

## Airworthiness Directive

**AD No.:** 2019-0046

**Issued:** 11 March 2019

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, AS 365 and EC 155 helicopters

**Effective Date:** 25 March 2019

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

**Foreign AD:** Not applicable

**Supersedure:** None

### ATA 63 – Rotor Drive(s) – Tail Rotor Drive Flange – Modification

#### Manufacturer(s):

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

#### Applicability:

SA 365 N1, AS 365 N2, AS 365 N3, EC 155 B and EC 155 B1 helicopters, all serial numbers, on which AH modification (mod) 0763B64 has been embodied, except those that have AH mod 07 63C81 embodied in production.

#### Definitions:

For the purpose of this AD, the following definition applies:

**The applicable ASB:** AH Alert Service Bulletin (ASB) AS365-63.00.19 Revision 1 and ASB EC155-63A013 Revision 1, as applicable.

#### Reason:

Several occurrences have been reported of loss of tightening torque of the Shur-Lok nut, which serves as a retainer of the tail rotor (TR) drive flange of the main gearbox (MGB). Subsequent investigation determined that these events were the result of failure of the Shur-Lok nut locking function, which is normally ensured by two anti-rotation tabs engaged into two slots at the end of the MGB output shaft pinion.

This condition, if not corrected, could lead to Shur-Lok nut becoming loose and, ultimately, to complete disengagement of the nut threads, possibly resulting in reduction of TR drive control, rear transmission vibrations and consequent reduced control of the helicopter.

To address this potential unsafe condition, EASA issued AD 2014-0179 (later revised) to require a one-time inspection of the radial play inside the TR rotor drive flange and the condition of the Shur-Lok nut and, depending on findings, accomplishment of applicable corrective action(s).

Since EASA AD 2014-0179R2 was issued, a further occurrence was reported of on-ground loss of synchronisation of the tail rotor, resulting from Shur-Lok disengagement.

Prompted by this new occurrence, EASA decided to make the existing AH mod 07 63C81 mandatory, consisting of installation of a rear output stop with 5 spigots on TR shaft flexible coupling, available for in-service helicopters through the applicable ASB. It is expected that AH will also develop a similar mod for in-service installation on other affected helicopters, addressed by EASA AD 2014-0179R2.

For the reasons described above, this AD requires modification of the MGB TR drive flange.

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

Required as indicated, unless accomplished previously:

#### Modification:

- (1) Within 600 flight hours or 12 months, whichever occurs first after the effective date of this AD, modify the MGB TR drive flange in accordance with the instructions of paragraph 3 of the applicable ASB.

#### Credit:

- (2) Modification of a helicopter, before the effective date of this AD in accordance with the instructions of the original issue of AH ASB AS365-63.00.19 or ASB EC155-63A013, as applicable, is an acceptable method to comply with the requirements of paragraph (1) of this AD for that helicopter.
- (3) After modification of a helicopter as required by paragraph (1), or as specified in paragraph (2) of this AD, as applicable, that helicopter is no longer affected by the requirements of EASA AD 2014-0179R2.

#### Ref. Publications:

AH ASB AS365-63.00.19 original issue dated 22 January 2018, or Revision 1 dated 31 January 2019.

AH ASB EC155-63A013 original issue dated 22 January 2018, or Revision 1 dated 31 January 2019.

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 05 February 2019 as PAD 19-017 for consultation until 05 March 2019. The Comment Response Document can be found in the [EASA Safety Publications Tool](#), in the 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](#).
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://keycopter.airbushelicopters.com> > Technical Requests Management, E-mail: [support.technical-dyncomp.ah@airbus.com](mailto:support.technical-dyncomp.ah@airbus.com), and [TechnicalSupport.Helicopters@airbus.com](mailto:TechnicalSupport.Helicopters@airbus.com).

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