



**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2017-0404; Product Identifier 2015-SW-066-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Airbus Helicopters (previously Eurocopter France)**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** The FAA proposes to supersede Airworthiness Directive (AD) 2008-24-04 for Eurocopter France (now Airbus Helicopters) Model AS355E, AS355F, AS355F1, AS355F2, and AS355N helicopters. AD 2008-24-04 requires repetitively inspecting the lubricating pump and checking the magnetic chip detector plug (chip detector) and the main gearbox (MGB) oil-sight glass. Since the FAA issued AD 2008-24-04, Airbus Helicopters has developed an alteration of the MGB oil flow distribution that corrects the unsafe condition. This proposed AD would retain the requirements of AD 2008-24-04 and would allow the option of altering the MGB oil flow distribution as a terminating action for the inspections. The actions of this proposed AD are intended to address an unsafe condition on these products.

**DATES:** The FAA 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 <https://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 <https://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0404; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the European Aviation Safety Agency (EASA) AD, the economic evaluation, any comments received and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed rule, contact Airbus Helicopters, 2701 N. Forum Drive, Grand Prairie, TX 75052; telephone 972-641-0000 or 800-232-0323; fax 972-641-3775; or at <https://www.airbus.com/helicopters/services/technical-support.html>.

You may view the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177.

**FOR FURTHER INFORMATION CONTACT:** Jignesh Patel, Aerospace Engineer, Safety Management Section, Rotorcraft Standards Branch, FAA, 10101 Hillwood Pkwy, Fort Worth, TX 76177; telephone 817-222-5110; email jignesh.patel@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

The FAA invites you to participate in this rulemaking by submitting written comments, data, or views. The FAA also invites 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.

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

**Discussion**

The FAA issued AD 2008-24-04, Amendment 39-15744 (73 FR 71530, November 25, 2008) (“AD 2008-24-04”) for Eurocopter France (now Airbus

Helicopters) Model AS355E, AS355F, AS355F1, AS355F2, and AS355N helicopters. AD 2008-24-04 requires repetitive checks of the chip detector and the MGB oil-sight glass and repetitive inspections of the lubricating pump. AD 2008-24-04 also requires replacing the MGB and pump with an airworthy MGB and pump if necessary. AD 2008-24-04 was prompted by cases of MGB lubricating pump deterioration. The actions of AD 2008-24-04 are intended to implement improved procedures to detect a failing MGB oil pump, prevent failure of the MGB oil pump, seizure of the MGB, loss of drive to an engine and main rotor, and subsequent loss of control of the helicopter.

#### **Actions Since AD 2008-24-04 Was Issued**

Since the FAA issued AD 2008-24-04, Airbus Helicopters has issued service information to provide procedures for Airbus Helicopters modification (MOD) 077222, which improves the distribution of the oil flow between the accessory modules of the combiner gearbox and the MGB. Subsequently, EASA, which is the Technical Agent for the Member States of the European Union, issued EASA AD No. 2007-0209R1, dated September 11, 2015. EASA advises that Airbus Helicopters MOD 077222 provides the same level of safety as the MGB pump inspections. Accordingly, the EASA AD applies to Airbus Helicopters Model AS355E, AS355F, AS355F1, AS355F2, and AS355N helicopters with a lubrication pump part number 355A32-0700-01, 355A32-0700-02, or 355A32-0701-00 installed, except those with Airbus Helicopters MOD 077222 installed, and requires repetitive MGB pump inspections and chip detector and MGB oil-sight glass checks, and allows MOD 077222 as optional terminating action for the repetitive inspections.

## **FAA's Determination**

These helicopters have been approved by EASA and are approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the European Union, EASA has notified the FAA of the unsafe condition described in its AD. The FAA is proposing this AD after evaluating all known relevant information and determining that an unsafe condition is likely to exist or develop on other helicopters of the same type designs.

## **Related Service Information Under 1 CFR part 51**

The FAA reviewed Eurocopter Alert Service Bulletin (ASB) No. 05.00.51, Revision 0, dated July 9, 2007 (ASB 05.00.51 Rev 0), and Airbus Helicopters ASB No. 05.00.51, Revision 1, dated July 29, 2015. This service information contains procedures for monitoring the MGB oil pump for wear. Revision 1 of this service information omits helicopters with MOD 077222 installed.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

## **Other Related Service Information**

The FAA reviewed Airbus Helicopters Service Bulletin No. AS355-63.00.25, Revision 1, dated July 29, 2015, and Revision 2, dated June 22, 2017. This service information contains procedures for altering the lubrication system to increase oil flow between the accessory modules of the combiner gearbox and the MGB. This service information also specifies using mineral oil 0-155 in the combiner gearbox instead of synthetic oil 0-156 after completing the alteration. Airbus Helicopters identifies this

alteration as MOD 077222. Revision 2 of this service information clarifies a procedure and updates a work card.

