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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2004-18850; Directorate Identifier 2004-SW-19-AD; Amendment 39-14694; AD 2004-16-15 R1]

RIN 2120-AA64

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

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment revises an existing airworthiness directive (AD) for Eurocopter France (Eurocopter) Model AS-365N2, AS 365 N3, EC 155B, EC155B1, SA-365N, N1, and SA-366G1 helicopters that currently requires inspecting the main gearbox (MGB) base plate for a crack and replacing the MGB if a crack is found. This amendment increases the time intervals for inspecting the MGB base plate and includes minor editorial changes throughout the AD. This amendment is prompted by crack growth tests that indicate that the inspection intervals can be increased without affecting safety. The actions specified by this AD are intended to detect a crack in an MGB base plate and prevent failure of one of the MGB attachment points to the frame, which could result in severe vibration and subsequent loss of control of the helicopter.

DATES: Effective August 30, 2006.

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://dms.dot.gov>, or at the Docket Management System (DMS), U.S. Department of Transportation, 400 Seventh Street, SW., Room PL-401, on the plaza level of the Nassif Building, Washington, DC.

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: On August 4, 2004, we issued AD 2004-16-15, Amendment 39-13771 (69 FR 51358, August 19, 2004), to require visually inspecting the MGB for a

crack in the MGB base plate, part number (P/N) 366A32-1062-03 or P/N 366A32-1062-06, close to the attachment hole using a 10x or higher magnifying glass. Stripping paint from the inspection area is also required, but only before the initial inspection. That action was prompted by the discovery of a crack in the MGB base plate of an MGB installed in a Model AS-365 N2 helicopter. The crack was located very close to the attachment points of one of the laminated pads, and it propagated to the inside of the MGB base plate and then continued into the MGB casing. That condition, if not detected, could result in failure of one of the MGB attachment points to the frame, which could result in severe vibration and subsequent loss of control of the helicopter.

When we issued AD 2004-16-15, the cause of crack in the MGB base plate was still under investigation; therefore, we considered the previously issued AD to be interim action until the cause of the crack could be determined. The cause of the crack is still under investigation. However, since issuing AD 2004-16-15, crack growth tests have shown that the inspection intervals can be increased without affecting safety. We made this determination after Eurocopter conducted crack growth testing in laboratory bench tests. A cracked base plate was loaded with an alternating torque to simulate flight loading and cycles. Crack propagation speed was measured and assessed over a longer duration than the initial inspection interval and this resulted in extending the inspection intervals. The first inspection interval was determined using crack striations, which was a quick and conservative method used to ensure airworthiness and allow for timely issuance of service information by the manufacturer. Based on this additional information, a proposal to amend 14 CFR part 39 by revising AD 2004-16-15, Amendment 39-13771 (69 FR 51358, August 19, 2004), for the specified Eurocopter model helicopters, was published in the Federal Register on May 2, 2006 (71 FR 25789). That action proposed to increase the time intervals between each required inspection and proposed to include minor editorial changes in the AD.

The Direction Générale de L'Aviation Civile (DGAC), the airworthiness authority for France, notified the FAA that an unsafe condition may exist on Eurocopter Model SA 365N, N1, SA 366 G1, AS 365 N2, N3, EC 155 B, and B1 helicopters, all serial numbers. The DGAC advises that a crack was detected in the MGB base plate of an AS 365 N2 helicopter. The crack was detected in the MGB base plate web, very close to the attachment of one of the laminated pads, and runs to the inside of the MGB base plate and then on the MGB casing. In time, the growth of the crack may lead to the loss of the transfer of rotor torque to the rotorcraft structure.

Eurocopter has issued Alert Service Bulletin (ASB) No. 05.00.45 for Model AS365 N, N1, N2, and N3 helicopters; ASB No. 05.29 for Model SA366 G1 helicopters; and ASB No. 05A005 for Model EC155 B and B1 helicopters. All of the ASBs are dated November 8, 2004 and supersede previously issued Eurocopter Alert Telex No. 05.00.45, No. 05.29, and No. 05A005, all dated February 5, 2004. The ASBs specify the same actions as the alert telexes—visually inspecting the MGB base plate for the absence of cracks, using a 10x magnifying glass to facilitate the crack inspection, and, if in doubt about the existence of a crack, inspecting for a crack using a dye-penetrant crack detection inspection. However, for the Eurocopter Model AS365 N, N1, N2, N3, and SA366 G1 helicopters, the 15-flying hour check for the MGB base plate that is specified in the alert telexes is replaced with check intervals not to exceed 55 flying hours. For the EC155 B and B1 helicopters, the check after the last flight of each day and without exceeding a 9-flying hour check interval is replaced with check intervals not to exceed 15 flying hours.

