Airworthiness Directive

AD No.: 2021-0239

Issued: 05 November 2021

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, 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 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):
SA 330 J helicopters

Effective Date: 19 November 2021

TCDS Number(s): EASA.R.002

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2018-0272 dated 13 December 2018.

ATA 05 – Time Limits / Maintenance Checks – Main Gearbox / Particle Detectors – Inspection / Modification / Replacement

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Manufacturer(s):
Eurocopter France, Aérospatiale

Applicability:
SA 330 J helicopters, all serial numbers.

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

The inspection ASB: AH Alert Service Bulletin (ASB) SA330-05.103 Revision 3.

The modification ASB: AH ASB SA330-65.139.

Affected MGB: Any main gearbox (MGB) that it is not a serviceable MGB, as defined by this AD.

Serviceable MGB: A modified MGB that has incorporated modification (mod) 0751091 in accordance with the instructions of the modification ASB.

ALF: After last flight of the day (ALF) inspection.

Groups: Group 1 helicopters are those which have an affected MGB installed. Group 2 helicopters are those which have a serviceable MGB installed.

Reason:

Investigation prompted by an EC 225 helicopter accident revealed involvement of a failure of a second-stage planet gear of the MGB. Following review of design similarities, it was determined that such an event might conceivably also occur on SA 330 J helicopters.

This condition, if not detected and corrected, could lead to loss of control of the helicopter.

As a precautionary measure, AH issued the original issue of ASB SA330-05.103, applicable to SA 330 J helicopters, providing updated MGB inspection intervals and particle assessment criteria, aligning the SA 330 J particle inspection to the standards set for EC 225 LP/AS 332 L2 helicopters, and EASA issued AD 2018-0065 accordingly, to require those actions.

After that AD was issued, investigation results determined that inspections of only the MGB particle detector do not ensure an adequate safety level and AH issued Revision 1 of ASB SA330-05.103, introducing repetitive inspections of the MGB bottom housing (oil sump). Consequently, EASA issued AD 2018-0272, retaining the requirements of EASA AD 2018-0065, which was superseded, to require those additional inspections.

Since that AD was issued, additional review accomplished by AH concluded that, in order to further improve the level of safety of the fleet, replacement of affected part (as defined in this AD) with serviceable part (as defined in this AD) is necessary. Consequently, AH issued the modification ASB providing instructions to modify the helicopter by installing an MGB equipped with new second-stage planet gear assembly Part Number (P/N) 330A32-9861-02 (mod 0751091), which has improved stress and fatigue characteristics.

For the reason described above, this AD retains the requirements of EASA AD 2018-0272, which is superseded, introduces repetitive inspections for post-mod 0751091 helicopters and requires modification of Group 1 helicopters by installing a serviceable MGB.

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

Required as indicated, unless accomplished previously:

Inspection(s) / Analysis:

(1) For Group 1 and Group 2 helicopters: From 30 March 2018 [the effective date of EASA AD 2018-0065], during each ALF inspection, or at intervals not to exceed 10 flight hours (FH), whichever occurs first, inspect the MGB particle detector in accordance with the instructions of Section 3 of the inspection ASB.

(2) For Group 1 and Group 2 helicopters: Within the compliance time as defined in Table 1 of this AD and, thereafter, at intervals not to exceed the applicable value as defined in Table 1 of this AD, accomplish an MGB bottom housing (oil sump) inspection in accordance with the instructions of Section 3 of the inspection ASB.

Table 1 – Oil Sump Inspection Threshold / Interval

Group	Compliance Time	Inspection Interval
1	Within 45 FH after 27 December 2018 [the effective date of EASA AD 2018-0272]	45 FH
2	Within 100 FH after the effective date of this AD, or within 100 FH after modification of the helicopter as required by paragraph (5) of this AD, as applicable	100 FH

(3) If, during any inspection as required by paragraph (1) or (2) of this AD, as applicable, particles are detected, before next flight, analyse the particles in accordance with the instructions of Appendix 4.A. of the inspection ASB.

Corrective Action(s):

(4) If, during any analysis as required by paragraph (3) of this AD, particles are detected which exceed the limits specified in Appendix 4.A. of the inspection ASB, before next flight, accomplish the applicable corrective action(s) in accordance with the instructions of Appendix 4.A. of the inspection ASB.

Modification:

(5) For Group 1 helicopters: Within 440 FH or 50 months, whichever occurs first after the effective date of this AD, modify the helicopter (which effectively becomes Group 2 – see post-mod inspection interval in Table 1 of this AD) by installing a serviceable MGB in accordance with the instructions of the modification ASB.

Replacement:

(6) For Group 2 helicopters: Before a second-stage planet gear assembly P/N 330A32-9861-02 exceeds 2 750 FH since new (first installation on a helicopter), replace that planet gear assembly with a serviceable part, as defined in this AD. This can be accomplished in accordance with AH approved maintenance instructions.

Credit:

(7) Inspections, analyses and corrective actions on a helicopter, accomplished before the effective date of this AD in accordance with the instructions of AH ASB SA330-05.103 at original issue, or Revision 1, or Revision 2, are acceptable to comply with the initial requirements of this AD for that helicopter.

Terminating Action:

(8) None.

Parts Installation:

(9) Installation of an MGB on a helicopter is allowed, provided that it is a serviceable MGB, as required by paragraph (9.1) or (9.2) of this AD.

(9.1) For Group 1 helicopters: After modification of a helicopter as required by paragraph (5) of this AD.

(9.2) For Group 2 helicopters: From the effective date of this AD.

Ref. Publications:

AH ASB SA330-05.103 original issue dated 20 March 2018, or Revision 1 dated 10 December 2018, or Revision 2 dated 13 January 2021, or Revision 3 dated 04 October 2021.

AH ASB SA330-65.139 original issue dated 04 October 2021.

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. This AD was posted on 07 October 2021 as PAD 21-142 for consultation until 04 November 2021. 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://airbusworld.helicopters.airbus.com or E-mail: support.technical-airframe.ah@airbus.com and TechnicalSupport.Helicopters@airbus.com.