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[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2013-0554; Directorate Identifier 2012-SW-009-AD]

RIN 2120-AA64

Airworthiness Directives; Eurocopter Deutschland GmbH Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for Eurocopter Deutschland GmbH (Eurocopter) Model EC135 P1, EC135 P2, EC135 P2+, EC135 T1, EC135 T2, and EC135 T2+ helicopters. This proposed AD would require analyzing the main gearbox (MGB) oil for indications of metal chips or pieces, reviewing the MGB log or equivalent record, and inspecting certain teeth in the MGB after two chip indications. This proposed AD is prompted by a partial tooth rupture found in an MGB that was returned to the manufacturer for repairs. The proposed actions are intended to detect wear in the MGB that could lead to a gear tooth rupture, failure of the MGB, loss of power to the main rotor, and subsequent loss of control of the helicopter.

DATES: We must receive comments on this proposed AD by [**INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER**].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to http://www.regulations.gov. Follow the online instructions for sending your comments electronically.

- Fax: 202-493-2251.

- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590-0001.

- Hand Delivery: Deliver to the "Mail" address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

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

FOR FURTHER INFORMATION CONTACT: Chinh Vuong, Aerospace Engineer, Safety Management Group, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, TX 76137; telephone (817) 222-5110; email Chinh.Vuong@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this proposed rulemaking. Before acting on this proposal, we will consider all comments we receive on or before the closing date for comments. We will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. We may change this proposal in light of the comments we receive.

Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Union, has issued EASA AD No. 2009-0106R1, dated November 3, 2011, to correct an unsafe condition for the Eurocopter Model 635 military helicopter and Model EC135 P1, EC135 P2, EC135 P2+, EC135 T1, EC135 T2, and EC135 T2+ helicopters. EASA advises that an MGB was returned to the manufacturer for repair after "several chip indications." According to EASA, a partial tooth rupture was detected after

disassembly of the gearbox and removal of a drive pinion. EASA states the tooth rupture was determined to have been caused by wear.

EASA AD No. 2009-0106R1 revises EASA Emergency AD 2009-0106-E, dated April 30, 2009, which superseded Emergency AD 2008-0116-E dated June 17, 2008. The most recent EASA AD includes requirements and timetables for oil sampling and analysis; checking the gearbox log card for chip indications; and corrective measures for chip indications. It also states that a prescribed modification to the MGB would be terminating action for the AD.

FAA's Determination

These helicopters have been approved by the aviation authority of Germany and are approved for operation in the United States. Pursuant to our bilateral agreement with Germany, EASA, its technical representative, has notified us of the unsafe condition described in its AD. We are proposing this AD because we evaluated all known relevant information and determined that an unsafe condition is likely to exist or develop on other products of these same type designs.

Related Service Information

Eurocopter issued Alert Service Bulletin (ASB) EC135-63A-012 on August 8, 2007, which was followed by five revisions, the most recent of which was issued September 6, 2011. The ASBs prescribe procedures to monitor and detect wear in time to prevent MGB tooth ruptures in main transmissions for EC135 and EC635 model helicopters. Revision 5 of the ASB prescribes procedures for taking and analyzing scheduled oil samples, identifying and addressing chip indications, and inspecting certain teeth in gearboxes.

Proposed AD Requirements

Within 100 hours time-in-service (TIS), and thereafter at intervals not to exceed 100 hours or 12 months, whichever occurs first, this proposed AD would require taking an oil sample. The oil sample would need to be analyzed within 25 hours TIS.

If the analysis indicates Stage II as defined by the ASB, within 25 hours TIS, this proposed AD would require removing and inspecting the oil filter element for a chip. If the analysis indicates Stage III as defined by the ASB, this proposed AD would require removing and inspecting the oil filter element for a chip within 10 hours TIS.

