



Airworthiness Directive

AD No.: 2016-0097R1

Issued: 25 May 2016

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 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 (EC) 216/2008, Article 14(4) exemption].

Design Approval Holder's Name:

AIRBUS HELICOPTERS

Type/Model designation(s):

SA 365, AS 365, SA 366 and EC 155 helicopters

Effective Date: 25 May 2016 [same as original issue]

TCDS Number(s): EASA.R.105

Foreign AD: Not applicable

Revision: This AD revises EASA AD 2016-0097-E dated 23 May 2016, which superseded EASA AD 2012-0170R2 dated 20 June 2014.

ATA 65 – Tail Rotor – Pitch Control Rod Bearing – Inspection/Replacement

Manufacturer(s):

Airbus Helicopters (formerly Eurocopter, Eurocopter France, Aerospatiale, Sud Aviation).

Applicability:

SA 365 N1, AS 365 N2, AS 365 N3, SA 366 G1, EC 155 B and EC 155 B1 helicopters, all serial numbers, except those modified in accordance with Airbus Helicopters (AH) modification (mod) 07 65B63.

Reason:

Loss of helicopter tail rotor pitch control was reported during a landing phase. Investigation determined significant damage of the tail gearbox (TGB) control rod double bearing as the root cause of the occurrence.

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

To address this unsafe condition EASA issued AD 2012-0170 (later revised twice) to require various repetitive and one-time inspections and depending on finding(s), corrective action. That AD also required modification of a helicopter, depending on the helicopter configuration.



Since EASA AD 2012-0170R2 was issued, during technical investigation of an AS 365 N3 accident, a damaged TGB control rod double bearing was detected. The affected control rod was subject of repetitive inspections in accordance with the requirements of EASA AD 2012-0170R2. The investigation is still on-going to identify the root cause of this damage and the reasons why the double bearing degradation was not identified during the required inspections.

Pending the investigation results, Airbus Helicopters issued ASB No. AS365-01.00.67, ASB No. SA366-01.29 and ASB No. EC155-04A014 (hereafter collectively referred to as 'the applicable ASB' in this AD) to provide inspection and replacement instructions.

For the reasons described above, this AD supersedes EASA AD 2012-0170R2 and requires accomplishment of repetitive inspections of TGB oil level and magnetic chip detector and, depending on findings, the accomplishment of applicable corrective action(s). This AD also requires replacement of the double bearing with an improved part and prohibits (re)installation of bearings with Part Number (P/N) 704A33-651-093 or P/N 704A33-651-104.

This AD is revised to include in paragraph (10) correct reference to paragraph (8) of this AD.

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

Required as indicated, unless accomplished previously:

All helicopters:

- (1) Within the compliance times and, thereafter, at intervals not to exceed the values as defined in Table 1 of this AD, as applicable to helicopter model, inspect the TGB oil level in accordance with the instructions of Paragraph 3.B.1 of the applicable ASB.

Table 1 – Initial and Repetitive TGB Oil Level Inspections

Helicopter Model(s)	Compliance time	
	Initial inspection (after the effective date of this AD)	Repetitive inspection interval (after the last inspection)
SA 365 N1, AS 365 N2 and AS 365 N3	Within 10 FH	10 FH
SA 366 G1	During the next ALF check	During each ALF check
EC 155 B and EC 155 B1	Within 15 FH or 7 days, whichever occurs first	15 FH or 7 days, whichever occurs first

- (2) If, during any inspection, as required by paragraph (1) of this AD, any discrepancy is detected, as defined in the applicable ASB, before next flight, accomplish the applicable corrective action in accordance with the instructions of Paragraph 3.B.1 of the applicable ASB. Accomplishment of a corrective action does not constitute a terminating action for repetitive inspections as required by paragraph (1) of this AD.
- (3) During the next ALF inspection after the effective date of this AD, and, thereafter, during each ALF check, inspect the TGB magnetic plug in accordance with the instructions of paragraph 3.B.2 of the applicable ASB.