The DGAC classified ASB Nos. 05.00.45, 05.29, and 05A005 as mandatory and issued AD No. F-2004-023 R1, 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. We have 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. The actions specified by this AD are still considered to be interim until the cause of the cracking can be determined.

We estimate that this AD will affect 142 helicopters of U.S. registry. The initial inspection will take about 0.5 work hour and each recurring inspection will take about 0.25 work hour. Replacing the MGB, if necessary, will take about 4 work hours. The average labor rate is \$65 per work hour. It will cost approximately \$25,000 to repair a cracked MGB base plate. Based on these figures, the total estimated cost impact of the AD on U.S. operators is \$56,249, assuming that each of the 135 Model AS 365 and SA 366 helicopters are inspected 11 times (the initial inspection plus 10 recurring inspections) and each of the 7 Model EC 155 helicopters are inspected 40 times (the initial inspection plus 39 recurring inspections), and one cracked MGB base plate is found requiring the repair and replacement of one MGB. This estimate also assumes that a replacement MGB will not need to be purchased while a previously-installed MGB is being repaired.

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 DMS 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, 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 39-13771 (69 FR 51358, August 19, 2004), and by adding a new airworthiness directive (AD), Amendment 39-14694, to read as follows:

AIRWORTHINESS DIRECTIVE

www.faa.gov/aircraft/safety/alerts/
www.gpoaccess.gov/fr/advanced.html

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



2004-16-15 R1 Eurocopter France: Amendment 39-14694. Docket No. FAA-2004-18850; Directorate Identifier 2004-SW-19-AD. Revises AD 2004-16-15, Amendment 39-13771.

Applicability

Model AS-365N2, AS 365 N3, EC 155B, EC155B1, SA-365N, N1, and SA-366G1 helicopters with a main gearbox (MGB) base plate, part number (P/N) 366A32-1062-03 or P/N 366A32-1062-06, installed, certificated in any category.

Compliance

Required as indicated in the following compliance table and before installing a replacement main gearbox (MGB).

Compliance Table

For model . . .	If . . .	Or if . . .	Or if . . .
(1) SA-365N, N1 and SA-366G1 helicopters.	An MGB is installed that has less than 9,900 cycles and has never been overhauled or repaired, on or before accumulating 9,900 cycles, unless accomplished previously, and thereafter, at intervals not to exceed 55 hours time-in-service (TIS).	An MGB is installed that has 9,900 or more cycles and has never been overhauled or repaired, before further flight, unless accomplished previously, and thereafter, at intervals not to exceed 55 hours TIS.	An MGB is installed that is overhauled or repaired, before further flight, unless accomplished previously, and thereafter, at intervals not to exceed 55 hours TIS.
(2) AS-365N2 and AS 365 N3 helicopters.	An MGB is installed that has less than 7,300 cycles and has never been overhauled or repaired, on or before accumulating 7,300 cycles, unless accomplished previously, and thereafter, at intervals not to exceed 55 hours TIS.	An MGB is installed that has 7,300 or more cycles and has never been overhauled or repaired, before further flight, and thereafter, at intervals not to exceed 55 hours TIS.	An MGB is installed that has been overhauled or repaired, before further flight, and thereafter, at intervals not to exceed 55 hours TIS.
(3) EC 155B and EC155B1 helicopters.	An MGB base plate is installed that has less than 2,600 cycles, no later than 2,600 cycles, unless accomplished previously, and thereafter, at intervals not to exceed 15 hours TIS.	An MGB base plate is installed that has 2,600 or more cycles, before further flight, unless accomplished previously, and thereafter, at intervals not to exceed 15 hours TIS.	

One cycle equates to one helicopter landing in which a landing gear touches the ground.

To detect a crack in the MGB base plate and prevent failure of a MGB attachment point to the frame, which could result in severe vibration and subsequent loss of control of the helicopter, accomplish the following.

(a) Before the initial inspection at the time indicated in the compliance table of this AD, strip the paint from area "D" on both sides ("B" and "C") of the MGB base plate as depicted in Figure 1 of this AD.

