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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2013-0822; Directorate Identifier 2013-SW-004-AD; Amendment 39-17783; AD 2014-05-10]

RIN 2120-AA64

Airworthiness Directives; Airbus Helicopters (Type Certificate Previously Held by Eurocopter France) (Airbus Helicopters)

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 2012-25-04 for Eurocopter France Model AS350B3 helicopters with a certain modification (MOD) installed. AD 2012-25-04 required installing two placards and revising the Rotorcraft Flight Manual (RFM). AD 2012-25-04 also required certain checks and inspecting and replacing, if necessary, all four laminated half-bearings (bearings). This new AD retains the previous AD requirements, requires certain modifications which would be terminating action for the airspeed limitations, and adds certain helicopter models to the bearing inspection with a different inspection interval. These actions are intended to prevent vibration due to a failed bearing, failure of the tail rotor, and subsequent loss of control of the helicopter.

DATES: This AD is effective May 2, 2014.

The Director of the Federal Register approved the incorporation by reference of certain documents listed in this AD as of May 2, 2014.

ADDRESSES: For service information identified in this AD, contact Airbus Helicopters, Inc., 2701 N. Forum Drive, Grand Prairie, TX 75052; telephone (972) 641-0000 or (800) 232-0323; fax (972) 641-3775; or at http://www.airbushelicopters.com/techpub. You may review the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov in Docket No. FAA-2013-0822 or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the foreign authority's

AD, any incorporated-by-reference information, the economic evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Robert Grant, Aviation Safety Engineer, Safety Management Group, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5110; email robert.grant@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

On September 23, 2013, at 78 FR 58256, the Federal Register published our notice of proposed rulemaking (NPRM), which proposed to amend 14 CFR part 39 by removing AD 2012-25-04, Amendment 39-17285 (78 FR 24041, April 24, 2013) and adding an AD that would apply to Eurocopter France (now Airbus Helicopters) Model AS350B, AS350BA, AS350B1, AS350B2, AS350B3 (except AS350B3 helicopters with modification (MOD) 07 5606 installed), AS350C, AS350D, AS350D1, AS355E, AS355F, AS355F1, AS355F2, AS355N, and AS355NP helicopters. For Model AS350B3 helicopters with MOD 07 5601 installed, the NPRM proposed to require limiting the velocity never exceed speed by installing a placard and revising the RFM, checking the bearings after each flight for separation, a crack, or extrusion, performing a one-time inspection of the bearings, modifying the chin weight support and replacing any bearings with more than 5 hours time-in-service (TIS), removing the additional chin weights and installing blanks, modifying the rotating pitch-change spider assembly, installing a load compensator, and modifying the electrical installation. After modifying the helicopter, the NPRM proposed to require removing the RFM limitations and placards installed previously. For Model AS350B, AS350BA, AS350B1, AS350B2, AS350C, AS350D, AS350D1, AS355E, AS355F, AS355F1, AS355F2, AS355N, AS355NP helicopters, and Model AS350B3 helicopters that do not have MOD 07 5601 installed, the NPRM also proposed to require checking the bearings after the last flight of each day and replacing the bearings if there is an extrusion, a crack, or separation. The proposed requirements were intended to prevent vibration due to a failed bearing, failure of the tail rotor, and subsequent loss of control of the helicopter.

The NPRM was prompted by Emergency AD No. 2012-0257-E, dated December 5, 2012 (EAD 2012-0257-E) issued by the European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union. EASA EAD 2012-0257-E advises of premature failures of bearings on AS350B3 helicopters, and states that the criticality of the bearing failures should apply to all AS355 and AS350 helicopters. As a result, EAD 2012-0257-E requires repetitive post-flight checks of the bearings.

EASA then superseded EAD 2012-0217-E with EASA AD No. 2013-0029, dated February 8, 2013 (AD 2013-0029), to correct an unsafe condition for Eurocopter Model AS 350 B3 helicopters modified by MOD 07 5601, except for helicopters modified by MOD 07 5606 in production. EASA advises that MOD 07 5606 restores the tail rotor dynamic load level to that on helicopters before installation of MOD 07 5601 and eliminates the modified loading conditions of bearings which caused the intensified deterioration and reported failures. For these reasons, EASA AD 2013-0029 requires incorporation of MOD 07 5606 as a terminating action.

Since we issued the NPRM, Eurocopter France has changed its name to Airbus Helicopters. This AD reflects that change and updates the contact information to obtain service documentation.

Comments

We gave the public the opportunity to participate in developing this AD, but we did not receive any comments on the NPRM (78 FR 58256, September 23, 2013).

