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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. 2003-SW-10-AD; Amendment 39-14621; AD 2003-21-09 R1]**

**RIN 2120-AA64**

# Airworthiness Directives; Eurocopter France Model AS355E, F, F1, F2, and N Helicopters

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

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**SUMMARY:** This amendment revises an existing airworthiness directive (AD) for Eurocopter France (ECF) Model AS355E, F, F1, F2, and N helicopters that currently requires certain checks of the magnetic chip detector plug (chip detector) and the main gearbox (MGB) oil-sight glass, certain inspections of the lubrication pump (pump), and replacing the MGB and the pump with an airworthy MGB and pump, if necessary. Also, the AD requires that before an MGB or pump with any hours time-in-service (TIS) can be installed, it must meet the AD requirements. This amendment retains those requirements but limits the applicability to one part number with certain serial-numbered pumps or modified after a certain date. This amendment is prompted by an investigation by the manufacturer that revealed a malfunction occurred after modifying the pump case on certain pumps after major overhaul and repairs. The actions specified by this AD are intended to limit the applicability to certain pumps, to detect sludge on the chip detector, to prevent failure of the MGB pump, seizure of the MGB, loss of drive to an engine and main rotor, and subsequent loss of control of the helicopter.

**DATES:** Effective July 6, 2006.

**ADDRESSES:** The service information referenced in this AD may be obtained from American Eurocopter Corporation, 2701 Forum Drive, Grand Prairie, Texas 75053-4005, telephone (972) 641-3460, fax (972) 641-3527. This information may be examined at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas.

**FOR FURTHER INFORMATION CONTACT:** Ed Cuevas, Aviation Safety Engineer, FAA, Rotorcraft Directorate, Safety Management Group, Fort Worth, Texas 76193-0111, telephone (817) 222-5355, fax (817) 222-5961.

**SUPPLEMENTARY INFORMATION:** A proposal to amend 14 CFR part 39 by revising AD 2003-21-09, Amendment 39-13344 (68 FR 60284, October 22, 2003), for the specified ECF Model AS355E, F, F1, F2, and N helicopters, was published in the Federal Register on September 26, 2005 (70 FR 56140). The action proposed to revise AD 2003-21-09 to require the same actions as the existing AD but would limit the applicability to ECF helicopters with a pump, part number (P/N) 355A32-0700-01, with a serial number (S/N) 5731 or higher or with a S/N below 5731 if the pump has been overhauled or repaired after June 1, 1995.

The Direction Generale De L'Aviation Civile (DGAC), the airworthiness authority for France, notified the FAA that an unsafe condition may exist on the specified ECF model helicopters. The DGAC advises that the insufficiently lubricated power transmission assembly deteriorates until it causes the loss of the drive train for one or even both engines.

Since issuing AD 2003-21-09, ECF issued Alert Service Bulletin No. 05.00.40, dated November 16, 2004 (ASB), which specifies that the effectivity is limited to each pump, P/N 355A32-0700-01, with a S/N equal to or above 5731 and with a S/N below 5731, if they have been overhauled or repaired after June 1, 1995. An investigation revealed that the malfunction is due to a modification to the shape of the pump case. An enlarged opening of the chamber after machining generates additional loads on the pump. The modification was made to the one part-numbered pump with the previously specified serial numbers; therefore, the ASB limits the effectivity to those pumps. The DGAC classified this service bulletin as mandatory and issued AD F-2002-331-071 R2, dated November 24, 2004 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. Pursuant to the applicable bilateral agreement, the DGAC has kept the FAA informed of the situation described above. The FAA has examined the findings of the DGAC, reviewed all available information, and determined that AD action is necessary for products of these type designs 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 the adoption of the rule as proposed except for minor editorial changes made throughout the AD that neither increase the economic burden on any operator nor increase the scope of the AD.

The FAA estimates that this AD will affect 105 helicopters of U.S. registry, assuming they all have MGB pumps with applicable S/Ns. It will take about:

- 10 minutes to check the chip detector and the MGB oil sight glass,
- 4 work hours to remove the MGB and pump,
- 1 work hour to inspect the pump, and
- 4 work hours to install a serviceable MGB and pump at an average labor rate of $65 per work hour.
- $4,000 for an overhauled pump and up to $60,000 for an overhauled MGB per helicopter.