The FAA also reviewed Eurocopter Emergency Alert Service Bulletin No. 05.00.40, Revision 3, dated July 9, 2007. This service information specifies inspecting the MGB magnetic plug for sludge and oil sight for color. If there is sludge or if the oil is dark or dark purple, this service information specifies removing the lubrication pump and inspecting it for certain conditions, and replacing it as necessary. Revision 3 of this service information informs operators that this service information is superseded by ASB 05.00.51 Rev 0.

### **Proposed AD Requirements**

This proposed AD would retain the requirements of AD 2008-24-04 and add an option to alter the lubrication system (MOD 077222) as a terminating action for the repetitive inspections. For those helicopters that incorporate Mod 077222, using mineral oil 0-155 in the combiner gearbox instead of synthetic oil 0-156 would be required. This proposed AD would also exclude helicopters with MOD 077222 from the applicability.

An owner/operator (pilot) may perform the proposed visual checks and must enter compliance with that paragraph into the helicopter maintenance records in accordance with Title 14 Code of Federal Regulations (14 CFR) §§ 43.9(a)(1) through (4) and 14 CFR 91.417(a)(2)(v). A pilot may perform this check because it involves only a visual check and can be performed equally well by a pilot or a mechanic. This check is an exception to the FAA's standard maintenance regulations.

## **Differences Between this Proposed AD and the EASA AD**

The EASA AD requires that the initial and repetitive MGB oil inspections be conducted after the last flight of each day without exceeding 10 flight hours between two successive checks. This proposed AD would require those inspections before the first flight of each day and at intervals not to exceed 10 hours time-in-service.

## **Costs of Compliance**

The FAA estimates that this proposed AD affects 46 helicopters of U.S. Registry. Labor costs are estimated at \$85 per work-hour. Based on these numbers, the FAA estimates that operators may incur the following costs in order to comply with this AD.

- Checking the MGB oil and chip detector condition would take about 0.25 work-hour for an estimated cost of about \$21 per helicopter and \$966 for the U.S. fleet per check.
- Inspecting the lubricating pump would take about 1 work-hour for an estimated cost of \$85 per helicopter and \$3,910 for the U.S. fleet per inspection.
- Replacing the MGB and pump would take about 8 work-hours and cost about \$64,000 (overhauled) in parts for an estimated cost of \$64,680 per helicopter.
- Altering the lubrication system (optional MOD 077222) would take about 4 work-hours and cost about \$2,335 in parts for an estimated cost of \$2,675 per helicopter.

## **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.

The FAA is 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**

The FAA 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. Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, 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.

The FAA 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 removing Airworthiness Directive (AD) 2008-24-04, Amendment 39-15744 (73 FR 71530, November 25, 2008), and adding the following new AD:

**Airbus Helicopters (previously Eurocopter France):** Docket No. FAA-2017-0404; Product Identifier 2015-SW-066-AD.

#### **(a) Applicability**

This AD applies to Airbus Helicopters (previously Eurocopter France) Model AS355E, AS355F, AS355F1, AS355F2, and AS355N helicopters, certificated in any category, with a main gearbox (MGB) lubrication pump (pump) part number 355A32-0700-01, 355A32-0700-02, or 355A32-0701-00, except helicopters with Modification (MOD) 077222 installed.

#### **(b) Unsafe Condition**

This AD defines the unsafe condition as insufficient lubrication within an MGB. This condition, if not detected and corrected, could result in failure of the MGB pump, seizure of the MGB, loss of drive to an engine and main rotor, and subsequent loss of helicopter control.

**(c) Affected ADs**

This AD replaces AD 2008-24-04, Amendment 39-15744 (73 FR 71530, November 25, 2008).

**(d) Comments Due Date**

The FAA must receive comments by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

**(e) 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.

**(f) Required Actions**

(1) 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. The actions required by this paragraph may be performed by an owner/operator (pilot) holding at least a private pilot certificate and must be entered into the aircraft records showing compliance with this AD in accordance with Title 14 Code of Federal Regulations (14 CFR) §§ 43.9 (a)(1) through (4) and 14 CFR 91.417(a)(2)(v). The record must be maintained as required by 14 CFR §§ 91.417, 121.380, or 135.439. “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.