FAA's Determination

These helicopters have been approved by the aviation authority of France and are approved for operation in the United States. Pursuant to our bilateral agreement with France, EASA, its technical representative, has notified us of the unsafe condition described in the EASA AD. We are issuing this AD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other helicopter of these same type designs and that air safety and the public interest require adopting the AD requirements as proposed, except for the minor change previously described and formatting changes. These changes are consistent with the intent of the proposals in the NPRM (78 FR 58256, September 23, 2013) and will not increase the economic burden on any operator nor increase the scope of the AD.

Differences Between This AD and the EASA AD

The EASA AD requires removing the placard and RFM changes with the true airspeed limitation (TAS) and replacing it with an indicated airspeed limitation. Since AD 2012-25-04 did not include the TAS limitation, this AD does not require removing it.

Related Service Information

We reviewed Eurocopter Service Bulletin (SB) No. AS350-01.00.66, Revision 1, dated February 15, 2013 (SB AS350-01.00.66), which describes procedures for removing the additional chin weights installed on the tail rotor, installing a load compensator, and modifying the electrical system installation, to reduce the dynamic loads on the tail rotor. Eurocopter refers to the procedures in this SB as MOD 07 5606. SB AS350-01.00.66 only applies to helicopters with MOD 07 5601 installed.

We reviewed one Eurocopter Emergency Alert Service Bulletin (EASB) with two numbers: No. 01.00.65 for the Model AS350B3 helicopters and No. 01.00.24 for the non-FAA type certificated Model AS550C3 helicopters (EASB 01.00.65). EASB 01.00.65 is Revision 3, dated February 4, 2013. EASB 01.00.65 specifies installing a placard on the instrument panel and revising the RFM to limit airspeed to 100 knots IAS, revising the RFM to include a procedure in case of in-flight vibrations originating in the tail rotor and an "engine health check," checking the bearings after each flight, and performing a one-time inspection of the bearings. EASB 01.00.65 does not apply to helicopters with MOD 07 5606 installed.

We also reviewed one Eurocopter EASB with four numbers: No 05.00.71 for Model AS350B, BA, BB, D, B1, B2, B3, and the non-FAA type certificated L1 helicopters; No. 05.00.63 for Model AS355E, F, F1, F2, N, and NP helicopters; No. 05.00.46 for the non-FAA type certificated Model AS550A2, C2, C3, and U2 helicopters; and No. 05.00.42 for the non-FAA type certificated Model AS555AF, AN, SN, UF, and UN helicopters (EASB 05.00.71). EASB 05.00.71 is Revision 2, dated December 19, 2012. EASB 05.00.71 specifies procedures for checking the bearings for deterioration or damage after the last flight of each day. EASB 05.00.71 does not apply to helicopters with MOD 07 5601 installed.

We also reviewed Eurocopter SB No. AS350-64.00.11, Revision 0, dated December 19, 2012 (SB AS350-64.00.11), which describes procedures for modifying the tail rotor chin weight support to prevent interference with the bearings. The manufacturer refers to the procedures in this SB as MOD 07 6604. SB AS350-64.00.11 only applies to helicopters with MOD 07 5601 installed.

Costs of Compliance

We estimate that the pilot checks of the bearings in this AD will affect 938 helicopters of U.S. Registry, and that 50 helicopters will be affected by the remaining requirements. The cost for the pilot checks is minimal.

We estimate that operators may incur the following costs in order to comply with this AD. At an average labor rate of $85 per hour, installing a placard and revising the RFM requires about .5 work-hour, for a cost per helicopter of $43 and a total cost to U.S. operators of $2,150. Disassembling and inspecting the bearings requires about 6 work-hours, for a cost per helicopter of $510 and a total cost to U.S. operators of $25,500. Modifying the chin weight support requires about 8 work-hours, for a cost per helicopter of $680, and a total cost to U.S. operators of $34,000. Removing the additional chin weights installed on the tail rotor, modifying the rotating pitch-change spider assembly, installing a load compensator, and modifying the electrical system installation requires about 200 work-hours, and required parts will cost $18,343, for a cost per helicopter of $35,343, and a total cost to U.S. operators of $1,767,150.

If necessary, replacing the bearings installed on the aircraft requires about 6 work-hours, at an average labor rate of $85, and required parts will cost $2,415, for a cost per helicopter of $2,925.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska, and

(4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39–AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2012-25-04, Amendment 39-17285 (78 FR 24041, April 24, 2013), and adding the following new (AD):

2014-05-10 Airbus Helicopters (Type Certificate Previously Held By Eurocopter France): Amendment 39-17783; Docket No. FAA-2013-0822; Directorate Identifier 2013-SW-004-AD.

(a) Applicability

This AD applies to Model AS350B, AS350BA, AS350B1, AS350B2, AS350B3 (except AS350B3 helicopters with modification (MOD) 07 5606 installed), AS350C, AS350D, AS350D1, AS355E, AS355F, AS355F1, AS355F2, AS355N, and AS355NP helicopters, certificated in any category.

