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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2007-28448; Directorate Identifier 2006-SW-24-AD; Amendment 39-15290; AD 2007-25-08]

RIN 2120-AA64

Airworthiness Directives; Eurocopter France Model SA-365 N1, AS-365 N2, AS-365 N3, SA-366G1, EC 155B, and EC155B1 Helicopters

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD) for the specified Eurocopter France (ECF) model helicopters. That AD currently requires a onetime inspection for end play in the pitch control rod assembly double bearing (bearing) using the tail rotor (T/R) hub control plate, and before further flight, replacing the bearing if end play is present. This amendment requires checking the T/R gearbox (TGB) oil level before the first flight of the day and maintaining the oil at the maximum level for certain helicopters. Also, this action requires, during each required inspection or at certain specified intervals, ensuring the oil is at the maximum level for certain other model helicopters. This action also requires inspecting the magnetic plug for chips at specified intervals. Depending on the quantity of chips found, this action requires either replacing the TGB before further flight or further inspecting for axial play in the T/R hub pitch change control spider (spider). If axial play is found in the spider, before further flight, this AD requires replacing the bearing. This amendment is prompted by the finding that metal chips were not detected on the magnetic plug due to insufficient oil flow because the oil in the TGB was being maintained at the minimum level. The actions specified by this AD are intended to detect metal chips on the magnetic plug, to prevent damage to the bearing resulting in end play, loss of T/R pitch control, and subsequent loss of control of the helicopter.

DATES: Effective January 14, 2008.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of January 14, 2008.

ADDRESSES: You may get the service information identified in this AD from American Eurocopter Corporation, 2701 Forum Drive, Grand Prairie, Texas 75053-4005, telephone (972) 641-3460, fax (972) 641-3527.

Examining the Docket: You may examine the docket that contains this AD, any comments, and other information on the Internet at <http://www.regulations.gov>, or at the Docket Operations office, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC.

FOR FURTHER INFORMATION CONTACT: Uday Garadi, Aviation Safety Engineer, FAA, Rotorcraft Directorate, Regulations and Guidance Group, Fort Worth, Texas 76193-0110, telephone (817) 222-5123, fax (817) 222-5961.

SUPPLEMENTARY INFORMATION: A proposal to amend 14 CFR part 39 by superseding AD 2006-09-10, Amendment 39-14581 (71 FR 25930), for the specified ECF model helicopters was published in the Federal Register on June 13, 2007 (72 FR 32565). The action proposed to require checking the T/R gearbox (TGB) oil level before the first flight of the day and maintaining the oil at the maximum level for certain helicopters. Also, the action proposed during each required inspection or at certain specified intervals, ensuring the oil is at the maximum level for certain other model helicopters. Also, proposed was inspecting the magnetic plug for chips at specified intervals. Depending on the quantity of chips found, either replacing the TGB before further flight or further inspecting for axial play in the T/R hub pitch change control spider (spider) was proposed. If axial play is found in the spider, before further flight, the action proposed replacing the bearing.

The European Aviation Safety Agency (EASA) notified the FAA that an unsafe condition may exist on the specified ECF helicopters. EASA advises of a loss of tail rotor pitch control on a helicopter during a landing phase due to significant damage to the bearing of the control rod in the tail gear box. EASA advises that the loss of tail rotor pitch control can lead to the loss of yaw control of the helicopter.

Since issuing AD 2006-09-10, ECF has issued Alert Service Bulletin (ASB) 05.00.54, dated August 25, 2006, for Model SA-365 N1, AS-365 N2, AS 365 N3, to replace ASB 05.00.52, dated February 15, 2006. ECF has also issued ASB 05.37 for Model SA 366G1, dated August 25, 2006, to replace ASB 05.36, dated February 15, 2006. Also, ECF has issued ASB 05A015 for Model EC155B and EC155B1, dated August 25, 2006, to replace ASB 05A013, dated February 15, 2005. ASBs 05.00.52, 05.36, and 05A013 introduced a periodic check for absence of end play in the bearing. These ASBs were revised following the loss of yaw control on an AS365 MB helicopter due to progressive deterioration of the bearing. The metal chips resulting from this deterioration remained trapped in the area around the bearing and were not detected by the magnetic plug of the TGB. Further investigation and analyses revealed that the nondetection of the chips resulting from this deterioration was due to insufficient oil flow. This occurs when the oil level in the TGB is continuously maintained at the "min" level. Therefore, the ASBs specify keeping the TGB oil level at maximum level to ensure that any chips resulting from possible deterioration of the bearing are detected by the magnetic plug. Also, the ASBs specify checking for absence of play in the bearing should chips be detected at the magnetic plug of the TGB.

EASA classified these ASBs as mandatory and issued Emergency AD (EAD) No. 2006-0258 R1-E on August 29, 2006. This EAD replaced EAD No. 2006-0051-E, dated February 20, 2006, to ensure the continued airworthiness of these helicopters in France.

These helicopter models are manufactured in France and are type certificated for operation in the United States under the provisions of 14 CFR 21.29 and the applicable bilateral agreement. Under this agreement, EASA has kept the FAA informed of the situation described above. We have examined EASA's findings, evaluated all pertinent information, and determined that AD action is necessary for products of this type design that are certificated for operation in the United States.

