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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2015-3820; Directorate Identifier 2014-SW-024-AD; Amendment 39-18716; AD 2016-23-09]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Various Restricted Category Helicopters**

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for various restricted category helicopters. This AD requires cleaning and visually inspecting certain main rotor (M/R) blades and, depending on the outcome of the inspections, repairing or replacing the M/R blades. This AD was prompted by a report of an M/R blade with multiple fatigue cracks around the blade retention bolt hole. The actions are intended to detect a crack in the M/R blade, and prevent failure of the M/R blade and subsequent loss of helicopter control.

**DATES:** This AD is effective December 27, 2016.

**ADDRESSES:** For service information identified in this final rule, contact Bell Helicopter Textron, Inc., P.O. Box 482, Fort Worth, TX 76101; telephone (817) 280-3391; fax (817) 280-6466; or at <http://www.bellcustomer.com/files/>. You may review a copy of the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy, Room 6N-321, Fort Worth, TX 76177.

#### **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-2015-3820; 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 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:** Charles Harrison, Project Manager, Fort Worth Aircraft Certification Office, 10101 Hillwood Pkwy., Fort Worth, Texas 76177; telephone 817-222-5140; email Charles.C.Harrison@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

On April 11, 2016, at 81 FR 21288, 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 TH-1F, UH-1B, UH-1F, UH-1H, and UH-1P helicopters with a M/R blade, part number 204-011-250-005 or 204-011-250-113, installed. The NPRM proposed to require repetitively cleaning and visually inspecting the M/R blades for a crack, corrosion, an edge void, loose or damaged adhesion, and an edge delamination. Depending on the outcome of the inspections, the NPRM proposed repairing or replacing the M/R blades. The actions in the NPRM were prompted by a Bell Helicopter Textron Inc. evaluation of an M/R blade installed on a Model UH-1H helicopter that had multiple fatigue cracks around the blade retention bolt hole. The cracks resulted from a void between the lower grip plate and the grip pad. A "substantial" void also was found at the outboard doubler tip on the lower blade surface. A different part-numbered M/R blade of the same type installed on the Model UH-1H helicopter may also be installed on Model TH-1F, UH-1B, UH-1F, and UH-1P helicopters.

These actions are intended to detect a crack in an M/R blade, and prevent failure of the M/R blade, and subsequent loss of helicopter control.

### **Comments**

We gave the public the opportunity to participate in developing this AD, but we received no comments on the NPRM (81 FR 21288, April 11, 2016).

### **FAA's Determination**

We have reviewed the relevant information and determined that an unsafe condition exists and is likely to exist or develop on other products of these same type designs and that air safety and the public interest require adopting the AD requirements as proposed.

### **Related Service Information**

Bell Helicopter issued Alert Service Bulletin (ASB) No. UH-1H-13-09, dated January 14, 2013, for the Model UH-1H helicopter. ASB No. UH-1H-13-09 specifies a one-time visual inspection, within 10 hours time-in-service (TIS), of the lower grip pad and upper and lower grip plates for cracks, edge voids, and loose or damaged adhesive squeeze-out. ASB No. UH-1H-13-09 also specifies a repetitive and more detailed visual inspection, daily and at every 150 hours TIS, of the lower grip pad, upper and lower grip plates, and all upper and the lower doublers for cracks, corrosion, edge voids, and loose or damaged adhesive squeeze-out.

Bell Helicopter Textron also issued ASB No. 204-75-1 for Model 204B helicopters and ASB No. 205-75-5 for Model 205A-1 helicopters, both Revision C and both dated April 25, 1979. ASB No. 204-75-1 and ASB No. 205-75-5 call for visually inspecting the M/R blades during each daily inspection and repetitively washing the blades and applying WD-40. ASB No. 204-75-1 and ASB No. 205-75-5 also provide instructions for repetitively inspecting the blades every 1,000 hours of operation or every 12 months, whichever occurs first, or within 150 hours or 30 days, whichever occurs first, if the blades have more 1,000 hours of operation or have been in service more than 12

months. While ASB No. 204-75-1 and ASB No. 205-75-5 do not apply to the helicopters that are the subject of this AD, they do apply to the affected M/R blades.

### **Differences Between This AD and the Service Information**

ASB No. UH-1H-13-09 specifies a one-time inspection and then a second repetitive inspection daily and at every 150 hours TIS, and ASB No. 204-75-1 and ASB 205-75-5 call for visually inspecting the M/R blades daily and every 1,000 hours TIS or 12 months, whichever occurs first. This AD requires all inspections at intervals not to exceed 25 hours TIS or two weeks, whichever occurs first. This AD contains more detailed inspection requirements and a more specific inspection area than the instructions in ASB No. UH-1H-13-09. Lastly, ASB No. UH-1H-13-09 applies to Model UH-1H helicopters with M/R blade P/N 204-011-250-113, ASB No. 204-75-1 applies to Model 204B helicopters with M/R blade P/N 204-011-250 (all dash numbers), and ASB No. 205-75-5 applies to Model 205A-1 helicopters with M/R blade P/N 204-011-250 (all dash numbers). This AD applies to Model TH-1F, UH-1B, UH-1F, UH-1H, and UH-1P helicopters with M/R blade P/N 204-011-250-005 or 204-011-250-113.