(i) Before further flight, if any sludge is found on the chip detector, remove, open, and inspect the pump.

(ii) 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, remove, open, and inspect the pump.

(2) Within 25 hours TIS, after operating both engines at normal operating revolutions per minute (RPM) for at least 20 minutes to ensure the MGB oil temperature has stabilized, inspect the oil pump for wear by following the Accomplishment Instructions, paragraph 2.B.2., steps 1. through 6., of Eurocopter Alert Service Bulletin (ASB) No. 05.00.51, Revision 0, dated July 9, 2007 (ASB 05.00.51 Rev 0), or Airbus Helicopters ASB No. 05.00.51, Revision 1, dated July 29, 2015 (ASB 05.00.51 Rev 1).

(i) Record the outside air temperature (OAT) and rotor speed (NR RPM) and plot the point at which they intersect using the graph in Figure 1 or 2 of ASB 05.00.51 Rev 0 or ASB 05.00.51 Rev 1.

(ii) If the point on the graph at the intersection of the recorded OAT and the NR RPM falls within:

(A) Zone 3 – Before further flight, replace the MGB and pump with an airworthy MGB and pump.

(B) Zone 2 – At intervals not to exceed 25 hours TIS, repeat the inspection procedures by following the Accomplishment Instructions, paragraph 2.B.2, steps 1. through 6., of ASB 05.00.51 Rev 0 or ASB 05.00.51 Rev 1. After being classified in

"Zone 2," you must obtain two successive inspections separated by at least 24 hours TIS that fall within Zone 1 before you can begin to inspect at intervals not to exceed 110 hours TIS by following paragraph (f)(2)(ii)(C) of this AD for Zone 1.

(C) Zone 1 - At intervals not to exceed 110 hours TIS, repeat the inspection procedures by following the Accomplishment Instructions, paragraph 2.B.2., steps 1. through 6., of ASB 05.00.51 Rev 0 or ASB 05.00.51 Rev 1.

(iii) Compliance with paragraphs (f)(2)(i) and (ii) of this AD constitutes terminating action for the checks and inspections required by paragraph (f)(1) of this AD.

(3) As an optional terminating action for the requirements in this AD, alter the lubrication system for the MGB in accordance with the Accomplishment Instructions, paragraphs 3.B.2.a. through 3.B.3 of Airbus Helicopters Service Bulletin No. AS355-63.00.25, Revision 1, dated July 29, 2015, or Revision 2, dated June 22, 2017. Mineral oil 0-155 is required after compliance with this alteration.

Note 1 to paragraph (f)(3) of this AD: Airbus Helicopters identifies alteration of the lubrication system as MOD 077222.

**(g) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Safety Management Section, Rotorcraft Standards Branch, FAA, may approve AMOCs for this AD. Send your proposal to: Jignesh Patel, Aerospace Engineer, Safety Management Section, Rotorcraft Standards Branch, FAA, 10101 Hillwood Pkwy, Fort Worth, TX 76177; telephone 817-222-5110; email 9-ASW-FTW-AMOC-Requests@faa.gov.

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, the FAA suggests 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.

**(h) Additional Information**

(1) Airbus Helicopters Service Bulletin No. AS355-63.00.25, Revision 1, dated July 29, 2015, and Revision 2, dated June 22, 2017, and Eurocopter Emergency Alert Service Bulletin No. 05.00.40, Revision 3, dated July 9, 2007, which are not incorporated by reference, pertain to the subject of this AD. For service information identified in this AD, contact Airbus Helicopters, 2701 N. Forum Drive, Grand Prairie, TX 75052; telephone 972-641-0000 or 800-232-0323; fax 972-641-3775; or at <https://www.airbus.com/helicopters/services/technical-support.html>. You may view a copy of the service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177.

(2) The subject of this AD is addressed in European Aviation Safety Agency (EASA) AD No. 2007-0209R1, dated September 11, 2015. You may view the EASA AD on the Internet at <https://www.regulations.gov> in the AD Docket.

**(i) Subject**

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

Issued in Fort Worth, Texas, on December 20, 2019.

Lance T. Gant,

Director, Compliance & Airworthiness Division,  
Aircraft Certification Service.

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