If there are no chips, we propose cleaning the oil filter element and chip detector, inspecting the drive stage toothing, performing a ground run, and inspecting for leaking oil. If there is a chip, this proposed AD would require replacing the MGB with an airworthy MGB before further flight.

Before the MGB has accumulated 300 hours TIS, this proposed AD would require determining whether two or more chip indications have occurred. If two or more chip indications have occurred, this proposed AD would require inspecting the drive stage toothing, performing a ground run, and inspecting for leaking oil. At any time if there is a chip indication, we would require removing and inspecting the chip detector for deposits (fine particles or metallic fuzz) or a chip, and removing and inspecting the oil filter element for a chip.

If there are no chips and a minimal amount of particles or metallic fuzz, this proposed AD would require cleaning the chip detector and the oil filter element and entering the chip indication on the MGB log card before further flight. If there are no chips and some particles or metallic fuzz, this proposed AD would require cleaning the chip detector and the oil filter element and entering the chip indication on the MGB log card before further flight. The proposed

AD also would require inspecting the drive stage toothing, performing a ground run, and within 10 hours TIS inspecting for leaking oil. The proposed AD would then require performing a ground run for 15 minutes at the flight-idle power setting, and then re-inspecting the chip detector for a chip, particles and metallic fuzz. If there is a chip, this proposed AD would require replacing the MGB with an airworthy MGB.

Differences between this Proposed AD and the EASA AD

The EASA AD applies to military EC635 helicopters. This AD does not apply to EC635 helicopters because they are not type certificated in the United States.

Costs of Compliance

We estimate that this proposed AD would affect 242 helicopters of U.S. Registry and that labor costs would average $85 per work-hour. Based on these estimates, we expect the following the costs:

- Taking oil samples would take 1 work-hour. Assuming 2 samples per aircraft per year, we estimate a total cost of $170. No parts would be needed, so the total cost for the U.S. fleet would be $41,140.

- A laboratory analysis of 2 oil samples would cost $200 per helicopter for labor and equipment, for a total fleet cost of $48,400.

- Inspecting the oil filter element for a chip would require about a half-hour of labor for a cost per helicopter of about $43. No parts would be needed.

- Inspecting certain teeth in the gearbox, performing a ground run, and inspecting for leaking oil would take 8 work-hours for a labor cost of $680. Parts would cost $196, for a total cost per helicopter of $876.

- If the oil sample analysis indicates metal chips, recording the results on the aircraft log card would take a half-hour for a labor cost of about $43 per helicopter.

- Examining the log card for any previously recorded chip indications would be minimal.

- Inspecting the chip detector for deposits would require about 5 minutes of labor for a labor cost of about $7.

- Replacing the MGB with an airworthy MGB would require 8 work-hours for a labor cost of $680. Parts would cost $145,000 for total cost per helicopter of $145,680.

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 determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;

2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);

3. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; 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.

We prepared an economic evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

List of Subjects in 14 CFR Part 39

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

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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 adding the following new airworthiness directive (AD):

EUROCOPTER DEUTSCHLAND GmbH (EUROCOPTER): Docket No. FAA-2013-0554; Directorate Identifier 2012-SW-009-AD.

(a) Applicability.

This AD applies to Model EC135 P1, EC135 P2, EC135 P2+, EC135 T1,

EC135 T2, and EC135 T2+ helicopters with a main gearbox (MGB), part number (P/N) 4649 010 003, 4649 010 005, 4649 010 006, 4649 010 006X, 4649 010 008, 4649 010 008X, 4649 001 007, 4649 010 010, or 4649 010 013 installed, certificated in any category.

(b) Unsafe Condition.

This AD defines the unsafe condition as a tooth rupture in the MGB. This condition could result in failure of the MGB, loss of power to the main rotor, and subsequent loss of control of the helicopter.

(c) Comments Due Date.

We must receive comments by [**INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER**].

(d) 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.

(e) Required Actions.

