Airworthiness Directive

AD No.: 2017-0035

Issued: 20 February 2017

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):
AS 350 helicopters

Effective Date:	06 March 2017
TCDS Number(s):	EASA.R.008
Foreign AD:	Not Applicable
Supersedure:	This AD supersedes EASA AD 2012-0252 dated 28 November 2012.

ATA 67 – Rotor Flight Controls – Twist Grip Assembly – Adjustment / Functional Check / Replacement / Modification

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Manufacturer(s):
Airbus Helicopters, formerly Eurocopter

Applicability:
AS 350 B3 helicopters, all serial numbers, if equipped with ARRIEL 2B engines.

Reason:
In 2006, a case was reported concerning an AS 350 B3 helicopter where, during an autorotation training procedure, the engine remained at idle rating although the twist grip had been turned back to the "FLIGHT" position. Analysis revealed that the cause of this occurrence was jamming of the "forced idle" microswitch (called microswitch in the text below) pin in the pushed-in position. It was determined that a similar event can occur when the pilot turns the grip in the low flow rate direction during training for governor failure.

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

To address this potential unsafe condition, EASA issued AD 2006-0094, to require repetitive functional tests of the microswitch. The AD also established a life limit of 550 flight hours (FH) for the microswitch.

Since that AD was issued, two new cases were reported, one related to a microswitch jam (at 412 FH, i.e. below the life limit as defined in that AD) and another related to an incorrectly routed harness. Prompted by these findings, EASA issued AD 2011-0237, retaining the requirements of EASA AD 2006-0094, which was superseded, reducing the microswitch life limit to 330 FH and requiring an additional check of the collective lever for free travel, each time the microswitch was replaced.

Since EASA AD 2011-0237 was issued, Eurocopter designed a new modification (MOD) 073357, which gives priority to the Hydro Mechanical Unit (HMU) flight position when the microswitch does not operate correctly at forced idle. However, this modification only applies to helicopters that do not have an auto-pilot installed, and /or those which have not been modified by Eurocopter MOD 073222 in production, or have not been modified by Eurocopter AS350 Alert Service Bulletin (ASB) No. 67.00.33 in service.

Consequently, EASA issued AD 2012-0252, retaining the requirements of EASA AD 2011-0237, which was superseded, and required the terminating action modification to the electrical operation of the twist grip for all affected helicopters.

Since EASA AD 2012-0252 was issued, Airbus Helicopters updated MOD 073357 to extend this modification to helicopter equipped with the optional auto-pilot and/or post mod 073222 or post SB 67.00.33.

For the reasons described above, this new AD retains the requirements of EASA AD 2012-0252, which is superseded, and expands the Applicability to include helicopters that have an auto-pilot installed and/or post mod 073222 or post SB 67.00.33 configuration.

Required Action(s) and Compliance Time(s):
Required as indicated, unless accomplished previously:

Note 1: For the purpose of this AD, Group 1 helicopters are those that do not have an auto-pilot installed and/or have not been modified by Eurocopter MOD 073222 in production, or have not been modified by Eurocopter AS350 Alert Service Bulletin (ASB) No. 67.00.33 in service. Group 2 helicopters are those that have an auto-pilot installed and/or post mod 073222 or post SB 67.00.33 configuration.

Repetitive Functional Tests:
(1) Within 110 FH after 05 May 2006 [the effective date of EASA AD 2006-0094], adjust the microswitch and check it for correct operation (functional test) in accordance with the instructions of paragraphs 2.B.2 and 2.B.3 of Eurocopter AS350 ASB No. 05.00.49, and thereafter, at intervals not exceeding 110 FH, accomplish a functional test of the microswitch in accordance with the instructions of paragraphs 2.B.3 of Eurocopter AS350 ASB No. 05.00.49.

Repetitive Replacement (Life Limit):

(2) Initially, within the compliance time as specified in Table 1 of this AD, as applicable, and, thereafter, at intervals not exceeding 330 FH, replace the microswitch in accordance with the instructions of paragraph 2.B.4 of Eurocopter AS350 ASB No. 05.00.49 Revision 2 (or later approved revisions).

Table 1 – Life Limit (Replacement) – see Note 2 of this AD

FH accumulated	Compliance time
Less than 275 FH	Before accumulating 330 FH
275 FH or more	Within 55 FH after 28 December 2011 [the effective date of EASA AD 2011-0237], without exceeding 550 FH

Note 2: Unless specified otherwise, the FH in Table 1 of this AD are those accumulated by the microswitch on 28 December 2011 [the effective date of EASA AD 2011-0237] since first installation on a helicopter.

Modification:

(3) Within the compliance time specified in Table 2 of this AD, as applicable, modify the electrical operation of the twist grip in accordance with the instructions of paragraph 3 of Airbus Helicopters AS350 ASB No. 67.00.43 Revision 3.

Table 2 – Modification

Affected Helicopters (see Note 1 of this AD)	**Compliance Time**
Group 1	Within 660 FH after 12 December 2012 [the effective date of EASA AD 2012-0252]
Group 2	Within 12 months after the effective date of this AD

Credit:

(4) Modification of a helicopter, before the effective date of this AD in accordance with the instructions of Eurocopter AS350 ASB No. 67.00.43 original issue, or Revision 1, or Revision 2, is acceptable to comply with the requirements of paragraph (3) of this AD for that helicopter.

Terminating Action:

(5) Replacement of a microswitch on a helicopter, as required by paragraph (2) of this AD, does not constitute terminating action for the repetitive functional tests as required by paragraph (1) of this AD for that helicopter.

(6) Modification of a helicopter, as required by paragraph (3) of this AD, constitutes terminating action for the repetitive functional tests of the microswitch as required by paragraph (1) of this AD, and for the repetitive replacements of the microswitch as required by paragraph (2) of this AD for that helicopter.

Ref. Publications:
Eurocopter AS350 ASB No. 05.00.49 Revision 2 dated 06 October 2011 or Revision 3 dated 08 March 2012.

Eurocopter AS350 ASB No. 67.00.43 dated 08 March 2012, or Revision 1 dated 31 July 2012, or Revision 2 dated 28 November 2013, or Airbus Helicopters AS350 ASB No. 67.00.43 Revision 3 dated 16 June 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. This AD was posted on 02 February 2017 as PAD 17-017 for consultation until 16 February 2017. 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. 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 ; facsimile +33 (4) 42 85 99 66;
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