



## Airworthiness Directive

**AD No.:** 2021-0016

**Issued:** 13 January 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 365 helicopters

**Effective Date:** 27 January 2021

**TCDS Number(s):** EASA.R.105

**Foreign AD:** Not applicable

**Supersedure:** This AD supersedes EASA AD 2020-0156 dated 14 July 2020.

## ATA 63 – Main Rotor Drive – Main Gearbox / Magnetic Plug and Oil Filter / Planet Gears – Inspection / Modification / Replacement

### Manufacturer(s):

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

### Applicability:

SA 365 C1, SA 365 C2 and SA 365 C3 helicopters, all manufacturer serial numbers.

### Definitions:

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

**Affected magnetic plug:** Magnetic plugs, having Part Number (P/N) 365A32-1711-00, for installation in the main gearbox (MGB) pump intake.

**Improved magnetic plug:** Magnetic plugs, having P/N 365A32-7701-00.

**Affected MGB:** MGB, having P/N 365A32-4000-02, P/N 365A32-4000-03 or P/N 365A32-4000-05.

**The ASB:** AH Alert Service Bulletin (ASB) SA365-05.33 Revision 1.

**The modification ASB:** AH ASB SA365-65.53.



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

**Groups:** Group 1 helicopters are those on which AH modification (mod) 0763B19 has not been embodied. Group 2 helicopters are those on which AH mod 0763B19 has been embodied.

**Reason:**

Prompted by an EC 225 helicopter accident, an investigation was conducted of the MGB design of SA 365 helicopters. Investigation results determined that the level of detectability of particles linked to a planet gear spalling needs to be improved.

This condition, if not detected and corrected, could lead to a planet gear seizure, possibly resulting in loss of the MGB and consequent loss of control of the helicopter.

To address this potential unsafe condition, AH issued ASB SA365-05.33 (original issue) to provide instructions for inspection of the MGB magnetic plug and oil filter, and the modification ASB to provide instructions for replacement of the magnetic plug installed at the pump intake (corresponding to AH mod 0763B19). Consequently, EASA issued AD 2020-0156 to require inspections of the MGB magnetic plug, inspections of the MGB oil filter at reduced intervals, the application of improved instructions following the discovery of particles on the MGB magnetic plug or oil filter, and the replacement of the affected magnetic plug with an improved magnetic plug.

Since that AD was issued, investigation results determined that the planet gears installed in the epicyclic module of the MGB are subject to higher outer race contact pressures and therefore have a greater susceptibility to spalling and cracking. AH issued the ASB, as defined in this AD, to provide instructions for replacement of second stage planet gears.

For the reason described above, this AD retains the requirements of EASA AD 2020-0156, which is superseded, and requires replacement of second stage planet gears at reduced intervals.

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

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

Required as indicated, unless accomplished previously:

**Inspection(s):**

- (1) For Group 1 and Group 2 helicopters: From 28 July 2020 [the effective date of EASA AD 2020-0156] during each ALF inspection, or at intervals not to exceed 10 flight hours (FH), whichever occurs first, inspect the MGB magnetic plug in accordance with the instructions of Maintenance Manual (MET) 65.32.602 and interpret the results in accordance with the instructions of sections 3.B.2 and 3.B.3 of the ASB.
- (2) For Group 1 and Group 2 helicopters: Within 25 FH after 28 July 2020 [the effective date of EASA AD 2020-0156], and, thereafter, at intervals not to exceed 25 FH, inspect the MGB oil filter and interpret the results in accordance with the instructions of sections 3.B.4 and 3.B.3 of the ASB.



**Corrective Action(s):**

- (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 and accomplish the applicable corrective action(s) in accordance with the instructions of section 3.B.3 of the ASB.

**Modification:**

- (4) For Group 1 helicopters: Within 110 FH or 3 months, whichever occurs first after 28 July 2020 [the effective date of EASA AD 2020-0156], modify the helicopter by replacing the affected magnetic plug with an improved magnetic plug in accordance with the instructions of the modification ASB.

**Replacement:**

- (5) For Group 1 and Group 2 helicopters: Within 300 FH or 24 months after the effective date of this AD, whichever occurs first, and, thereafter, at intervals not exceeding 300 FH, replace all second stage planet gears on that affected MGB in accordance with the instructions of the ASB.

**Credit:**

- (6) Inspections and corrective actions, accomplished on a helicopter before the effective date of this AD in accordance with the instructions of AH ASB 365-05.33 at original issue, are an acceptable method to comply with the initial requirements of paragraphs (1), (2) and (3) of this AD for that helicopter.

**Terminating Action:**

- (7) None.

**Part(s) Installation:**

- (8) Do not install an affected magnetic plug on any helicopter, as required by paragraph (8.1) or (8.2.) of this AD, as applicable:

(8.1) For Group 1 helicopters: After modification of a helicopter as required by paragraph (4) of this AD.

(8.2) For Group 2 helicopters: From 28 July 2020 [the effective date of EASA AD 2020-0156].

- (9) From the effective date of this AD, it is allowed to install an affected MGB on any helicopter, provided that no planet gear installed on that affected MGB has exceeded 300 FH since new, and that, following MGB installation, the second stage planet gears installed on that MGB are replaced as required by this AD.

**Ref. Publications:**

AH ASB SA365-05.33 original issue dated 28 May 2020, and Revision 1 dated 15 December 2020.

AH ASB SA365-65.53 original issue dated 28 May 2020.

The use of later approved revisions of 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.
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 (EBSESB) – Aéroport de Marseille Provence, 13725 Marignane Cedex, France; Telephone: +33 (4) 42 85 97 97; Fax: +33 (4) 42 85 99 66; E-mail: [Directive.technical-support@airbus.com](mailto:Directive.technical-support@airbus.com).

