[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0082; Directorate Identifier 2010-SW-036-AD]

RIN 2120-AA64

Airworthiness Directives; Bell Helicopter Textron, Inc., Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes adopting a new airworthiness directive (AD) for Bell Helicopter Textron, Inc., (Bell) Model 412 and 412EP helicopters. This proposal would require creating a component history card or equivalent record and begin counting and recording the number of accumulated landings for each high aft crosstube assembly (crosstube). Also, this proposal would require installing "caution" decals regarding towing of a helicopter at or above 8,900 pounds. This proposal would also require confirming the crosstube is within the horizontal deflection limits and replacing it if it is not. This proposal would also require a recurring fluorescent penetrant inspection (FPI) of each crosstube and upper center support for a crack, any corrosion, nick, scratch, dent, or any other damage. This proposal would require repairing damaged crosstubes and upper center supports that are within acceptable limits, reworking crosstubes by bonding on abrasion strips, and replacing each unairworthy crosstube with an airworthy crosstube. This proposal is prompted by analysis of the crosstubes conducted as a result of recent field failures and corrosion problems of the affected crosstubes. The actions specified by

this proposed AD are intended to prevent failure of a crosstube, collapse of the landing gear, and subsequent loss of control of the helicopter.

DATES: We 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 http://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 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 proposed AD, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For service information identified in this proposed AD, contact Bell Helicopter Textron, Inc., P.O. Box 482, Fort Worth, Texas 76101; telephone (817) 280-3391;

fax (817) 280-6466; or at http://www.bellcustomer.com/files/. You may review copies of the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

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 mike.kohner@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite 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.

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

Discussion

This document proposes adopting a new AD for the specified Bell model helicopters. This proposal would require creating a component history card or equivalent record and begin counting and recording the number of accumulated landings for each crosstube. Also, this proposal would require installing "caution" decals regarding towing of a helicopter at or above 8,900 pounds. This proposal would also require confirming that the crosstube is within the horizontal deflection limits and replacing it if it is not. This proposal would also require a recurring FPI of each crosstube and upper center support for a crack, any corrosion, a nick, scratch, dent, or any other damage. This proposal would require repairing damaged crosstubes and upper center supports that are within acceptable limits, reworking crosstubes by bonding on abrasion strips, and replacing each unairworthy crosstube with an airworthy crosstube. The affected crosstubes are the older non-anodized configuration and have had a service history of corrosion problems. In response to reports of field failures, Bell has completed a load level survey, material coupon testing, and additional analysis of the crosstubes. The results indicate that fatigue damage can occur during towing and landing. This condition, if not corrected, could result in failure of a crosstube, collapse of the landing gear, and subsequent loss of control of the helicopter.

FAA's Determination

We are proposing this AD because we evaluated all known relevant information and determined that an unsafe condition exists and is likely to exist or develop on other products of these same type designs.

Related Service Information

We have reviewed Bell Helicopter Alert Service Bulletin No. 412-09-135, dated August 25, 2009 (ASB). The ASB specifies, within 6 months after receiving the ASB, for each affected crosstube, a recurring 12 month/2500 landing FPI, a recurring 12 month/2500 landing deflection check, and use of a towing retention kit per BHT-412-SI-58 Gross Weight Towing Kit Provisions and Puller Equipment for helicopters that weigh 8900 pounds or higher.

Proposed AD Requirements

This proposed AD would require compliance with specified portions of the manufacturer's service bulletin. It would require for each crosstube:

- Within 50 hours time-in-service (TIS), unless accomplished previously, creating a component history card or equivalent record and begin counting and recording the number of accumulated landings for each crosstube. Also, installing CAUTION decals regarding towing a helicopter that weighs at or above 8,900 pounds.

- Within 6 months, unless accomplished previously, and thereafter at intervals not to exceed 12 months or 2,500 landings, whichever occurs first:

    ° Determining the horizontal deflection of each crosstube, and before further flight, replacing any crosstube that exceeds any maximum allowable deflection limit.

    ° Removing and disassembling the landing gear assembly to prepare each crosstube for an FPI.

    ° Cleaning and preparing the crosstube for the FPI by removing the sealant and paint.

° Performing an FPI of each crosstube and upper center support for a crack, any corrosion, a nick, scratch, dent, or any other damage.

° Repairing the crosstube if there is any corrosion, a nick, scratch, dent, or any other damage that is within the maximum repair damage limits, before further flight, or replacing the unairworthy crosstube.

° If there is a crack or other damage beyond any of the maximum repair damage limits, before further flight, replacing the crosstube with an airworthy crosstube.

- Before further flight, after doing the FPI, unless accomplished previously, reworking each crosstube by bonding abrasion strips on the under side of the crosstubes at BL 0.0 and BL 14. Also, recording on the component history card or equivalent record an "FM" to the end of the part number sequence of each crosstube that has been reworked (for example, 412-050-011-107FM).

Costs of Compliance

We estimate that this proposed AD would affect 115 helicopters of U.S. Registry.

We estimate that operators may incur the following costs in order to comply with this AD. It would take about 1 hour to create a component history card or equivalent record and begin to determine and record the number of accumulated landings; 0.5 hour to install caution decals on the pilot and co-pilot side of each helicopter; 0.5 hour to measure the horizontal deflection of each crosstube; 3 hours to inspect and prepare the area and do an FPI on each crosstube; 4 hours to rework a crosstube, assuming 5 will need to be reworked; and 2 hours to replace a crosstube, assuming 3 will need to be replaced. The average labor rate is $85 per work-hour and required parts for a

replacement crosstube would cost about $9,315 per helicopter. Based on these figures, we estimate the total cost impact of the proposed AD on U.S. operators to be $79,030.