(1) Within 100 hours time-in-service (TIS), and thereafter at intervals not to exceed 100 hours or 12 months, whichever occurs first, take an oil sample in accordance with the Accomplishment Instructions, Part 1, of Eurocopter Alert Service Bulletin EC 135-63A-012, Revision 5, dated September 6, 2011 (ASB EC135-63A-012).

(2) Within 25 hours TIS after taking the oil sample in paragraph (e)(1), analyze the oil sample in accordance with the Accomplishment Instructions, Part 2.A. through Part 2.C. of ASB EC135-63A-012, except that you are not required to contact Eurocopter.

(i) If the analysis indicates Stage II as specified by the Accomplishment Instructions, Part 2.B., of ASB EC135-63A-012, within 25 hours TIS, remove and inspect the oil filter element for a chip, defined as any solid piece of metal but not metallic fuzz or fine particles.

(A) If there are no chips, clean the oil filter element and chip detector, inspect the drive stage toothing, perform a ground run, and inspect for leaking oil in accordance with the Accomplishment Instructions, Part 4.A through 4.G, of ASB EC135-63A-012. Change the oil.

(B) If there is a chip, replace the MGB with an airworthy MGB before further flight.

(ii) If the analysis indicates Stage III as specified by the Accomplishment Instructions, Part 2.B., of ASB EC135-63A-012 and if the water content is between 0.1 and 0.5 percent, within 10 hours TIS, remove and inspect the oil filter element for a chip.

(A) If there are no chips, clean the oil filer element and chip detector, inspect the drive stage toothing, perform a ground run, and inspect for leaking oil in accordance with the Accomplishment Instructions, Part 4.A through 4.G, of ASB EC135-65A-012. Change the oil.

(B) If there is a chip, replace the MGB with an airworthy MGB before further flight.

(3) Before the MGB has accumulated 300 hours TIS, determine whether two or more chip indications have occurred. If two or more chip indications have occurred, inspect the drive stage toothing, perform a ground run, and inspect for leaking oil in accordance with the Accomplishment Instructions, Part 4.A through 4.G, of ASB EC135-65A-012.

(4) Any time there is a chip indication, remove and inspect the chip detector for deposits (fine particles or metallic fuzz) or chips, and remove and inspect the oil filter element for a chip.

(i) If there are no chips and a minimal amount of particles or metallic fuzz, corresponding to Figure 5, Stage A of ASB EC135-65A-012, clean the chip detector and the oil filter element and enter the chip indication on the MGB log card before further flight.

(ii) If there are no chips and some particles or metallic fuzz, corresponding to Figure 5, Stage B of ASB EC135-65A-012, clean the chip detector and the oil filter element and enter the chip indication on the MGB log card before further flight, and within 10 hours TIS inspect the drive stage toothing, perform a ground run, and inspect for leaking oil in accordance with the Accomplishment Instructions, Part 4.A through 4.G, of ASB EC135-65A-012. Perform a ground run for 15 minutes at the flight-idle power setting, and then re-inspect the chip detector for a chip, particles, and metallic fuzz.

(iii) If there is a chip, replace the MGB with an airworthy MGB.

(f) Alternative Methods of Compliance (AMOC).

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this AD. Send your proposal to: Chinh Vuong, Aerospace Engineer, Safety Management Group, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, TX 76137; telephone (817) 222-5110; email Chinh.Vuong@faa.gov.

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CR 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.

(g) Additional Information.

The subject of this AD is addressed in the European Aviation Safety Agency (EASA) AD No. 2009-0106R1, dated November 3, 2011. You may view the EASA AD at http://www.regulations.gov in Docket No. FAA-2013-0554.

(h) Subject.

Joint Aircraft Service Component (JASC) Code: 6320, Main Rotor Gearbox.

Issued in Fort Worth, Texas, on June 18, 2013.

Kim Smith,

Directorate Manager, Rotorcraft Directorate,
Aircraft Certification Service.

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