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**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2015-5914; Directorate Identifier 2014-SW-056-AD;**

**Amendment 39-18472; AD 2016-07-27]**

**RIN 2120-AA64**

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

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

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for Airbus Helicopters Model SA341G and SA342J helicopters. This AD requires repetitive inspections of a certain part-numbered main rotor hub torsion bar (torsion bar). This AD was prompted by several cases of corrosion in the metal strands of the torsion bar. The actions of this AD are intended to detect corrosion and prevent failure of the torsion bar, loss of a main rotor blade, and subsequent loss of control of the helicopter.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain document listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final 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 <http://www.airbushelicopters.com/techpub>. You may review the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177. It is also on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-5914.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2015-5914; or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the European Aviation Safety Agency (EASA) AD, any incorporated-by-reference service information, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (phone: 800-647-5527) is U.S. Department of Transportation, Docket Operations Office, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Robert Grant, Aviation Safety Engineer, Safety Management Group, FAA, 10101 Hillwood Pkwy, Fort Worth, Texas 76177; telephone (817) 222-5110; email [robert.grant@faa.gov](mailto:robert.grant@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Discussion**

On November 19, 2015, at 80 FR 72390, the Federal Register published our notice of proposed rulemaking (NPRM), which proposed to amend 14 CFR part 39 by adding an AD that would apply to Model SA341G and SA342J helicopters with a torsion

bar part number 704A33633274 installed. The NPRM proposed to require removing and performing repetitive inspections of each torsion bar for a crack in the polyurethane (PU) coating, the dimension of the angle between the bushings, corrosion on the inside diameter of each bushing, the thickness of each bushing, the size of the inside diameter of each bushing, and missing varnish on the two faces of each bushing. The NPRM also proposed to require replacing the torsion bar before further flight if there is a crack in the PU coating of a torsion bar that matches or exceeds the damage criteria, if the angle of the torsion bar is 7 degrees or more, if any corrosion on a bushing cannot be removed by rubbing it with an abrasive pad, if the thickness of a bushing is less than 37.520 mm (1.477 in), or if the diameter of a bushing is larger than 21,040 mm (.828 in). If varnish is missing from more than 15 percent of the surface area from a face of a bushing, the NPRM proposed to require removing all varnish, finishing with an abrasive pad, and applying a coat of paint to the face of the bushing. The proposed requirements were intended to detect corrosion and prevent failure of the torsion bar, loss of a main rotor blade, and subsequent loss of control of the helicopter.

The NPRM was prompted by AD No. 2014-0216, dated September 24, 2014, issued by EASA, which is the Technical Agent for the Member States of the European Union, to correct an unsafe condition for Airbus Helicopters Model SA341G and SA342J helicopters. EASA advises that several cases of cracks were found on the PU coating of part-numbered 704A33633274 torsion bars installed on military Model SA341 helicopters. EASA states that these parts can also be installed on civilian Model SA341 and SA342 helicopters. According to EASA, analysis of the cracked torsion bars showed small areas of superficial corrosion on the strands inside the bars can also develop during

the manufacturing process. EASA states that cracking of the PU coating near these areas and the associated penetration of water can lead to further and deeper development of the corrosion. EASA advises that this condition, if not detected and corrected, allows water to penetrate into the torsion bar causing corrosion and failure of the metal strands inside the bar. Failure of the metal strands could lead to torsion bar failure, resulting in an in-flight loss of a main rotor blade and consequent loss of control of the helicopter.

### **Comments**

We gave the public the opportunity to participate in developing this AD, but we did not receive any comments on the NPRM (80 FR 72390, November 19, 2015).

### **FAA's Determination**

These helicopters have been approved by the aviation authority of France and are approved for operation in the United States. Pursuant to our bilateral agreement with France, EASA, its technical representative, has notified us of the unsafe condition described in the EASA AD. We are issuing this AD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other helicopters of these same type designs and that air safety and the public interest require adopting the AD requirements as proposed.

### **Interim Action**

We consider this AD to be an interim action. If final action is later identified, we might consider further rulemaking.

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

This AD requires you to replace a torsion bar instead of returning it to the manufacturer for examination.

