each affected part.

Consequently, EASA issued AD 2023-0042, retaining the requirements of EASA AD 2019-0074R1, which was superseded, and requiring accomplishment of the initial inspection of affected parts within reduced compliance times. Further on, the definition of a serviceable part was amended and Groups were introduced for affected parts.



Since that AD was issued, a linear indication (crack) was identified at one of AH's facilities on one of the yokes of an affected part, during a non-destructive testing (NDT) inspection of a swashplate that had reached its calendar limitation (13 years) in accordance with EC225 Emergency ASB 05A051.

The found NDT indication (location and characteristics) differed however from previous findings, addressed by EC225 Emergency ASB 05A051, and therefore AH published the ASB, as defined in this AD, requiring a one-time eddy current inspection for each affected part, and giving instructions for rework or replacement, depending on the found linear indications.

For the reasons described above, this AD requires accomplishment of an (additional) one-time detailed inspection of the yoke areas of each affected part, on top of the requirements of EASA AD 2023-0042, and reporting of the inspection results to AH for further investigation.

This AD is complementary to EASA AD 2023-0042, which is not superseded.

### 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:

### Inspection(s):

- (1) Within the compliance time specified in Table 1 of this AD, as applicable, accomplish an eddy current inspection on all (5) yoke areas of each affected part in accordance with the instructions of the ASB, as defined in this AD.

Table 1 – Compliance Time

	<b>Compliance Time</b> (after the effective date of this AD)
Group 1 helicopters	Within 55 flight hours (FH) or 1 month, whichever occurs first
Group 2 helicopters	Within 6 months

### Corrective Action(s):

- (2) If, during the inspection as required by paragraph (1) of this AD, any linear indications (cracks) are detected with a length of 10 mm or more in any of the inspected yokes areas of an affected part, before next flight, replace the M/R assembly with a M/R assembly equipped with a serviceable part in accordance with the instructions of the ASB, or contact AH for replacement instructions and accomplish these instructions accordingly.
- (3) If, during any inspection as required by paragraph (1) of this AD, no linear indications or linear indications (cracks) are detected with a length of less than 10 mm, before next flight, rework the affected yoke areas of the affected part in accordance with the instructions of the ASB, as applicable, and restore the helicopter to an airworthy condition.

### Reporting:

- (4) Within 7 days after the inspection as required by paragraph (1) of this AD, report to AH the detailed results of all (5) inspected yoke areas of each inspected affected part (including no



findings). Making use of the Response Form No.62-32-0001, as attached to the ASB, is an acceptable method to comply with this requirement.

**Part(s) Installation:**

- (5) From the effective date of this AD, installation of an affected part on a helicopter is allowed, provided that the part is a serviceable part, as defined in this AD.

**Ref. Publications:**

AH ASB EC225-62-32-0001 (original issue) dated 19 June 2024.

AH Emergency ASB EC225 05A051 Revision 6 dated 10 February 2023.

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. All interested persons may send their comments, referencing the AD Number, to the E-mail address specified in below Remark 3, prior to 30 July 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](mailto: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 (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://airbusworld.helicopters.airbus.com> or E-mail: [support.technical-airframe.ah@airbus.com](mailto:support.technical-airframe.ah@airbus.com).