(b) Unsafe Condition

This AD defines the unsafe condition as severe vibrations due to failure of laminated half-bearings (bearings). This condition could result in failure of the tail rotor and subsequent loss of control of the helicopter.

(c) Affected AD

This AD supersedes AD No. 2012-25-04, Amendment 39-17285 (78 FR 24041, April 24, 2013).

(d) Effective Date

This AD becomes effective May 2, 2014.

(e) Compliance

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

(f) Required Action

(1) For Model AS350B3 helicopters with MOD 07 5601 installed:

Note 1 to paragraph (f) of this AD: MOD 075601 is an integral part of a specific Model AS350B3 configuration, commercially identified as "AS350B3e" and is not fitted on Model AS350B3 helicopters of other configurations.

(i) Before further flight:
(A) Install a velocity never exceed (VNE) placard that reads as follows on the instrument panel in full view of the pilot and co-pilot with 6-millimeter red letters on a white background:

VNE LIMITED TO 100 KTS IAS.

(B) Replace the IAS limit versus the flight altitude placard located inside the cabin on the center post with the placard as depicted in Figure 1 to paragraph (f) of this AD:

VNE
POWER ON

Hp (ft)	IAS (kts)
0	100
2000	97
4000	94
6000	91
8000	88
10000	85
12000	82
14000	79
16000	76
18000	73
20000	70
22000	67

Valid for VNE
POWER OFF

Figure 1 to paragraph (f)

(ii) Before further flight, revise the Rotorcraft Flight Manual (RFM) by inserting a copy of this AD into the RFM or by making pen and ink changes as follows:

(A) Revise paragraph 2.3 of the RFM by inserting the following:

VNE limited to 100 kts IAS.

(B) Revise paragraph 2.6 of the RFM by inserting Figure 2 to paragraph (f) of this AD.

VNE
POWER ON

Hp (ft)	IAS (kts)
0	100
2000	97
4000	94
6000	91
8000	88
10000	85
12000	82
14000	79

16000	76
18000	73
20000	70
22000	67
Valid for VNE POWER OFF	

Figure 2 to paragraph (f)

(C) Add the following as paragraph 3.3.3 to the RFM:

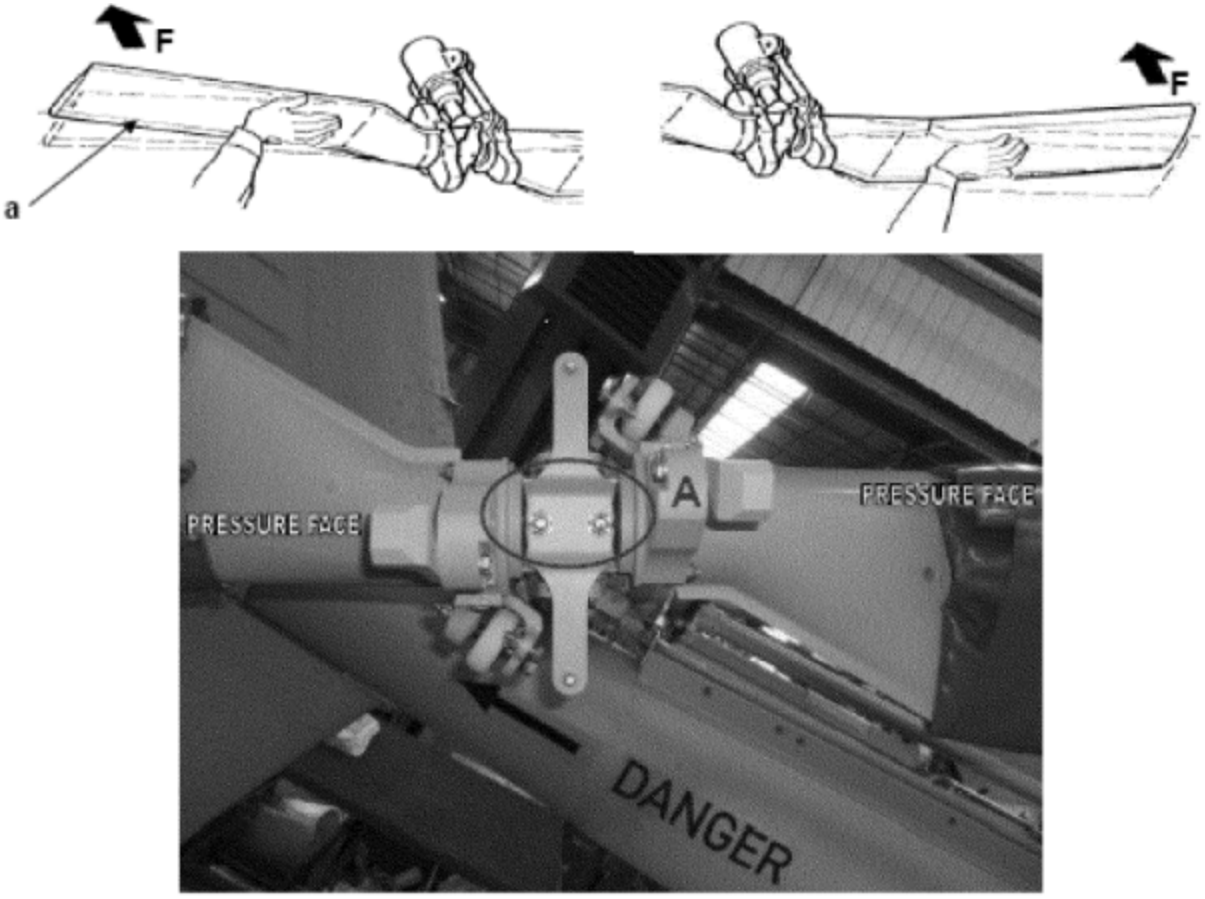
3.3.3 IN-FLIGHT VIBRATIONS FELT IN THE PEDALS
Symptom:
IN-FLIGHT VIBRATIONS FELT IN THE PEDALS
1. CHECK PEDAL EFFECTIVENESS
2. SMOOTHLY REDUCE THE SPEED TO VY
3. AVOID SIDESLIP AS MUCH AS POSSIBLE
LAND AS SOON AS POSSIBLE