### **Costs of Compliance**

We estimate that this AD affects 607 helicopters of U.S. Registry and that labor costs average \$85 a work-hour. Based on these estimates, we expect the following costs:

- Cleaning and performing all inspections of a set of M/R blades (2 per helicopter) requires a total of 1/2 work-hour. No parts are needed. At an estimated 24 inspections a year, the cost would be \$1,032 per helicopter and \$626,424 for the U.S. fleet.
- Replacing an M/R blade requires 12 work hours while parts cost \$90,656, for a total cost of \$91,676 per blade.

### **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.

### **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):



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**2016-23-09 Various Restricted Category Helicopters:** Amendment 39-18716; Docket No. FAA-2015-3820; Directorate Identifier 2014-SW-024-AD.

**(a) Applicability**

This AD applies to Model TH-1F, UH-1B, UH-1F, UH-1H, and UH-1P helicopters with a main rotor (M/R) blade, part number 204-011-250-005 or 204-011-250-113, installed.

**(b) Unsafe Condition**

This AD defines the unsafe condition as a crack in an M/R blade, which could result in failure of the M/R blade and subsequent loss of helicopter control.

**(c) Effective Date**

This AD becomes effective December 27, 2016.

**(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) Within 25 hours time-in-service (TIS) or 2 weeks, whichever occurs first, and thereafter at intervals not to exceed 25 hours TIS or 2 weeks, whichever occurs first, clean the upper and lower exposed surfaces of each M/R blade from an area starting at the butt end of the blade to three inches outboard of the doublers. Using a 3X or higher power magnifying glass and a light, inspect as follows:

(i) Visually inspect the exposed area of the lower grip pad and upper and lower grip plates of each M/R blade for a crack and any corrosion.

(ii) On the upper and lower exposed surfaces of each M/R blade from blade stations 24.5 to 35 for the entire chord width, visually inspect each layered doubler and blade skin for a crack and any corrosion. Pay particular attention for any cracking in a doubler or skin near or at the same blade station as the blade retention bolt hole (blade station 28).

(iii) Visually inspect the exposed areas of each bond line at the edges of the lower grip pad, upper and lower grip plates, and each layered doubler (bond lines) on the upper and lower surfaces of each M/R blade for the entire length and chord width for an edge void, any corrosion, loose or damaged adhesive squeeze-out, and an edge delamination. Pay particular attention to any crack in the paint finish that follows the outline of a grip pad, grip plate, or doubler, and to any loose or damaged adhesive squeeze-out, as these may be the indication of an edge void.

(2) If there is a crack, any corrosion, an edge void, loose or damaged adhesive squeeze-out, or an edge delamination during any inspection in paragraph (e)(1) of this AD, before further flight, do the following:

(i) If there is a crack in a grip pad or any grip plate or doubler, replace the M/R blade with an airworthy M/R blade.

(ii) If there is a crack in the M/R blade skin that is within maximum repair damage limits, repair the M/R blade. If the crack exceeds maximum repair damage limits, replace the M/R blade with an airworthy M/R blade.

(iii) If there is any corrosion within maximum repair damage limits, repair the M/R blade. If the corrosion exceeds maximum repair damage limits, replace the M/R blade with an airworthy M/R blade.

(iv) If there is an edge void in the grip pad or in a grip plate or doubler, determine the length and depth using a feeler gauge. Repair the M/R blade if the edge void is within maximum repair damage limits, or replace the M/R blade with an airworthy M/R blade.

(v) If there is an edge void in a grip plate or doubler near the outboard tip, tap inspect the affected area to determine the size and shape of the void. Repair the M/R blade if the edge void is within maximum repair damage limits, or replace the M/R blade with an airworthy M/R blade.

(vi) If there is any loose or damaged adhesive squeeze-out along any of the bond lines, trim or scrape away the adhesive without damaging the adjacent surfaces or parent material of the M/R blade. Determine if there is an edge void or any corrosion by lightly sanding the trimmed area smooth using 280 or finer grit paper. If there is no edge void or corrosion, refinish the sanded area.

(vii) If there is an edge delamination along any of the bond lines or a crack in the paint finish, determine if there is an edge void or a crack in the grip pad, grip plate, doubler, or skin by removing paint from the affected area by lightly sanding in a span-wise direction using 180-220 grit paper. If there are no edge voids and no cracks, refinish the sanded area.

(viii) If any parent material is removed during any sanding or trimming in paragraphs (e)(2)(vi) or (e)(2)(vii) of this AD, repair the M/R blade if the damage is within maximum repair damage limits, or replace the M/R blade with an airworthy M/R blade.

#### **(f) Special Flight Permits**

Special flight permits are prohibited.

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

(1) The Manager, Rotorcraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: Charles Harrison, Project Manager, Fort Worth Aircraft Certification Office, 10101 Hillwood Pkwy., Fort Worth, Texas 76177; telephone 817-222-5140; 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.

#### **(h) Additional Information**

Bell Helicopter Alert Service Bulletin (ASB) No. UH-1H-13-09, dated January 14, 2013, and Bell Helicopter Textron ASB No. 204-75-1 and ASB 205-75-5, both Revision C and both dated April 25, 1979, which are not incorporated by reference, contain additional information about the subject of this final rule. For service information identified in this final rule, contact Bell Helicopter Textron, Inc., P.O. Box 482, Fort Worth, TX 76101; telephone (817) 280-3391; fax (817) 280-6466; or at <http://www.bellcustomer.com/files/>. You may review a copy of this service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177.

**(i) Subject**

Joint Aircraft Service Component (JASC) Code: 6210, Main Rotor Blades.

Issued in Fort Worth, Texas, on November 4, 2016.

Lance T. Gant,  
Manager, Rotorcraft Directorate,  
Aircraft Certification Service.