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

We 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. Is not a "significant rule" under the 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 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 adding the following new Airworthiness Directive (AD):

BELL HELICOPTER TEXTRON, INC.: Docket No. FAA-2012-0082; Directorate 2010-SW-036-AD.

(a) **Applicability.** This AD applies to Bell Helicopter Textron, Inc., (Bell) Model 412 and 412EP helicopters with a high aft crosstube assembly (crosstube), part number

(P/N) 412-050-011-101, -103, -105, -107; or 412-050-045-105, installed, certificated in any category.

(b) **Unsafe Condition.** This AD defines the unsafe condition as failure and corrosion of the affected crosstubes. This condition could result in collapse of the landing gear and subsequent loss of control of the helicopter.

(c) **Compliance.** You are responsible for performing each action required by this AD within the specified compliance time.

(d) **Required Actions.**

(1) Within 50 hours time-in-service (TIS), unless accomplished previously:

(i) For each crosstube, create a component history card or equivalent record. Begin to count and record the number of accumulated landings for each crosstube. For the purposes of this AD, a landing would be counted anytime the helicopter lifts off into the air and then lands again with any further reduction of the collective after the landing gear touches the ground.

(ii) Install CAUTION decals, P/N 212-070-600-143, on the pilot and co-pilot sides of each helicopter as depicted in Figure 3 of Bell Helicopter Alert Service Bulletin No. 412-09-135, dated August 25, 2009 (ASB), and by following the Accomplishment Instructions, Part III – Towing, paragraph 1., of the ASB.

(2) Within 6 months, unless accomplished previously, and thereafter at intervals not to exceed 12 months or 2,500 landings, whichever occurs first, determine the horizontal deflection of each crosstube from the centerline of the helicopter (BL 0.0) to the outside edge of each skid tube. Before further flight, replace any crosstube that exceeds any maximum allowable deflection limit contained in the maintenance manual.

(3) Within 6 months, unless accomplished previously, and thereafter at intervals not to exceed 12 months or 2,500 landings, whichever occurs first:

(i) Remove and disassemble the landing gear assembly to prepare each crosstube for a fluorescent penetrant inspection (FPI) by following the Accomplishment Instructions, Part I, paragraphs 1. through 9., of the ASB.

Note 1: Abrasion strip, P/N 206-050-301-111; lower center support, P/N 412-050-007-101, with the incorporated Larson L101 abrasion strip; and lower center support, P/N 604-026-003, if installed on any crosstube, P/N 412-050-045-105, or reworked crosstubes, P/N 412-050-011-101, -103, -105, or -107, are only removed if required by following the instructions in the ASB (see items 2, 5, and 6 in Figure 1 of the ASB).

(ii) Clean and prepare the crosstube for the FPI by removing the sealant and paint in the area depicted in Figure 2 of the ASB by following the Accomplishment Instructions, Part I, "Cleaning and Preparation," paragraphs 1. through 5., of the ASB.

(iii) Perform an FPI of each crosstube and upper center support, P/N 412-050-006-101, for a crack, any corrosion, a nick, scratch, dent, or any other damage by following the Accomplishment Instructions, Part I, "Inspection," paragraphs 1. through 3. of the ASB. Use Table 2 in the ASB to determine the appropriate Inspection Criteria Table to use in the maintenance manual, which list the maximum repair damage limits for each crosstube P/N applicable to this AD.

(iv) Repair the crosstube or upper center support if there is any corrosion, a nick, scratch, dent, or any other damage that is within the maximum repair damage limits, before further flight, or replace the crosstube with an airworthy crosstube.

Note 2: The repair procedures are specified in the Component Repair and Overhaul Manual.

(v) If there is a crack or other damage beyond any of the maximum repair damage limits, before further flight, replace the crosstube with an airworthy crosstube.

(4) Before further flight, after completing paragraph (d)(3) of this AD, unless accomplished previously, rework each crosstube P/N 412-050-011-101, -103, -105, or -107 by applying the bonding procedures and abrasion strips on the under side of the crosstubes at BL 0.0 and BL 14 by following the Accomplishment Instructions, Part I, "Rework of Crosstubes," paragraphs 1. through 10. of the ASB. Record on the component history card or equivalent record an "FM" to the end of the part number sequence of each crosstube that has been reworked (for example, 412-050-011-107FM). Omit the Larson L101 abrasion strip at BL 0.0 on each crosstube when installing lower center support, P/N 604-026-003 (see item 6 in Figure 1 of the ASB).

(e) **Special flight permit.** Special flight permits for inspections only may be issued under 14 CFR 21.197 and 21.199 to operate the helicopter to a location where the requirements of this AD can be accomplished.

(f) **Alternative Methods of Compliance (AMOC).**

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

(2) For operations conducted under a Part 119 operating certificate or under 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) **Subject.** Joint Aircraft Service Component (JASC) Code: 3210, Main Landing Gear.

Issued in Fort Worth, Texas, on January 27, 2012.

Kim Smith,

Manager, Rotorcraft Directorate,
Aircraft Certification Service.

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