(iii) Before further flight, and thereafter after each flight, without exceeding 3 hours time-in-service (TIS) between two checks, visually check each bearing as follows:

(A) Position both tail rotor blades horizontally.

(B) Apply load (F) by hand, perpendicular to the pressure face of one tail rotor blade (a), as shown in Figure 3 to paragraph (f) of this AD, taking care not to reach the extreme position against the tail rotor hub. The load will deflect the tail rotor blade towards the tail boom.

(C) While maintaining the load, check all the visible faces of the bearings (front and side faces) in area B of DETAIL A of Figure 3 to paragraph (f) of this AD for separation between the elastomer and metal parts, a crack in the elastomer, or an extrusion (see example in Figure 4 to paragraph (f) of this AD). A flashlight may be used to enhance the check.



DETAIL A

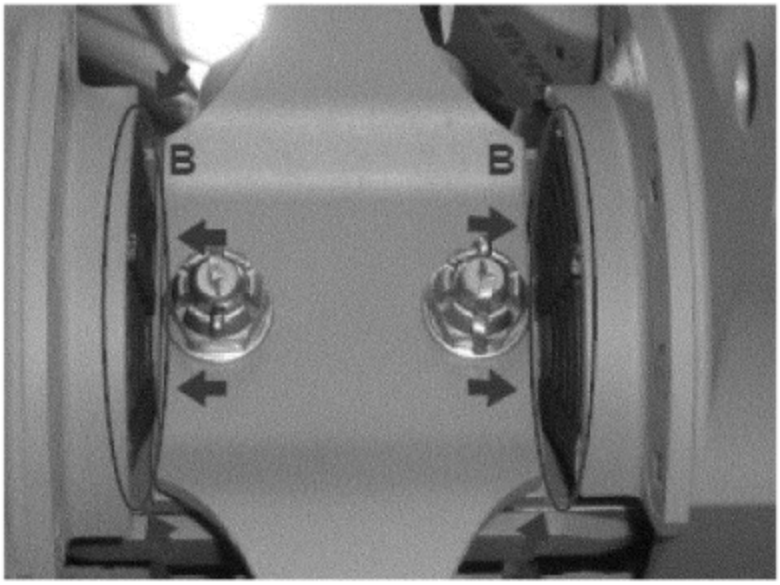


Figure 3 to paragraph (f)