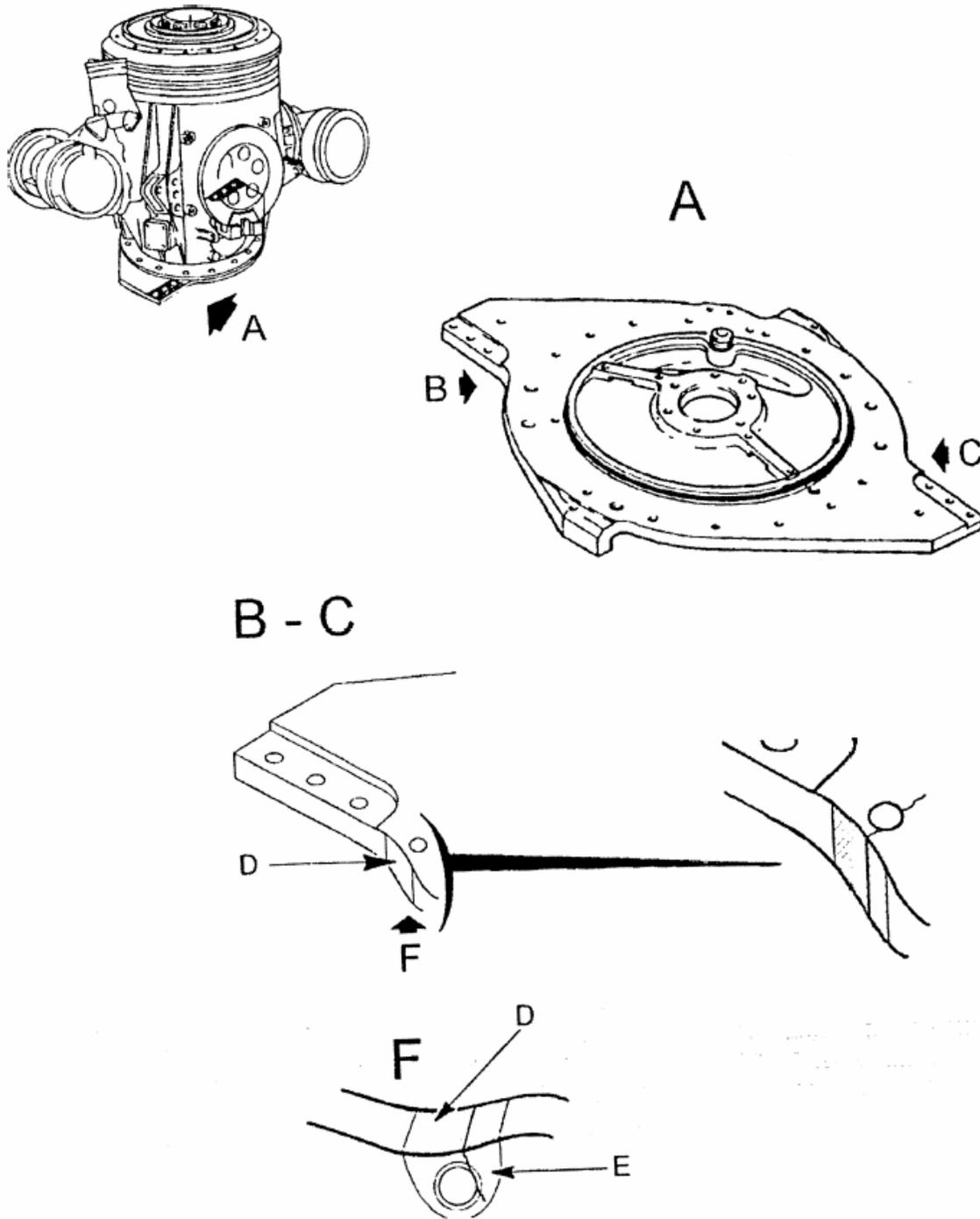


Figure 1

(b) At the times indicated in the compliance table, inspect area "D" of the MGB base plate for a crack using a 10x or higher magnifying glass. Area "D" to be inspected is depicted in Figure 1 of this AD.

Note 1: Eurocopter France Alert Service Bulletin (ASB) No. 05.00.45 for Model AS365 N, N1, N2, and N3 helicopters, ASB No. 05.29 for Model SA366 G1 helicopters, and ASB No. 05A005 for Model EC155 B and B1 helicopters, pertain to the subject of this AD. All three ASBs are dated November 8, 2004.

(c) If a crack is found in a MGB base plate, remove and replace the MGB with an airworthy MGB before further flight.

(d) 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.

(e) This amendment becomes effective on August 30, 2006.

Note 2: The subject of this AD is addressed in Direction Generale de L'Aviation Civile (France) AD F-2004-023 R1, dated November 24, 2004.

Issued in Fort Worth, Texas, on July 18, 2006.

Mark R. Schilling,

Acting Manager, Rotorcraft Directorate, Aircraft Certification Service.

[FR Doc. 06-6472 Filed 7-25-06; 8:45 am]