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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2013-0379; Directorate Identifier 2009-SW-26-AD; Amendment 39-17580; AD 2013-18-07]

RIN 2120-AA64

Airworthiness Directives; Bell Helicopter Textron, Inc. (Bell) Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding revised Airworthiness Directive (AD) 76-12-07 for all Bell Model 204B and certain serial-numbered Model 205A-1 helicopters with a certain tail rotor pitch control chain (chain) installed. AD 76-12-07 required visually inspecting the chain to detect a crack in the link segments and, for affected Model 205A-1 helicopters, replacing the chain and cable control system with a push-pull control system. This new AD requires, for Bell Model 204B, inspecting certain chains at specified intervals, revising the inspection procedures, installing a tail rotor cable and chain damper kit (damper kit), and revising the maintenance manual or Instructions for Continued Airworthiness (ICAs) to include the inspection intervals. This new AD also requires, for certain Bell Model 205A-1 helicopters, replacing the chain and cable control system with an airworthy tail rotor push-pull control system kit. This AD was prompted by the rapid growth of a crack leading to premature chain failure. The actions are intended to prevent failure of the chain, loss of tail rotor blade pitch control, and subsequent loss of control of the helicopter.

DATES: This AD is effective October 18, 2013.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of October 18, 2013.

ADDRESSES: For service information identified in this AD, 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, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov 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 foreign authority's 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: Michael Kohner, Aviation Safety Engineer, Rotorcraft Certification Office, Rotorcraft Directorate, FAA, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone (817) 222-5170; email 7-AVS-ASW-170@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

On June 3, 1976, we issued AD 76-12-07, Amendment 39-2640 (41 FR 23939, June 14, 1976), Docket No. 76-SW-19, which required repetitive inspections at specified intervals for a certain part-numbered chain installed on Model 204B and 205A-1 helicopters. AD 76-12-07 also required, before further flight, replacing chains with cracked or broken links or segments.

On September 12, 1979, we revised AD 76-12-07 by issuing Amendment 39-3569 (44 FR 55555, September 27, 1979). The revised AD 76-12-07 limited the applicability for the Model 205A-1 helicopter to certain serial numbers; decreased the inspection interval of the chain; and required replacing the existing chain and cable control system with a push-pull control system.

Both amendments were prompted by several chain failures occurring in flight and reports of cracked chain links on Model 205A-1 helicopters. Those actions were intended to detect cracks in the chain link segments to prevent failure of a chain and subsequent loss of directional control of the helicopter.

On April 25, 2013, at 78 FR 24368, the Federal Register published our notice of proposed rulemaking (NPRM), which proposed to amend 14 CFR part 39 to include an AD that would supersede original and revised AD 76-12-07. The NPRM proposed to expand the applicability of AD 76-12-07 to a newly-produced, similarly-designed chain; reduce the inspection interval for the Model 204B; and require installing a push-pull control system on Model 205A-1 helicopters. Specifically, the NPRM proposed to apply to Model 204B helicopters with a chain, part number (P/N) 204-001-739-003 or -105, installed, and Model 205A-1 helicopters with a serial number 30001 through 30228. The NPRM proposed to require, for certain Model 205A-1 helicopters, before further flight, replacing the chain and cable control system by installing an improved tail rotor hub and blade assembly kit and then installing a certain push/pull anti-torque retrofit kit. The NPRM also proposed, for Model 204B helicopters, visually inspecting certain part-numbered chains at specified intervals using a 10-power or higher magnifying glass and a light; revising the inspection procedures; installing a damper kit; and revising the maintenance manual or ICAs to include the inspection intervals. The proposed requirements were intended to prevent failure of the chain, loss of tail rotor blade pitch control, and subsequent 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 (78 FR 24368, April 25, 2013).

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 helicopters of these same type designs and that air safety and the public interest require adopting the AD requirements as proposed.

Related Service Information

The FAA has reviewed Bell Alert Service Bulletin (ASB) No. 204-75-4, dated December 16, 1975, for the Model 204B helicopter, which specifies visually inspecting the chain using a 10-power magnifying glass every 10 flight hours. The inspection intervals for a chain were reduced because of several field reports of cracked and broken links. We have also reviewed Bell ASB 204-79-7, dated August 21, 1979, which specifies installing a damper kit. A field evaluation has shown considerable improvement in the reliability of the chain when a damper kit is installed.

Further, we have reviewed Bell ASB No. 205-78-5, dated May 16, 1978, for Model 205A-1 helicopters, serial number 30001 through 30228, which specifies removing the chain and cable control system and installing a push-pull control system kit, P/N 205-704-057-001 or 205-704-057-101. The tail rotor push-pull control system is installed in accordance with Service Instructions (SI) No. 205-38, "changed" March 28, 1990, for an improved tail rotor hub and blade assembly kit, P/N 205-704-040-001 and 205-704-040-003, and SI No. 205-46, revised March 7, 1980, for installing a push/pull anti-torque retrofit kit.

