Airworthiness Directive

AD No.: 2024-0160

Issued: 16 August 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: 30 August 2024

TCDS Number(s): EASA.R.002

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2020-0264 dated 02 December 2020.

ATA 62 – Main Rotor – Mast – Inspection

Manufacturer(s):
Airbus Helicopters (AH), formerly Eurocopter, Eurocopter France.

Applicability:
EC 225 LP helicopters, all manufacturer serial numbers.

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

The ASB: AH Alert Service Bulletin (ASB) EC225-05A053 Revision 4.

Affected part: Main rotor (MR) mast assemblies, having Part Number (P/N) 332A31-3001-01M, P/N 332A31-3001-02M, P/N 332A31-3001-03M, P/N 332A31-3002-00M, P/N 332A31-3002-01M, or P/N 332A31-3002-02M; or, mast swashplate assemblies, having P/N 332A31-3032-00M, P/N 332A31-3032-01M, P/N 332A31-3032-03M, or P/N 332A31-3032-04M.

Serviceable part: Any MR mast assembly and mast swashplate assembly, eligible for installation, which is not an affected part; or an affected part which is new (never installed before), or which has passed an inspection (no defects detected) in accordance with the instructions of the ASB.

Groups: Group 1 helicopters are those that have an affected part installed, except a MR mast assembly having P/N 332A31-3001-03M or a mast swashplate assembly having P/N 332A31-3032-03M or P/N 332A31-3032-04M.
Group 2 helicopters are those that have an affected part installed having P/N 332A31-3001-03M.
Group 3 helicopters are those that have an affected part installed having P/N 332A31-3032-03M or P/N 332A31-3032-04M.

FNC: Functional maintenance check (FNC) of the MR mast swashplate/mast swashplate assembly ball bearings in accordance with the instructions of AH EC225 Maintenance Manual task 62-20-00-213, sub-task 62-20-00-213-091.

Reason:
A manufacturing issue was reported, involving the ceramic balls of the swashplate bearing of the MR mast or mast swashplate assembly. A defective ceramic ball could lead to potential premature spalling of the ball itself and of the swashplate bearing.

This condition, if not detected and corrected, could lead to loss of function of the bearing and consequent overload of the MR mast scissors, possibly resulting in reduced control of the helicopter.

To address this unsafe condition, AH issued ASB EC225-05A053 (original issue) to provide inspection and replacement instructions. Consequently, EASA issued AD 2020-0079 to require repetitive inspections of the MR mast swashplate or the mast swashplate assembly and, depending on findings, replacement of the affected part.

After that AD was issued AH identified additional MR mast swashplate assemblies affected by the swashplate bearing manufacturing deficiency and issued the ASB EC225-05A053 Revision 1 making the swashplate assembly inspection applicable to those additional MR mast swashplate assemblies. Consequently, EASA issued AD 2020-0264 retaining the requirements of EASA AD 2020-0079, which was superseded, and expanding the definition of affected parts by adding MR mast assemblies having P/N 332A31-3001-03M.

Since that AD was issued AH identified additional mast swashplate assemblies affected by the swashplate bearing manufacturing deficiency and issued the ASB to make the swashplate assembly inspection applicable to those additional mast swashplate assemblies and to improve the inspection instructions.

For the reasons described above, this AD retains the requirements of EASA AD 2020-0264, which is superseded, and expands the definition of affected parts by adding mast swashplate assemblies having P/N 332A31-3032-03M and P/N 332A31-3032-04M.

This AD is still considered 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:

Inspection(s):

(1) Within the compliance time (CT) as specified in Table 1, Table 2, or Table 3 of this AD, as applicable, and, thereafter, at intervals not to exceed 150 flight hours (FH), inspect the swashplate assembly of the affected part in accordance with the instructions of paragraph 3 of the ASB.

Table 1 – Group 1 helicopters. Initial CT for MR Mast Inspection (see Note 1 of this AD)

FH Accumulated on 15 April 2020 [the effective date of EASA AD 2020-0079]	**Compliance Time**
100 FH or more	Before exceeding 1 100 FH or within 50 FH after 15 April 2020 [the effective date of EASA AD 2020-0079], whichever occurs first
Less than 100 FH	Before exceeding 150 FH

Table 2 – Group 2 helicopters. Initial CT for MR Mast Inspection (see Note 1 of this AD)

FH Accumulated on 16 December 2020 [the effective date of EASA AD 2020-0264]	**Compliance Time**
100 FH or more	Before exceeding 1 100 FH or within 50 FH after 16 December 2020 [the effective date of EASA AD 2020-0264], whichever occurs first
Less than 100 FH	Before exceeding 150 FH

Table 3 – Group 3 helicopters. Initial CT for MR Mast Inspection (see Note 1 of this AD)

FH Accumulated on the effective date of this AD	**Compliance Time**
100 FH or more	Before exceeding 1 100 FH or within 50 FH after the effective date of this AD, whichever occurs first
Less than 100 FH	Before exceeding 150 FH

Note 1: Unless indicated otherwise, the FH specified in Table 1, Table 2 and Table 3 of this AD are those accumulated by the affected part since its first installation, or since its last FNC, as applicable.

Corrective Action(s):

(2) If, during any inspection as required by paragraph (1) of this AD any discrepancy is detected, as defined in the ASB, before next flight, replace the affected part with a serviceable part in accordance with the instructions of paragraph 3 of the ASB.

Terminating Action(s):

(3) None.

Credit:

(4) Inspections and corrective action(s), accomplished on a helicopter before the effective date of this AD in accordance with the instructions of AH ASB EC225-05A053 at original issue, Revision 1, Revision 2 or Revision 3, are acceptable to comply with the initial requirements of paragraphs (1) and (2) of this AD for that helicopter.

Parts Installation:

(5) From the effective date of this AD, it is allowed to install on any helicopter an affected part, provided it is a serviceable part, as defined in this AD, and that, following installation, it is inspected and, depending on finding(s), replaced as required by paragraphs (1) and (2) of this AD.

Ref. Publications:

AH ASB EC225-05A053 original issue dated 31 March 2020, or Revision 1 dated 30 November 2020, or Revision 2 dated 27 October 2021, or Revision 3 dated 11 January 2024, or Revision 4 dated 12 June 2024.

The use of later approved revisions of the above-mentioned document 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. This AD was posted on 15 July 2024 as PAD 24-087 for consultation until 12 August 2024. No comments were received during the consultation period.

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 (Technical Support)
Web portal: https://keycopter.airbushelicopters.com Technical Requests Management, or TechnicalSupport.Helicopters@airbus.com