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

Eurocopter (now Airbus Helicopters) has issued Gazelle Inspection - Check 65.12.607, “Main Rotor Head: Torsion Tie-Back Check (Post MOD 076171),” dated August 2008, of the Eurocopter Gazelle Helicopter Maintenance Manual, Tome 1, which describes inspecting the torsion bars for a crack in the PU coating and for corrosion and thickness of the bushings.

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**

Airbus Helicopters has also issued Alert Service Bulletin No. SA341/SA342-05.40, Revision 0, dated April 28, 2014 (ASB), for Model SA341G and SA342J helicopters certificated by the FAA, and military Model SA341B, C, D, E, F, and H and SA342K, L, L1, M, M1, and Ma helicopters. The ASB specifies repetitively inspecting the torsion bars in accordance with certain work cards, including work card 65.12.607. These inspections are part of Airbus Helicopters’ current maintenance program, and the ASB revises the compliance time interval for the inspections.

## **Costs of Compliance**

We estimate that this AD affects 33 helicopters of U.S. Registry. We estimate that operators may incur the following costs in order to comply with this AD. We estimate \$85 per work-hour for labor. We estimate 8 work-hours to inspect each helicopter at an estimated cost of \$680 per helicopter and \$22,440 for the U.S. fleet per inspection cycle.

Replacing a torsion bar will cost \$7,020 for required parts; no additional labor is necessary.

### **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 helicopters identified in this rulemaking action.

### **Regulatory Findings**

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 this AD:

- (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);

(3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and

(4) 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 and placed it in the AD docket.

### **List of Subjects in 14 CFR Part 39**

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

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 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 adding the following new airworthiness directive (AD):

2016-07-27 **Airbus Helicopters (formerly Eurocopter France)**: Amendment 39-18472; Docket No. FAA-2015-5914; Directorate Identifier 2014-SW-056-AD.

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

This AD applies to Model SA341G and SA342J helicopters with a main rotor head torsion bar (torsion bar) part number 704A33633274 installed, certificated in any category.

**(b) Unsafe Condition**

This AD defines the unsafe condition as a crack in the coating of the torsion bar resulting in corrosion. This condition could result in failure of a torsion bar, loss of a main rotor blade, and subsequent loss of control of the helicopter.

**(c) Effective Date**

This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(d) 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.

**(e) Required Actions**

(1) For each torsion bar with less than 5 years since the first date of installation on any helicopter, within the compliance time shown in Table 1 to paragraph (e)(1) of this AD:

(i) Remove the torsion bar and, using a magnifying glass with a maximum magnification level of 10X, visually inspect for a crack in the polyurethane (PU) coating of the torsion bar as depicted in Figure 1 of Gazelle Inspection - Check 65.12.607, "Main Rotor Head: Torsion Tie-Back Check (Post MOD 076171)," dated August 2008, of the Eurocopter Gazelle Helicopter Maintenance Manual, Tome 1. This type of task is commonly called a "work card" and will be referenced in this AD as "the work card." Consider two cracks that are less than 5 mm (.196 in) apart as a single crack. If there is a crack in the PU coating that is more than 5 mm (.196 in), replace the torsion bar before further flight. Do not rework the PU coating of the torsion bar in any way.

(ii) Inspect the angle, dimension alpha, as depicted in View on Arrow F of Figure 1 of the work card. If the angle is 7 or more degrees, replace the torsion bar before further flight.

(iii) Inspect each bushing for corrosion on the inside diameter. If any corrosion cannot be removed by rubbing it with an abrasive pad, replace the torsion bar before further flight.

(iv) Using an outside micrometer, measure the thickness, dimension a, of each bushing as depicted in Detail AA of Figure 1 of the work card. If the thickness is less than 37.520 mm (1.477 in), replace the torsion bar before further flight.

(v) Using an inside micrometer, measure the inside diameter, dimension b, of each bushing as depicted in Detail AA of Figure 1 of the work card. If the diameter is larger than 21.040 mm (.828 in), replace the torsion bar before further flight.

(vi) Inspect the two faces of each bushing for missing varnish. If varnish is missing from more than 15% of the surface area on a face of a bushing, before further flight, remove all varnish using 400-grit abrasive paper. Finish with an abrasive pad and apply a coat of P05 paint to the face of the bushing.