Costs of Compliance

We estimate that this AD will affect 13 Model 204B and 52 Model 205A-1 helicopters of U.S. registry, and operators may incur the following costs:

- Visual inspection of the link segments in a chain on a Model 204B helicopter will require .25 work hour for each inspection, 60 per year, at an average labor rate of $85 per work hour for a cost per helicopter of $1,275 and fleet cost of $16,575;
- Replacement of a chain having a cracked or broken link or segment on a Model 204B helicopter will require .5 work hour and a parts cost of $4,922, for a cost per helicopter of $4,965 and a total cost of $9,930 (assuming 2 are replaced);
- Installation of a damper kit on a Model 204B helicopter will require 3 work hours and a parts cost of $14,925, for a cost per helicopter of $15,180 and a total cost of $30,360 (assuming 2 are installed); and
- Installation of a tail rotor push-pull control system on an affected Model 205A-1 helicopter will require 225 work hours and a parts cost of $152,214, for a cost per helicopter of $171,339.

Therefore, we estimate the total cost impact of this AD on U.S. operators to be $228,204.

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 removing Airworthiness Directive (AD) 76-12-07 Amendment 39-3569 (44 FR 55555, September 27, 1979), which amended Amendment 39-2640 (41 FR 23939; June 14, 1976), and by adding the following new AD:

2013-18-07 BELL HELICOPTER TEXTRON (BELL): Amendment 39-17580; Docket No. FAA-2013-0379; Directorate Identifier 2009-SW-26-AD.

(a) Applicability

This AD applies to Model 204B helicopters with a tail rotor pitch control chain (chain), part number (P/N) 204-001-739-003 or -105, installed, and Model 205A-1 helicopters with a serial number (S/N) 30001 through 30228, certificated in any category.

(b) Unsafe Condition

This AD defines the unsafe condition as a crack in a chain, which can grow quickly because of oscillatory loads and lead to premature failure of the chain, loss of the tail rotor blade pitch control, and subsequent loss of control of the helicopter.

(c) Affected ADs

This AD supersedes AD 76-12-07, Amendment 39-2640 (41 FR 23939, June 14, 1976) as revised by Amendment 39-3569 (44 FR 55555, September 27, 1979).

(d) Effective Date

This AD becomes effective October 18, 2013.

(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) For Model 205A-1 helicopters, before further flight, replace the tail rotor chain and cable control system with an airworthy tail rotor push-pull control system by installing an improved tail rotor hub and blade assembly kit, P/N 205-704-040-001 or 205-704-040-103, and then installing a push/pull anti-torque retrofit kit, P/N 205-704-057-001 or 205-704-057-101.

(2) For Model 204B helicopters:

(i) Within 10 hours time-in-service (TIS) and thereafter at intervals not to exceed 10 hours TIS, using a 10-power or higher magnifying glass and a light, visually inspect each of the link segments in the chain for a crack. Also, slowly operate the cockpit anti-torque control pedals during the inspection so that the entire surface area of the chain in contact with the control quill sprocket (sprocket) is visibly accessible and can be inspected. Pay particular attention to the portion of the chain that travels over the sprocket and extends 6 inches to each side of the sprocket.

(A) If there is no cracked or broken link segment, lubricate the chain with a light preservative oil (C-125) or wipe with a cloth dampened in lubricating oil (C-010).

(B) If there is a cracked or broken link segment, before further flight, replace the chain with an airworthy chain.

(ii) Within 50 hours TIS, install a tail rotor cable and chain damper kit, P/N 204-706-130-101, as depicted in Figures 1 through 3, and by following the Accomplishment Instructions, paragraphs 2. through 9., of Bell Alert Service Bulletin (ASB) No. 204-79-7, dated August 21, 1979.

(g) Alternative Methods of Compliance (AMOC)

(1) The Manager, Rotorcraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to Michael Kohner, ASW-170, Aviation Safety Engineer, Rotorcraft Directorate, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5170, fax (817) 222-5783, email mike.kohner @faa.gov.

(2) For operations conducted under 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

(1) Bell ASB No. 204-75-4, dated December 16, 1975; Bell ASB No. 205-78-5, dated May 16, 1978; Service Instructions (SI) No. 205-38, "changed" March 28, 1990; and SI No. 205-46, revised March 7, 1980, which are not incorporated by reference, contain additional information about the subject of this AD. For this service information, 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, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

(2) The subject of this AD is addressed in Transport Canada Civil Aviation (TCCA) AD CF-1990-06R1, issued January 7, 2008. You may view the TCAA AD in the AD docket on the Internet at http://www.regulations.gov.

(i) Subject

The Joint Aircraft System Component Code is 6720: Tail Rotor Control System.

(j) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) 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) Bell Alert Service Bulletin No. 204-79-7, dated August 21, 1979.

(ii) Reserved.

(3) For Bell Helicopter Textron, Inc. service information identified in this AD, 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/.

(4) You may view this service information at FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137. 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 August 27, 2013.

Kim Smith,

Directorate Manager, Rotorcraft Directorate,

Aircraft Certification Service.