- (4) If, during any inspection as required by paragraph (3) of this AD, any discrepancy is detected, accomplish the applicable corrective action(s) in accordance with the instructions of paragraph 3.B.2 of the applicable ASB. Except as specified in paragraph (7) or (10) of this AD, accomplishment of a corrective action does not constitute a terminating action for repetitive inspections as required by paragraph (3) of this AD.

Helicopters in pre-mod 07 65B57 configuration, equipped with double bearing with P/N 704A33-651-093 or P/N 704A33-651-104:

- (5) Within the compliance time defined in Table 2 of this AD, as applicable, replace the double bearing with an improved bearing, P/N 704A33-651-245 or P/N 704A33-651-246, in accordance with the instructions of paragraph 1.E.2.a.3 a) of the applicable ASB.

Table 2 – Bearing Replacement

FH accumulated by the Double Bearing (on the effective date of this AD)	Compliance Time
335 FH or more	Within 15 FH after the effective date of this AD
Less than 335 FH	Before exceeding 350 FH

- (6) As an alternative to the requirement of paragraph (5) of this AD, for helicopters equipped with a double bearing which, on the effective date of this AD, has accumulated 335 FH or more, within 15 FH after the effective date of this AD, and, thereafter, at intervals not to exceed 55 FH, inspect the double bearing of the TGB control shaft in accordance with the instructions of paragraph 3.B.3 of the applicable ASB. These inspections allow the bearing replacement, as required by paragraph (5) of this AD, to be deferred until 110 FH after the effective date of this AD. If, during any of these inspections, any defects are found, before next flight, accomplish the applicable corrective action(s) in accordance with the instructions of paragraph 3.B.3 of the applicable ASB.
- (7) Replacement of a double bearing, as required by paragraph (5) of this AD constitutes terminating action for the repetitive inspection of the TGB magnetic plug as required by paragraph (3) of this AD.

Helicopters in post-mod 07 65B57 configuration, equipped with double bearing with P/N 704A33-651-245 or P/N 704A33-651-246:

- (8) Within the compliance time defined in Table 3 of this AD, as applicable, and, thereafter, at intervals not to exceed 500 FH accumulated by the double bearing, replace the double bearing with a serviceable part, P/N 704A33-651-245 or P/N 704A33-651-246, in accordance with the instructions of paragraph 1.E.2.a.3 b) of the applicable ASB.

Table 3 – Repetitive Bearing Replacement

FH accumulated by the Double Bearing (on the effective date of this AD)	Compliance Time
485 FH or more	Within 15 FH after the effective date of this AD
Less than 485 FH	Before exceeding 500 FH



- (9) As an alternative to the initial replacement as required by paragraph (8) of this AD, for helicopters equipped with a double bearing which, on the effective date of this AD, accumulated 485 FH or more, within 15 FH after the effective date of this AD, inspect the double bearing of the TGB control shaft in accordance with the instructions of paragraph 3.B.3 of the applicable ASB. This inspection allows the initial bearing replacement, as required by paragraph (8) of this AD, to be deferred until 110 FH after the effective date of this AD. If, during any of this inspection, any defects are found, before next flight, accomplish the applicable corrective action(s) in accordance with the instructions of paragraph 3.B.3 of the applicable ASB.
- (10) Replacement of a double bearing, as required by paragraph (8) of this AD, constitutes terminating action for the repetitive inspections of the TGB magnetic plug as required by paragraph (3) of this AD.

All helicopters:

- (11) From the effective date of this AD, do not install on any helicopter double bearing P/N 704A33-651-093 or 704A33-651-104.

Ref. Publications:

Airbus Helicopters ASB No. AS365-01.00.67 original issue dated 4 May 2016.

Airbus Helicopters ASB No. SA366-01.29 original issue dated 4 May 2016.

Airbus Helicopters ASB No. EC155-04A014 original issue dated 4 May 2016.

The use of later approved revisions of these 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.
4. For any question concerning the technical content of the requirements in this AD, please contact: Airbus Helicopters – 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.