The manufacturer has represented to the FAA that the standard warranty applies if failure occurs within the first 2 years and operating time is less than 1,000 hours. Based on these figures, we estimate the revised total cost impact of the AD on U.S. operators to be $360,335 per year, assuming replacement of one MGB and pump on one helicopter per year and a daily check on all helicopters for 260 days per year.

**Regulatory Findings**

The regulations adopted herein 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. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (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); 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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

**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, 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 39-13344 (68 FR 60284, October 22, 2003), and by adding a new airworthiness directive (AD), Amendment 39-14621, to read as follows:

# AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation**
**Administration**

**www.faa.gov/aircraft/safety/alerts/**

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

**2003-21-09 R1 Eurocopter France:** Amendment 39-14621. Docket No. 2003-SW-10-AD. Revises AD 2003-21-09, Amendment 39-13344, Docket No. 2003-SW-10-AD.

**Applicability**

Model AS355E, F, F1, F2, and N helicopters, with a main gear box (MGB) lubrication pump (pump), part number (P/N) 355A32-0700-01, with a serial number (S/N) 5731 or higher or with a S/N below 5731 if the pump has been overhauled or repaired after June 1, 1995, certificated in any category.

**Compliance**

Required as indicated, unless accomplished previously.

To prevent failure of the MGB pump, seizure of the MGB, loss of drive to an engine and main rotor, and subsequent loss of control of the helicopter, accomplish the following:

(a) Before the first flight of each day and at intervals not to exceed 10 hours time-in-service (TIS), check the MGB magnetic chip detector plug (chip detector) for any sludge. Also, check for dark oil in the MGB oil-sight glass. An owner/operator (pilot) holding at least a private pilot certificate may perform this visual check and must enter compliance into the aircraft maintenance records in accordance with 14 CFR 43.11 and 91.417(a)(2)(v). "Sludge" is a deposit on the chip detector that is typically dark in color and in the form of a film or paste, as compared to metal chips or particles normally found on a chip detector. Sludge may have both metallic or nonmetallic properties, may consist of copper (pinion bearing), magnesium (pump case), and steel (pinion) from the oil pump, and a nonmetallic substance from the chemical breakdown of the oil as it interacts with the metal.

**Note 1:** Eurocopter France Alert Telex No. 05.00.40R1, dated November 27, 2002, and Alert Service Bulletin No. 05.00.40, dated November 16, 2004, pertain to the subject of this AD.

(b) Before further flight, if any sludge is found on the chip detector, inspect the pump.

(c) Before further flight, if the oil appears dark in color when it is observed through the MGB oil-sight glass, take an oil sample. If the oil taken in the sample is dark or dark purple, before further flight, inspect the pump.

(d) While inspecting the pump, if you find any of the following, replace the MGB and the pump with an airworthy MGB and pump before further flight:

(1) Crank pin play,
(2) Out of round bronze bushing (A of Figure 1),
(3) Offset of the driven gear pinion,
(4) Metal chips, or
(5) Wear (C of Figure 1).
See the following Figure 1:

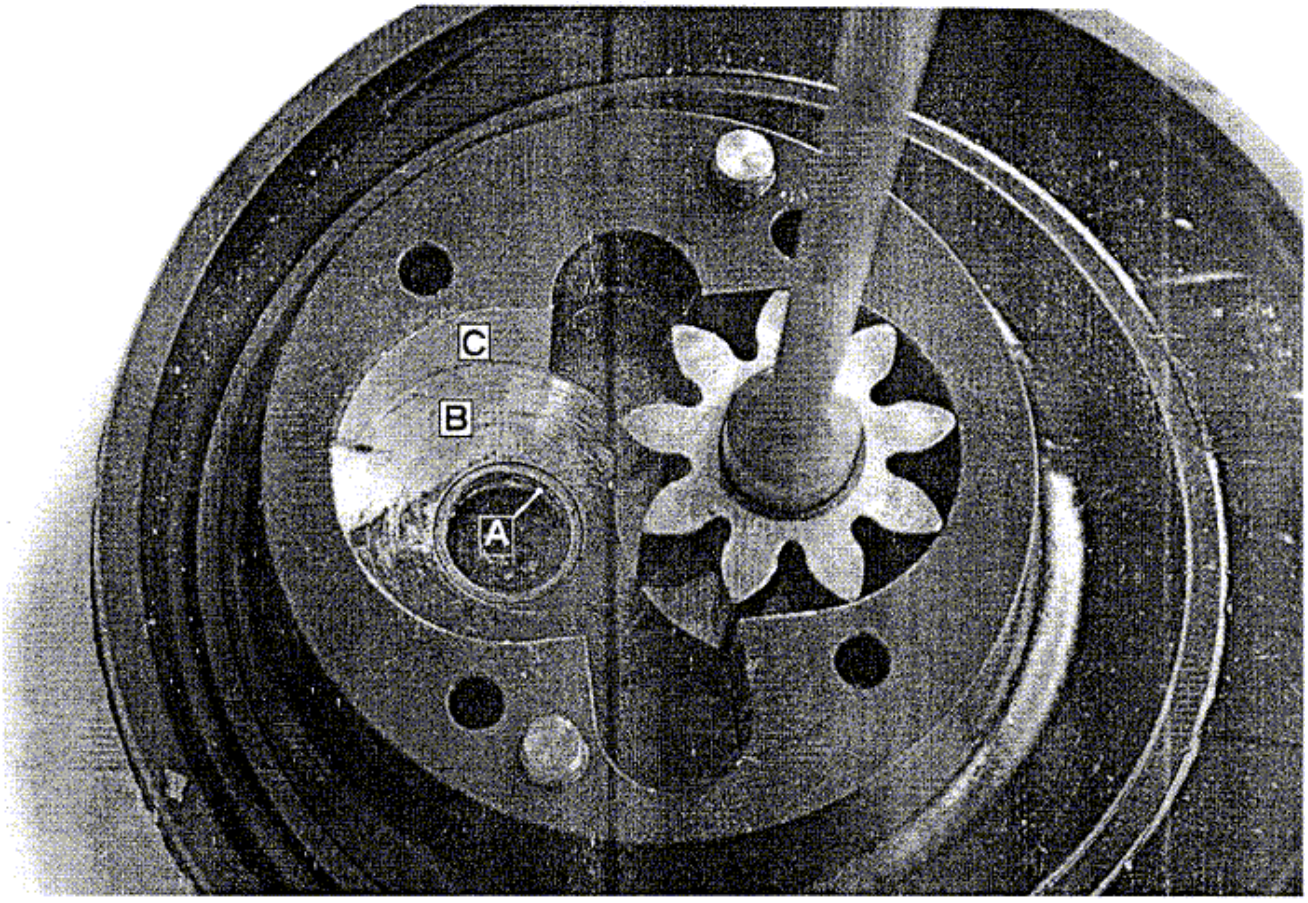



**Figure 1**

**Note 2:** If wear is present in the B area only as depicted in Figure 1, replacing the MGB and the pump is not required.

(e) Before installing a different MGB or a pump with any TIS, accomplish the requirements of paragraph (a) of this AD.

(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, Rotorcraft Directorate, FAA, ATTN: Ed Cuevas, Fort Worth, Texas 76193-0111, telephone (817) 222-5355, fax (817) 222-5961, for information about previously approved alternative methods of compliance.

(g) This amendment becomes effective on July 6, 2006.

**Note 3:** The subject of this AD is addressed in Direction Generale De L'Aviation Civile (France) AD F-2002-331-071 R2, dated November 24, 2004.

Issued in Fort Worth, Texas, on May 24, 2006.
David A. Downey,
Manager, Rotorcraft Directorate, Aircraft Certification Service.
[FR Doc. 06-5009 Filed 5-31-06; 8:45 am]
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