Interested persons have been afforded an opportunity to participate in the making of this amendment. No comments were received on the proposal or the FAA's determination of the cost to

the public. The FAA has determined that air safety and the public interest require adopting the rule as proposed except we are correcting various typographical errors. The Federal Register citation for the superseded AD was referred to in two places as 85 FR 25930, and it should have been referred to as 71 FR 25930. Additionally, the paragraph designations of the incorporated ASB paragraphs contained 3 small errors. These have been corrected in this final rule. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

The FAA estimates that this AD will affect 133 helicopters of U.S. registry, and the actions will require about:

- 1/2 hour to check the oil level, fill the oil to maximum level, and inspect the magnetic plug for metal chips;
- 1/2 hour to inspect for end play in the bearing;
- 8 hours to remove and replace the bearing (if necessary) at an average labor rate of \$80 per work hour; and
- \$2,026 for required parts per helicopter.

Based on these figures, we estimate the total cost impact of the AD on U.S. operators to be \$365,218, assuming the bearing is replaced on the entire fleet after 1 oil level check, 1 magnetic plug inspection, and 1 end play inspection.

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 the 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); and
3. 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 AD. See the AD docket to examine the economic evaluation.

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.

List of Subjects in 14 CFR Part 39

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

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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. Section 39.13 is amended by removing Amendment 39-14581 (71 FR 25930, May 3, 2006), and by adding a new airworthiness directive (AD), Amendment 39-15290, to read as follows:



2007-25-08 Eurocopter France: Amendment 39-15290. Docket No. FAA-2007-28448; Directorate Identifier 2006-SW-24-AD. Supersedes AD 2006-09-10, Amendment 39-14581, Docket No. FAA-2006-24588, Directorate Identifier 2006-SW-07-AD.

Applicability

Model SA-365N1, AS-365N2, AS 365 N3, SA-366G1, EC 155B, and EC155B1 helicopters, with a tail rotor (T/R) pitch control rod assembly double bearing (bearing) installed, certificated in any category.

Compliance

Required as indicated.

To detect metal chips on the magnetic plug to prevent damage to the bearing resulting in end play, loss of T/R pitch control, and subsequent loss of control of the helicopter, do the following:

(a) Before the first flight of each day for Model SA-365N1, AS-365N2, AS 365 N3, and SA-366G1 helicopters, check the T/R gearbox (TGB) oil level. An owner/operator (pilot) holding at least a private pilot certificate may perform the visual check of the oil level but must enter compliance into the aircraft maintenance records in accordance with 14 CFR 43.11 and 91.417(a)(2)(v).

(b) If the oil level is not at maximum during the check in paragraph (a) of this AD, before further flight, a qualified mechanic must fill it to the maximum level.

(c) During each required inspection not to exceed 15 hours time-in-service (TIS) or 7 days, whichever occurs first, if the oil level is not at the maximum level, fill it to the maximum level for Model EC 155B and EC155B1 helicopters.

(d) Inspect the magnetic plug of the TGB for any chips as follows:

(1) At intervals not to exceed 25 hours TIS for helicopters with a magnetic plug without a chip electrical indication in the cockpit, or

(2) At intervals not to exceed 100 hours TIS and after any illumination of the TGB "CHIP" warning light for helicopters with a chip electrical indication in the cockpit.

(e) If you find any chips during the inspection in paragraph (d) of this AD, before further flight, follow the Accomplishment Instructions, paragraph 2.B.2.b), of Eurocopter Alert Service Bulletin No. 05.00.54 for Model SA-365N1, AS-365N2, AS 365 N3; No. 05A015 for Model EC 155B and EC155B1; or No. 05.37 for Model SA-366G1, all dated August 25, 2006 (ASBs), as appropriate for your model helicopter.

(1) If the quantity of chips on the magnetic plug, as referenced in the Operational Procedures, paragraph 2.B.2.b)1) of the ASBs is at or above the removal criteria, before further flight, replace the TGB with an airworthy TGB.

(2) If the quantity of chips on the magnetic plug is below the removal criteria, as referenced in the Operational Procedure, paragraph 2.B.2.b)2) of the ASBs.

(i) Inspect for axial play in the T/R hub pitch control change spider (spider) by following the additional steps in the Operational Procedure, paragraph 2.B.2.b)2) of the ASBs.

(ii) If there is axial play in the spider, before further flight, replace the bearing with an airworthy bearing.

(f) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Contact the Manager, Safety Management Group, ATTN: Uday Garadi, Aviation Safety Engineer, FAA, Rotorcraft Directorate, Regulations and Guidance Group, Fort Worth, Texas 76193-0110, telephone (817) 222-5123, fax (817) 222-5961.

(g) Special flight permits will not be issued.

(h) Do the inspections by following the specified portions of Eurocopter Alert Service Bulletin No. 05.00.54 for Model SA-365N1, AS-365N2, AS 365 N3; No. 05A015 for Model EC 155B and EC155B1; or No. 05.37 for Model SA-366G1 helicopters, all dated August 25, 2006, as applicable. The Director of the Federal Register approved this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from American Eurocopter Corporation, 2701 Forum Drive, Grand Prairie, Texas 75053-4005, telephone (972) 641-3460, fax (972) 641-3527. Copies may be inspected at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas or 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/code_of_federal_regulations/ibr_locations.html.

(i) This amendment becomes effective on January 14, 2008.

Note: The subject of this AD is addressed in European Aviation Safety Agency Revised Emergency AD No. 2006-0258 R1-E on August 29, 2006, which replaced AD No. 2006-0051-E, dated February 20, 2006.

Issued in Fort Worth, Texas, on November 27, 2007.

Mark R. Schilling,

Acting Manager, Rotorcraft Directorate, Aircraft Certification Service.

[FR Doc. E7-23605 Filed 12-7-07; 8:45 am]