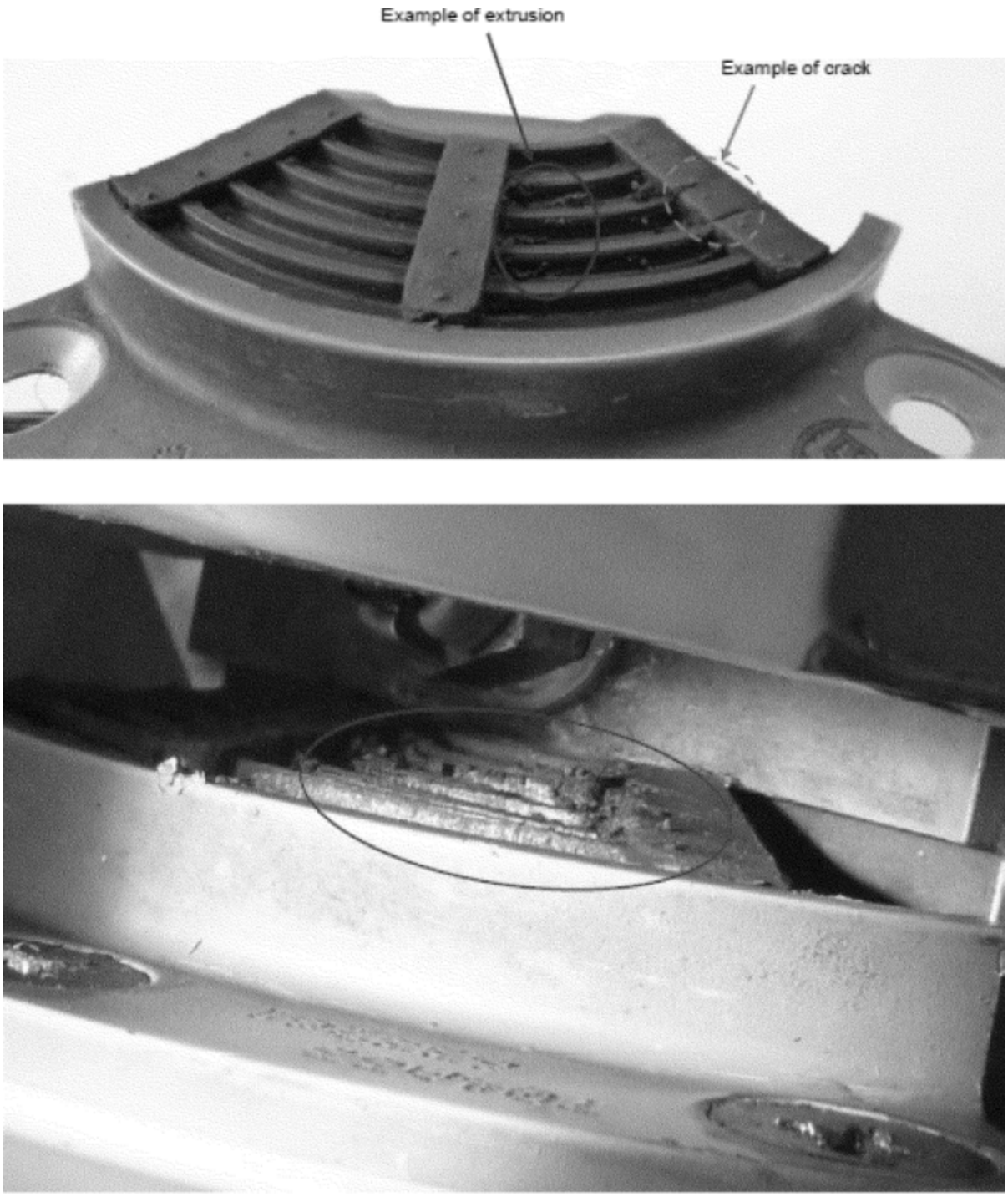
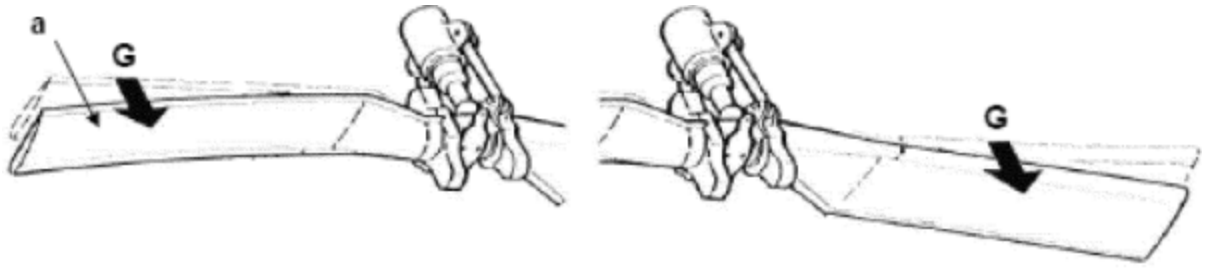


Figure 4 to paragraph (f)

(D) Repeat paragraphs (f)(1)(iii)(A) through (f)(1)(iii)(C) of this AD on the other tail rotor blade.

(E) Apply load (G) by hand perpendicular to the suction face of one tail rotor blade as shown in Figure 5 to paragraph (f) of this AD. The load will deflect the tail rotor blade away from the tail boom.