Table 1 to paragraph (e)(1)

<b>Time Accumulated on Torsion Bar</b>	<b>Compliance Time</b>
(i) Less than 320 hours time-in-service (TIS) since new and has never been inspected in accordance with Airbus Helicopters 341G - 342J Airworthiness Limitations, Revision 18, dated June 2014 (limitations inspection).	Before accumulating 420 hours TIS since new or within 24 months since the date of first installation on any helicopter, whichever occurs first.
(ii) 320 or more hours TIS since new and has never had a limitations inspection.	Within 100 hours TIS, or before accumulating 600 hours TIS since new, or within 24 months since the date of first installation on any helicopter, whichever occurs first.
(iii) Less than 320 hours TIS since the last limitations inspection.	Before accumulating 420 hours TIS since the last limitations inspection or within 24 months since the last limitations inspection, whichever occurs first.
(iv) 320 or more hours TIS since the last limitations inspection.	Within 100 hours TIS, or before accumulating 600 hours TIS since the last limitations inspection, or within 24 months since the last limitations inspection, whichever occurs first.

(2) For each torsion bar with 5 or more years since the first date of installation on any helicopter, within the compliance time shown in Table 2 to paragraph (e)(2) of this AD, do the inspections required by paragraphs (e)(1)(i) through (vi) of this AD.

Table 2 to paragraph (e)(2)

<b>Time Accumulated on Torsion Bar</b>	<b>Compliance Time</b>
(i) Less than 320 hours TIS since new, and less than 6 months since the date of first installation on any helicopter, and has never had a limitations inspection.	Before accumulating 420 hours TIS since new or within 12 months since the date of first installation on any helicopter, whichever occurs first.
(ii) 320 or more hours TIS since new or more than 6 months since the date of first installation on any helicopter, and has never had a limitations inspection.	Within 100 hours TIS, or within 6 months, or before accumulating 600 hours TIS since new, or within 24 months since the date of first installation on any helicopter, whichever occurs first.
(iii) Less than 320 hours TIS since last limitations inspection and less than 6 months since the last limitations inspection.	Before accumulating 420 hours TIS since last limitations inspection or 12 months since last limitations inspection, whichever occurs first.
(iv) 320 or more hours TIS since last limitations inspection or 6 or more months since the last limitations inspection.	Within 100 hours TIS, or within 6 months, or before accumulating 600 hours TIS since the last limitations inspection, or within 24 months since the last limitations inspection, whichever occurs first.

(3) Repeat the inspections required by paragraphs (e)(1)(i) through (vi) of this AD as follows:

(i) For torsion bars with less than 6 years since the date of installation on any helicopter, at intervals not to exceed 420 hours TIS or 24 months, whichever occurs first.

(ii) For torsion bars with 6 or more years since the date of installation on any helicopter, at intervals not to exceed 420 hours TIS or 12 months, whichever comes first.

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

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this AD. Send your proposal to: Robert Grant, Aviation Safety Engineer, Safety

Management Group, 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, we suggest 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.

**(g) Additional Information**

(1) Airbus Helicopters Alert Service Bulletin ASB No. SA341/SA342-05.40, Revision 0, dated April 28, 2014, which is not incorporated by reference, contains additional information about the subject of this final rule. For Airbus Helicopters service information identified in this final 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 <http://www.airbushelicopters.com/techpub>. You may review 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. 2014-0216, dated September 24, 2014. You may view the EASA AD on the Internet at <http://www.regulations.gov> in Docket No. FAA-2015-5914.

**(h) Subject**

Joint Aircraft Service Component (JASC) Code: 6700, Main Rotor.

**(i) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Gazelle Inspection - Check 65.12.607, “Main Rotor Head: Torsion Tie-Back Check (Post MOD 076171),” dated August 2008, of the Eurocopter Gazelle Helicopter Maintenance Manual, Tome 1.

(ii) Reserved.

(3) For Eurocopter service information identified in this final 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 <http://www.airbushelicopters.com/techpub>.

(4) You may view this service information at FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference 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/cfr/ibr-locations.html>.

Issued in Fort Worth, Texas, on March 31, 2016.

James A. Grigg,

Acting Manager, Rotorcraft Directorate,  
Aircraft Certification Service.

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