AD No.: 2009-0030 Date: 12 February 2009 Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) No 216/2008 on behalf of the European Community, 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 EC 1702/2003, Part 21A.3B. In accordance with EC 2042/2003 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 Airworthiness Directive applies, except in accordance with the requirements of that Airworthiness Directive unless otherwise specified by the Agency [EC 2042/2003 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [EC 216/2008 Article 14(4) exemption]

Type Approval Holder's Name : EUROCOPTER		Type/Model designation(s): AS 350 helicopters
Foreign AD :	Not Applicable	
Supersedure:	This AD supersedes EASA	AD 2008-0121 dated 27 June 2008
ATA 55	Stabilizers – Upper and Lower Fin Attachment Fitting - Inspection / Modification / Replacement	
Manufacturer(s):	EUROCOPTER (formerly EUROCOPTER FRANCE, AEROSPATIALE).	
Applicability:	AS 350 B, B1, B2, B3, BA, BB and D helicopters, all serial numbers if fitted with following upper and lower fins on which modification (MOD) 073330 has not be embodied:	
	Upper fin assembly part number (P/N):	
	350A14-0020-00XX	350A14-0020-01XX
	350A14-0020-02XX	350A14-0020-03XX
	350A14-0020-08XX	350A14-0020-09XX
	350A14-0020-10XX	350A14-0020-17XX
	350A14-0020-18XX	350A14-0020-19XX
	350A64-1144-00XX	
	Lower fin assembly P/N:	
	350A14-0021-00XX	350A14-0021-01XX
	350A14-0021-02XX	350A14-0021-03XX
	350A14-0021-04XX	

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Reason:

Some cracks have been discovered in the spar of the upper fin on AS 355 N helicopters.

The growth of a crack in a fin attachment spar, if not corrected, may lead to the failure of the spar and the loss of the fin.

Due to the fin design similarity between AS 350 and AS 355 helicopters, the same corrective action is applicable to both types.

EASA AD 2008-0121 rendered mandatory MOD 073330 introduced by EUROCOPTER AS 350 Alert Service Bulletin (ASB) No. 55.00.16, whose purpose was:

- to reduce the risk of forced fitting by increasing the diameter of the holes for the bolts on the lower and upper fin attachment fittings on the tail boom, and
- to improve the fatigue strength of upper and lower fin attachment by replacing bolts and washers currently installed with special bolts and special washers.

Thereafter, EUROCOPTER issued Revision 1 of ASB No. 55.00.16 to add new upper and lower fin assembly part numbers in the applicability.

In addition, EASA AD 2008-0121, which superseded EASA AD 2006-0060-E, omitted to retain the repetitive checks required by EASA AD 2006-0060-E.

For the reasons described above, this AD retains the requirements of EASA AD 2008-0121, which is superseded, and adds new upper and lower fin assembly part numbers in the applicability as well as repetitive checks for some AS 350 B3 helicopters until the accomplishment of MOD 073330.

Effective Date:

26 February 2009

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

Required as indicated, unless accomplished previously:

For AS 350 B, B1, B2, BA, BB and D helicopters.

No later than 31 March 2009, remove the fins, modify the lower and upper fittings on tail boom by increasing the diameter of the holes for the bolts and replace bolts P/N 22126BV060032L and washers P/N 23112AG060LE with special bolts P/N 350A23-4016-20 and special washers P/N 350A23- 4017-22 in accordance with EUROCOPTER AS 350 ASB No. 55.00.16. Revision 1 (MOD 073330).

- 2. For AS 350 B3 helicopters equipped with the upper fin pre MOD 073148:
 - 2.1 For helicopters with upper and lower fins pre MOD 073288:
 - 2.1.1 For helicopters which have accumulated less than 110 flight hours (FH) after 07 March 2006, the effective date of EASA AD 2006-0060-E:

Within the next 110 flight hours (FH) after 07 March 2006, the effective date of EASA AD 2006-0060-E, replace upper and lower fin attachment screws in accordance with paragraph (§) 2.B.1 and § 2.B.2 of the ASB 55.00.13 Revision 2 (MOD 073288).

2.1.2 For helicopters which have accumulated more than 110 FH after 07 March 2006, the effective date of EASA AD 2006-0060-E:

Within 15 FH after the effective date of this AD, replace upper and lower fin attachment screws in accordance with § 2.B.1 and § 2.B.2 of the ASB 55.00.13 Revision 2 (MOD 073288).