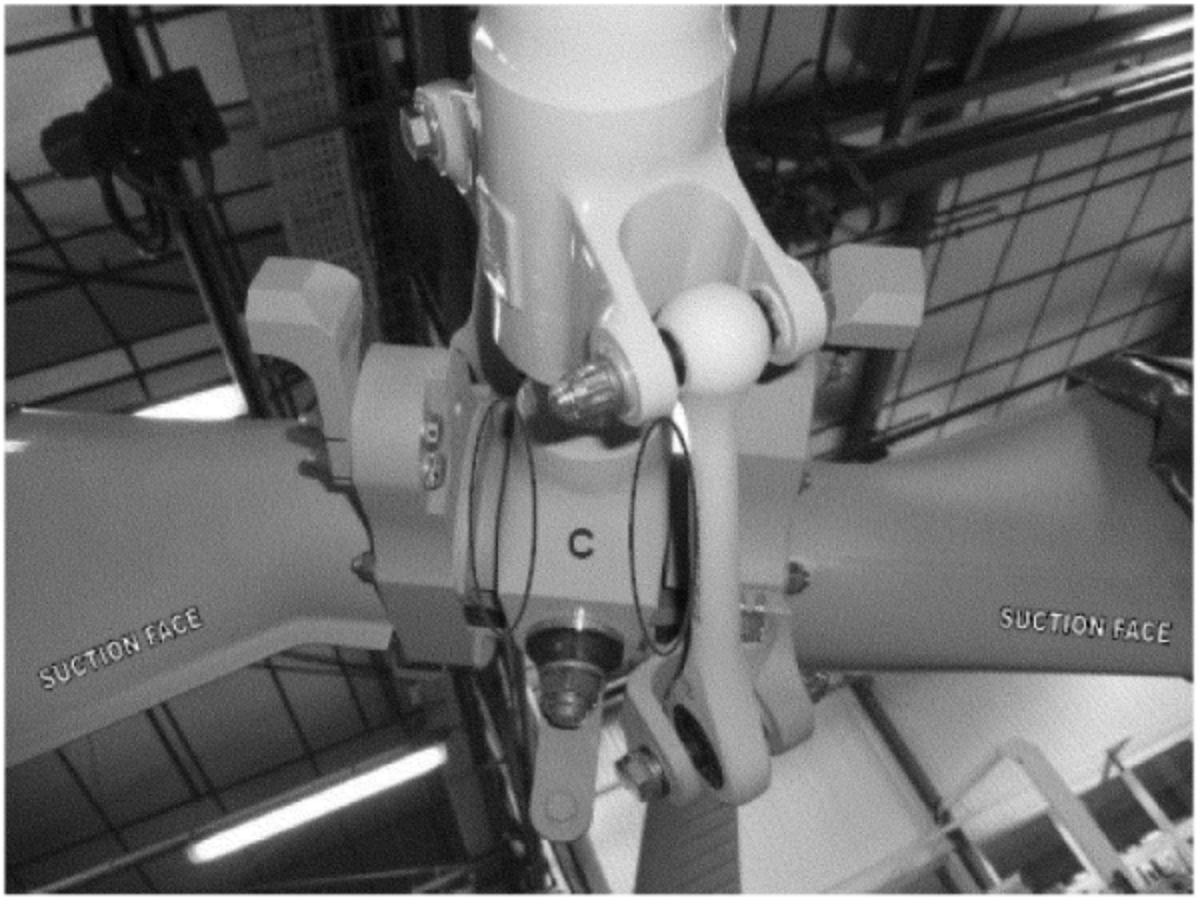


Figure 5 to paragraph (f)

(F) While maintaining the load, check visible faces of Area C as shown in Figure 5 to paragraph (f) of this AD for any extrusion. A flashlight may be used to enhance the check.

(G) Repeat paragraphs (f)(1)(iii)(E) and (f)(1)(iii)(F) of this AD on the other tail rotor blade.

(iv) The actions required by paragraphs (f)(1)(iii)(A) through (f)(1)(iii)(G) of this AD may be performed by the owner/operator (pilot) holding at least a private pilot certificate, and must be entered into the aircraft records showing compliance with this AD in accordance with 14 CFR §§ 43.9 (a)(1)-(4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR §§ 91.417, 121.380, or 135.439.

(v) If there is an extrusion on any bearing, before further flight, replace the four bearings with airworthy bearings.

(vi) If there is a separation or a crack on the pressure side bearing, measure the separation or the crack. If the separation or crack is greater than 5 millimeters (.196 inches) as indicated by dimension "L" in Figure 6 to paragraph (f) of this AD, before further flight, replace the four bearings with airworthy bearings.

