

## The Special Conditions

Accordingly, pursuant to the authority delegated to me by the Administrator, the following special conditions are issued as part of the type certification basis for Cessna Model 441 airplanes modified by S-TEC Corporation to add an EFIS.

1. *Protection of Electrical and Electronic Systems from High Intensity Radiated Fields (HIRF)*. Each system that performs critical functions must be designed and installed to ensure that the operations, and operational capabilities of these systems to perform critical functions, are not adversely affected when the airplane is exposed to high intensity radiated electromagnetic fields external to the airplane.

2. For the purpose of these special conditions, the following definition applies: *Critical Functions*: Functions whose failure would contribute to, or cause, a failure condition that would prevent the continued safe flight and landing of the airplane.

Issued in Kansas City, Missouri on December 6, 2002.

**Dorenda D. Baker,**

*Acting Manager, Small Airplane Directorate, Aircraft Certification Service.*

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. 2002-SW-48-AD; Amendment 39-12982; AD 2002-21-51]

RIN 2120-AA64

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

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

**ACTION:** Final rule; request for comments.

**SUMMARY:** This document publishes in the **Federal Register** an amendment adopting Airworthiness Directive (AD) 2002-21-51, which was sent previously to all known U.S. owners and operators of Eurocopter France (ECF) helicopters by individual letters. This AD requires certain checks of the magnetic chip detector plug (chip detector) for any metal particles and the main gearbox (MGB) oil-sight glass for dark-colored oil. If any of these are present, the AD requires inspecting the lubrication pump (pump) and, if necessary, replacing the MGB and the pump with

an airworthy MGB and pump. Also, this AD requires that a different MGB or pump with any time-in-service (TIS) must meet the requirements of this AD before being installed. This AD was prompted by four reports of malfunctions of the MGB pump. The actions specified by this AD are intended 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 January 2, 2003, to all persons except those persons to whom it was made immediately effective by Emergency AD 2002-21-51, issued on October 17, 2002, which contained the requirements of this amendment.

Comments for inclusion in the Rules Docket must be received on or before February 18, 2003.

**ADDRESSES:** Submit comments in triplicate to the Federal Aviation Administration (FAA), Office of the Regional Counsel, Southwest Region, Attention: Rules Docket No. 2002-SW-48-AD, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137. You may also send comments electronically to the Rules Docket at the following address: [9-asw-adcomments@faa.gov](mailto:9-asw-adcomments@faa.gov).

**FOR FURTHER INFORMATION CONTACT:** Ed Cuevas, Aviation Safety Engineer, FAA, Rotorcraft Directorate, Regulations Group, Fort Worth, Texas 76193-0110, telephone (817) 222-5355, fax (817) 222-5961.

**SUPPLEMENTARY INFORMATION:** On October 17, 2002, the FAA issued Emergency AD 2002-21-51 for the specified ECF helicopters, which requires checking the chip detector for metal particles and the MGB oil-sight glass for dark oil and taking an oil sample if dark oil is observed. If you find metal particles on the chip detector or if an oil sample confirms that the oil is dark or dark purple, the AD requires further inspection of the pump and, if necessary, replacing the MGB and the pump with an airworthy MGB and pump. Also, the AD requires that a different MGB or pump with any TIS must meet the requirements of this AD before being installed. The AD was prompted by four reports of malfunction of the MGB pump. The bearings of the driven pinion inside the pump can deteriorate resulting in pump failure and loss of oil pressure in the MGB. This condition, if not corrected, could result in seizure of the MGB, loss of drive to an engine and main rotor, and subsequent loss of control of the helicopter.

The FAA has reviewed ECF Alert Telex No. 05.00.40, dated June 6, 2002

(Telex), which describes procedures for inspecting the MGB magnetic plug for sludge and the MGB for very dark oil and inspecting the pump. The Telex specifies overhauling the MGB if you find any of the following in the pump: Bearing crank pin play, bronze bushing out-of-round, offset of the driven gear pinion, certain wear, or metal chips. Pending the results of various investigations and to prevent loss of the drive train of the main transmission linkage for one or both engines, ECF specifies these procedures for all pumps.

The Direction Generale De L'Aviation Civile (DGAC), the airworthiness authority for France, notified the FAA that an unsafe condition may exist on these helicopter models. The DGAC advises of four reports of pump deterioration. The DGAC advises that, in time, the insufficiently lubricated power transmission assembly deteriorates resulting in loss of the drive train for one or both engines (deterioration of the combiner gearbox gears). The DGAC classified the Telex as mandatory and issued AD No. 2002-331-071(A) dated July 10, 2002, to ensure the continued airworthiness of these helicopters.