- 2.1.3 At intervals not exceeding 110 FH check the tightening torque of the upper fin attachment screws and check the upper fin reinforcement splice for cracks and loosened rivets in compliance with the instructions specified in § 2.B.3 of EUROCOPTER AS 350 ASB 55.00.13 Revision 2.
- 2.1.4 In case of cracks, loosened rivets in the reinforcement splice or if the tightening torque of one or both of the attachment screws is less than 80% of the minimum torque value, before further flight, apply the

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associated corrective actions in accordance with the instructions of § 2.B.3.a.1, 2.B.3.a.2. or 2.B.3.a.3. (as applicable), of EUROCOPTER AS 350 ASB 55.00.13 Revision 2.

- 2.2 For helicopters with upper and lower fins post MOD 073288:
 - 2.2.1 For helicopters which have accumulated less than 110 FH since the latest check performed in accordance with § 2.B.3 of EUROCOPTER AS 350 ASB 55.00.13 (at Revision 0, 1, or 2):

Within 110 FH after the latest check performed in accordance with § 2.B.3 of EUROCOPTER AS 350 ASB 55.00.13 (at Revision 0, 1, or 2), check the tightening torque of the upper fin attachment screws and check the upper fin reinforcement splice for cracks and loosened rivets in compliance with the instructions specified in § 2.B.3 of EUROCOPTER AS 350 ASB 55.00.13 Revision 2.

Thereafter repeat these checks at intervals not exceeding 110 FH.

2.2.2 For helicopters which have accumulated more than 110 FH since the latest check performed in accordance with § 2.B.3 of EUROCOPTER AS 350 ASB 55.00.13 (at Revision 0, 1, or 2):

Within 15 FH after the effective date of this AD, check the tightening torque of the upper fin attachment screws and check the upper fin reinforcement splice for cracks and loosened rivets in compliance with the instructions specified in § 2.B.3 of EUROCOPTER AS 350 ASB 55.00.13 Revision 2.

Thereafter repeat these checks at intervals not exceeding 110 FH.

- 2.2.3 In case of cracks, loosened rivets in the reinforcement splice or if the tightening torque of one or both of the attachment screws is less than 80% of the minimum torque value, before further flight apply the associated corrective actions in accordance with the instructions of § 2.B.3.a.1, 2.B.3.a.2. or 2.B.3.a.3. (as applicable), of EUROCOPTER AS 350 ASB 55.00.13 Revision 2.
- 3. For all AS 350 B3 helicopters:

No later than 31 March 2009, remove the fins, modify the lower and upper fittings on tail boom by increasing the diameter of the holes for the bolts and replace bolts P/N 22126BV060032L and washers P/N 23112AG060LE with special bolts P/N 350A23-4016-20 and special washers P/N 350A23- 4017-22 in accordance with EUROCOPTER AS 350 ASB No. 55.00.16. Revision 1 (MOD 073330)

Compliance with the requirements of § 3. of this AD is considered as:

- acceptable to comply with paragraphs 2.1.1 and 2.1.2 of this AD,
- terminating action for the repetitive checks required by paragraphs 2.1.3, 2.2.1, and 2.2.2 of this AD.
- After 31 March 2009, no person shall install on any helicopter spare fins with part numbers as listed in the Applicability of this AD, unless MOD 073330 has been accomplished.

Ref. Publications:

EUROCOPTER AS 350 Alert Service Bulletin No. 55.00.13 Revision 2 dated 28 February 2008;

EUROCOPTER AS 350 Alert Service Bulletin No. 55.00.16 Revision 1 dated 05 January 2009.

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.

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- 2. The required actions and the risk allowance have granted the issuance of a Final AD with Request for Comments, postponing the public consultation process after publication.
- 3. Enquiries regarding this AD should be referred to the Airworthiness Directives, Safety Management & Research Section, Certification Directorate, EASA. E-mail: ADs@easa.europa.eu.
- 4. For any question concerning the technical content of the requirements in this AD, please contact: EUROCOPTER (STDI) Aéroport de Marseille Provence 13725 Marignane Cedex France.

Tel: +33(0)4 42 85 97 97 – Fax: +33(0)4 42 85 99 66, E-mail: <u>Directive.technical-support@eurocopter.com</u>.

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