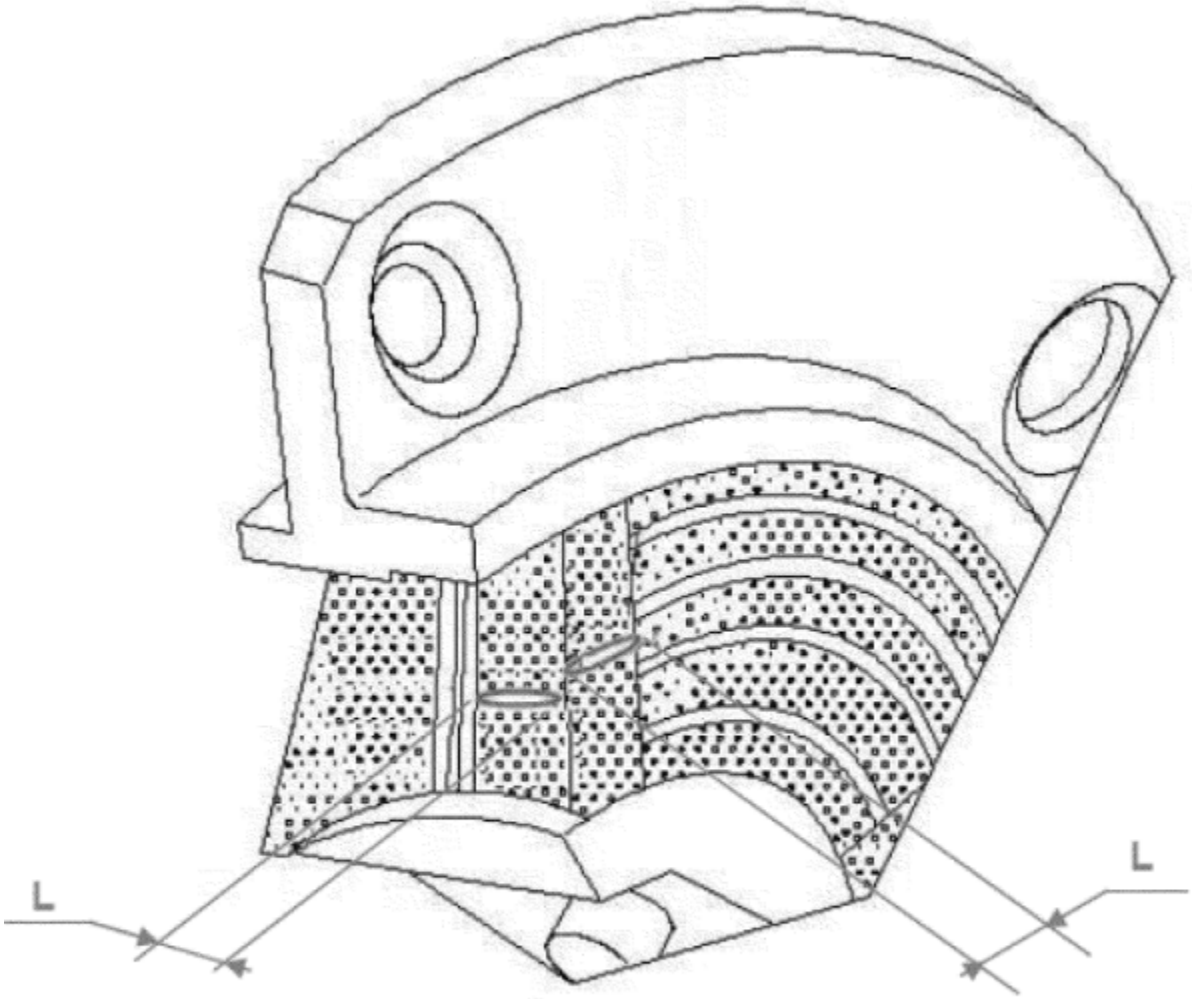


Figure 6 to paragraph (f)

(vii) No later than after the last flight of the day, perform a one-time inspection by removing the bearings and inspecting for a separation, a crack, or an extrusion. This inspection is not a daily inspection. If there is a separation, crack, or extrusion, before further flight, replace the four bearings with airworthy bearings.

(viii) Within 130 hours TIS:

(A) Modify the chin weight support as described in the Accomplishment Instructions, paragraphs 3.B.2.a through 3.B.2.h, of Eurocopter Service Bulletin (SB) No. AS350-64.00.11, Revision 0, dated December 19, 2012.

(B) Remove the additional chin weights, install blanks on the chin weights, replace bearings with more than 5 hours TIS, and re-identify the blade assembly as described in the Accomplishment Instructions, paragraph 3.B.2.a., of Eurocopter SB No. AS350-01.00.66, Revision 1, dated February 15, 2013 (SB AS350-01.00.66).

(C) Modify and re-identify the rotating pitch-change spider assembly as described in the Accomplishment Instructions, paragraph 3.B.2.b., of SB AS350-01.00.66.

(D) Install a load compensator as described in the Accomplishment Instructions, paragraph 3.B.3.b., of SB AS350-01.00.66.