This unsafe condition is likely to exist or develop on other helicopters of the same type design. Therefore, this AD requires the following:

- Before the first flight of the day and at intervals not to exceed 10 hours TIS, check the chip detector for metal particles and the MGB oil-sight glass for dark oil.
- If you find metal particles on the chip detector, before further flight, inspect the pump.
- If you observe dark oil through the MGB oil sight glass, before further flight, take an oil sample to confirm that the oil is dark or dark purple.
- If the oil sample is dark or dark purple, before further flight, inspect the pump, part number 355A32-0700-00, -01, or -01M.
- If you find crank pin play, out-of-round bronze bushing, offset of the driven gear pinion, metal chips, or certain wear, replace the MGB and the pump with an airworthy MGB and pump before further flight.
- A different MGB or pump with any TIS must meet the requirements of this AD before installation.

An owner/operator (pilot) may perform the visual checks for metal particles on the magnetic chip detector plug and for dark oil in the MGB oil-sight glass and must enter compliance with those requirements into the helicopter maintenance records in accordance with 14 CFR 43.11 and 91.417(a)(2)(v). A pilot may perform

these checks because they only involve visual checks for magnetic particles on the magnetic plug, which can be removed without the use of tools, and the MGB oil-sight glass for dark-colored oil and can be performed equally well by a pilot or a mechanic.

The short compliance time involved is required because the previously described critical unsafe condition can adversely affect the controllability and structural integrity of the helicopter. The checks of the MGB and pump are required in a very short period of time, specifically, before the first flight of each day and at intervals not to exceed 10 hours TIS. Also, if necessary, the inspections and replacement of the pump and MGB are required before further flight. Therefore, this AD must be issued immediately.

Since it was found that immediate corrective action was required, notice and opportunity for prior public comment thereon were impracticable and contrary to the public interest, and good cause existed to make the AD effective immediately by individual letters issued on October 17, 2002, to all known U.S. owners and operators of the specified ECF helicopters. These conditions still exist, and the AD is hereby published in the **Federal Register** as an amendment to 14 CFR 39.13 to make it effective to all persons.

The FAA estimates that this AD will affect approximately 105 helicopters of U.S. registry. The FAA also estimates that it will take approximately 10 minutes to check the magnetic plug 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. The average labor rate is \$60 per work hour. Required parts will cost approximately \$4000 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 1000 hours. Based on these figures, the FAA estimates a total cost impact of the AD on U.S. operators to be \$337,540 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.

#### Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by

submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under the caption **ADDRESSES**. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their mailed comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket No. 2002-SW-48-AD." The postcard will be date stamped and returned to the commenter.

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.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption **ADDRESSES**.

#### 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 adding a new airworthiness directive to read as follows:

#### 2002-21-51 Eurocopter France:

Amendment 39-12982. Docket No. 2002-SW-48-AD.

*Applicability:* Model AS355E, F, F1, F2, and N helicopters, with a main gearbox (MGB) lubrication pump (pump), part number 355A32-0700-00, -01, -01M, installed, certificated in any category.

**Note 1:** This AD applies to each helicopter identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For helicopters that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

*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 metal particles. 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).

**Note 2:** Eurocopter France Alert Telex No. 05.00.40, dated June 6, 2002, pertains to the subject of this AD.

(1) Before further flight, if any metal particles are found on the chip detector, inspect the pump.

(2) Before further flight, if dark oil is observed through the MGB oil-sight glass, take an oil sample to confirm that the oil is dark or dark purple. If the oil sample is dark or dark purple, before further flight, inspect the pump.