(E) Modify the electrical installation as described in the Accomplishment Instructions, section 3.B.4., of SB AS350-01.00.66.

Note 2 to paragraph (f) of this AD: The manufacturer refers to the actions in paragraphs (f)(1)(viii)(B) through (f)(1)(viii)(E) of this AD as MOD 07 5606.

(ix) After modification of a helicopter as required by paragraphs (f)(1)(viii)(A) through (f)(1)(viii)(E) of this AD, the actions of paragraph (f)(1)(iii) through (f)(1)(vii) of this AD are no longer required and the operating limitation placards and RFM procedures required by paragraphs (f)(1)(i) through (f)(1)(ii)(C) of this AD may be removed.

(2) For Model AS350B, AS350BA, AS350B1, AS350B2, AS350C, AS350D, AS350D1, AS355E, AS355F, AS355F1, AS355F2, AS355N, AS355NP helicopters, and Model AS350B3 helicopters that do not have MOD 07 5601 installed:

(i) No later than after the last flight of the day, and thereafter during each last flight of the day check, without exceeding 10 hours TIS between two checks, visually check each bearing as described in paragraphs (f)(1)(iii)(A) through (f)(1)(vi) of this AD.

(ii) If there is an extrusion on any bearing, before further flight, replace the bearing with an airworthy bearing.

(iii) If there is a separation or a crack on the bearing, measure the separation or the crack. If the separation or crack is greater than 5 mm (.196 inches) as indicated by dimension "L" and greater than 2 mm (.078 inches) as indicated by dimension "P" in Figure 3 of Eurocopter Emergency Alert Service Bulletin (EASB) No. 05.00.71 or No. 05.00.63, both Revision 2 and both dated December 19, 2012, as applicable to your model helicopter, before further flight, replace the bearing.

(g) Credit for Actions Previously Completed

Actions accomplished before the effective date of this AD in accordance with Emergency AD No. 2012-21-51, dated October 19, 2012, or AD No. 2012-25-04, Amendment 39-17285 (78 FR 24041, April 24, 2013) are considered acceptable for compliance with the corresponding actions of this AD.

(h) Special Flight Permits

Special flight permits are prohibited.

(i) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this AD. Send your proposal to: Robert Grant, Aviation Safety Engineer, Safety Management Group, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5328; email robert.grant@faa.gov.

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office, before operating any aircraft complying with this AD through an AMOC.

(j) Additional Information

(1) Eurocopter EASB No. 01.00.65 and No. 01.00.24, both Revision 3 and both dated February 4, 2013, which are co-published as one document and which are not incorporated by reference, contain additional information about the subject of this AD. For this service information, contact Airbus Helicopters, Inc., 2701 N. Forum Drive, Grand Prairie, TX 75052; telephone (972) 641-0000 or (800) 232-0323; fax (972) 641-3775; or at http://www.airbushelicopters.com/techpub. You may review this service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

(2) The subject of this AD is addressed in European Aviation Safety Agency AD No. 2013-0029, dated February 8, 2013, which can be found on the Internet at http://www.regulations.gov in Docket number 2013-0822.

(k) Subject

Joint Aircraft Service Component (JASC) Code: 6400: Tail Rotor.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Eurocopter Service Bulletin No. AS350-64.00.11, Revision 0, dated December 19, 2012.

(ii) Eurocopter Service Bulletin No. AS350-01.00.66, Revision 1, dated February 15, 2013.

(iii) Eurocopter Emergency Alert Service Bulletin No. 05.00.71, Revision 2, dated December 19, 2012.

(iv) Eurocopter Emergency Alert Service Bulletin No. 05.00.63, Revision 2, dated December 19, 2012.

Note 3 to paragraph (l)(2): Eurocopter Emergency Alert Service Bulletin No. 05.00.71, Revision 2, dated December 19, 2012, and Eurocopter Emergency Alert Service Bulletin No. 05.00.63, Revision 2, dated December 19, 2012, are co-published as one document along with Eurocopter Emergency Alert Service Bulletin No. 05.00.46, Revision 2, dated December 19, 2012, and Eurocopter Emergency Alert Service Bulletin No. 05.00.42, Revision 2, dated December 19, 2012, which are not incorporated by reference in this AD.

(3) For Eurocopter service information identified in this AD, contact Airbus Helicopters, Inc., 2701 N. Forum Drive, Grand Prairie, TX 75052; telephone (972) 641-0000 or (800) 232-0323; fax (972) 641-3775; or at http://www.airbushelicopters.com/techpub.

(4) You may view this service information at FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741-6030, or go to: http://www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued in Fort Worth, Texas, on February 20, 2014.
Lance T. Gant,
Acting Directorate Manager, Rotorcraft Directorate,
Aircraft Certification Service.