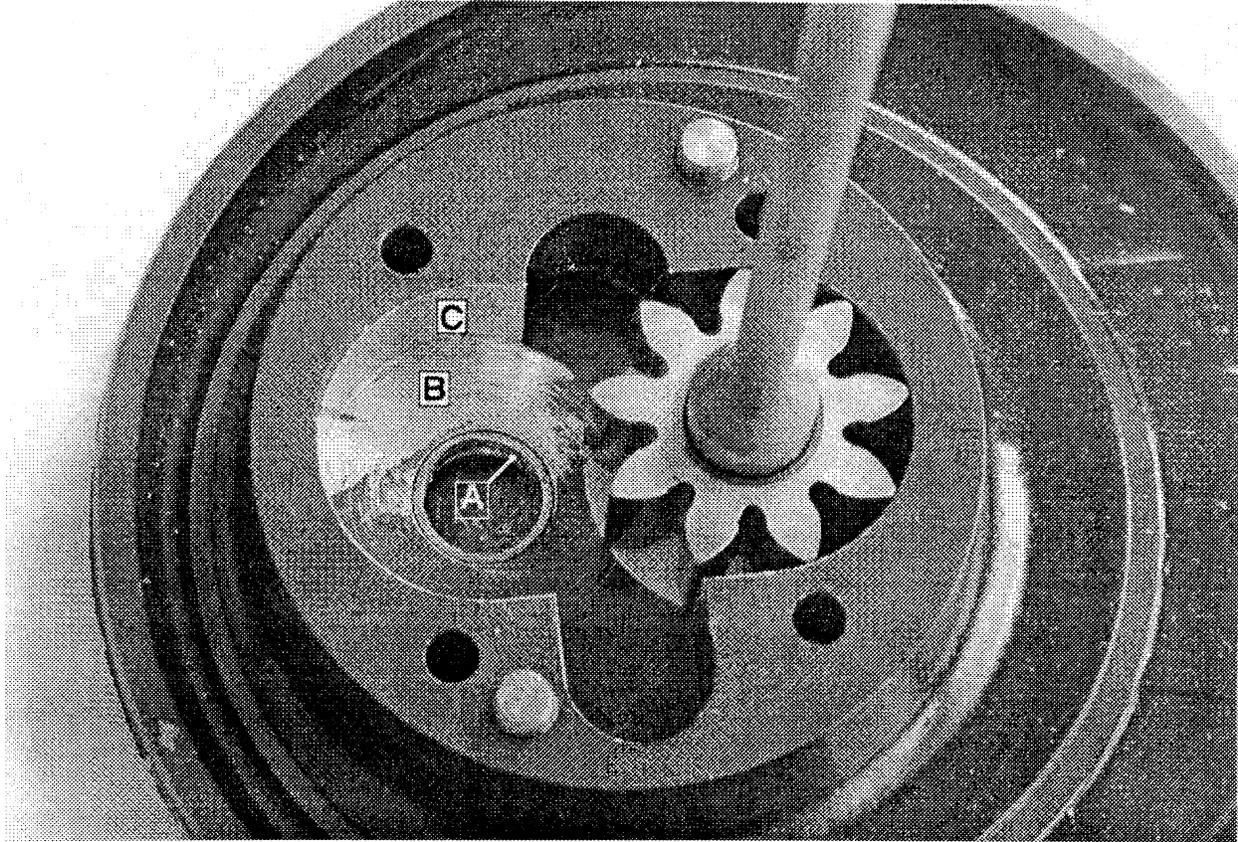
(3) While inspecting the pump, if you find any of the following, replace the MGB and the pump with an airworthy MGB and pump before further flight:

- (i) Crank pin play,
- (ii) Out of round bronze bushing (A of Figure 1),

- (iii) Offset of the driven gear pinion,
- (iv) Metal chips, or
- (v) Wear (C of Figure 1).

See the following Figure 1:

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**Figure 1**

**BILLING CODE 4910-13-C**

**Note 3:** If wear occurs in B only in Figure 1, replacing the MGB and the pump is not necessary.

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

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Regulations Group, Rotorcraft Directorate, FAA. Operators shall submit their requests through an FAA Principal Maintenance Inspector, who may concur or comment and then send it to the Manager, Regulations Group.

**Note 4:** Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Regulations Group.

(d) Special flight permits may be issued in accordance with 14 CFR 21.197 and 21.199 to operate the helicopter to a location where the requirements of this AD can be accomplished.

(e) This amendment becomes effective on January 2, 2003, to all persons except those persons to whom it was made immediately effective by Emergency AD 2000-21-51, issued October 17, 2002, which contained the requirements of this amendment.

**Note 5:** The subject of this AD is addressed in Direction Generale De L'Aviation Civile, France, AD No. 2002-331-071(A), dated July 10, 2002.

Issued in Fort Worth, Texas, on December 10, 2002.

**David A. Downey,**  
Manager, Rotorcraft Directorate, Aircraft Certification Service.

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