



[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-0083; Directorate Identifier 2010-SW-022-AD]

RIN 2120-AA64

Airworthiness Directives; Aeronautical Accessories Inc. High Landing Gear Aft Crosstube Assembly

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for the Aeronautical Accessories Inc. (AAI) High Landing Gear Aft Crosstube Assembly (aft crosstube) installed on certain Bell Helicopter Textron, Inc. (Bell) and Agusta S.p.A. (Agusta) model helicopters as an approved Bell part installed during production or based on a Supplemental Type Certificate (STC). This proposed AD is prompted by three reports of failed crosstubes because of cracks. The proposed actions 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 Aeronautical Accessories, Inc., P. O. Box 3689, Bristol, Tennessee 37625-3689, telephone (423) 538-5151 or 1-800-251-7094, fax (423) 538-8469 or at <http://www.aero-access.com>. You may also get service information from 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 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: Martin R. Crane, Aviation Safety Engineer, Rotorcraft Directorate, Rotorcraft Certification Office, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5170, e-mail martin.r.crane@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 AAI aft crosstubes installed during production or based on STC SR01502AT on certain Bell and Agusta model helicopters. This proposal would require certain recurring visual, dimensional, and

fluorescent penetrant inspections of each aft crosstube. If there is a crack, the AD would require, before further flight, replacing any cracked aft crosstube with an airworthy aft crosstube. This proposal would also require establishing a life limit for one of the affected part-numbered aft crosstubes (as the later part-numbered aft crosstube already has limits established) and creating a component history card or equivalent record for aft crosstube part number (P/N) 412-321-304. This proposal is prompted by three reports of failed aft crosstubes. This condition, if not corrected, could result in 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 the same type design.

Related Service Information

We have reviewed AAI Alert Service Bulletin No. AA-07109, dated April 3, 2008 (ASB), which specifies recurring inspections and maintenance of each aft crosstube, P/N 412-321-104, installed as an approved part by Bell during production, and P/N 412-321-304, installed under STC SR01052AT, on Bell Model 412, 412EP, and 412CF and Agusta Model AB412 and AB412EP helicopters. The ASB specifies establishing a high aft crosstube, P/N 412 321-304, "takeoff/landing" life limit of 20,000. Also, the ASB specifies that operators should follow helicopter towing instructions to prevent crosstube damage or failure as a result of ground handling or towing.

We have also reviewed Bell ASB 412-08-129, dated May 12, 2008, for Bell Model 412 and 412EP helicopters, serial numbers 33001 through 33213, 36001 and

subsequent, with an aft crosstube P/N 412-321-104 installed. Bell issued its ASB “to achieve complete distribution of AA-07109 vendor bulletin to the current affected model distribution list.”

Proposed AD Requirements

This proposed AD would require:

- Within 50 hours time-in-service (TIS), establishing a life limit of 20,000 takeoffs and landings for aft crosstube P/N 412 321 304; creating a component history card or equivalent record; and determining and recording the total number of takeoffs and landings for each aft crosstube.

- Within the next 450 takeoffs and landings, if an aft crosstube has reached 20,000 or more takeoffs and landings, replacing it with an airworthy aft crosstube.

- At specified intervals, preparing the aft crosstube inspection areas and inspecting each aft crosstube for a crack. If there are no cracks, thereafter at specified intervals, priming and cleaning the inspection area, and inspecting each aft crosstube for a crack. If there is a crack, before further flight, replacing the cracked aft crosstube with an airworthy aft crosstube.

- At specified intervals, determining the horizontal deflection of each aft crosstube from the centerline of the helicopter (BL 0.0) to the outside of the skid tubes. If the measured horizontal deflection exceeds aft crosstube limits, replacing the aft crosstube with an airworthy aft crosstube.

- At specified intervals, removing the aft crosstube assembly, removing paint and sealant, and fluorescent penetrant inspecting each aft crosstube for a crack. If there are

no cracks, priming and painting the inspection area. If there is a crack, before further flight, replacing each cracked aft crosstube with an airworthy aft crosstube.

This proposed AD would revise the Airworthiness Limitations section of the applicable maintenance manuals or the Instructions for Continued Airworthiness (ICA) by establishing a new retirement life of 20,000 takeoffs and landings for aft crosstube P/N 412-321-304 by making pen and ink changes or inserting a copy of the AD into the maintenance manual or the ICAs.

Costs of Compliance

We estimate that this proposed AD would affect 115 helicopters of U.S. Registry. We also estimate that the proposed actions would take about:

- 1 hour to create a component history card or equivalent record and determine and record the number of accumulated takeoffs and landings for each affected aft crosstube;
- 3 hours to prepare the area for a visual inspection;
- ½ hour to do the repetitive visual inspections, assuming 14 repetitive visual inspections per year;
- 1 hour to do a dimensional inspection of the skid gear, assuming 3 inspections per year;
- 24 hours to prepare and fluorescent penetrant inspect the aft crosstube, assuming 2 inspections per year; and
- 10 hours to replace an aft crosstube, if necessary, assuming 3 aft crosstubes would be replaced.

The average labor rate is \$85 per work hour. Required parts would cost about \$9,315 per aft crosstube. Based on these figures, we estimate the total cost impact of the proposed AD on U.S. operators to be \$636,545.

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 AD:

AERONAUTICAL ACCESSORIES, INC. : Docket No. FAA-2012-0083; Directorate Identifier 2010-SW-022-AD.

(a) **Applicability.** This AD applies to High Landing Gear Aft Crosstube Assembly (aft crosstube) part number (P/N) 412-321-104 and P/N 412-321-304, installed

on Agusta S.p.A. Model AB412 and AB412EP and Bell Helicopter Textron, Inc., Model 412, 412CF, and 412EP helicopters, certificated in any category.

(b) **Unsafe Condition.** This AD defines the unsafe condition as a cracked aft crosstube which 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 unless it has already been accomplished prior to that time.

(d) **Required Actions.**

(1) Within 50 hours time-in-service (TIS) establish a life limit of 20,000 takeoffs and landings for each aft crosstube P/N 412-321-304. For the purposes of this AD, a takeoff and landing is defined as the cycle from when the helicopter gets light on the skids (takeoff) unloading the aft crosstube and then settles on the skids again (landing) reloading the aft crosstubes. Either the number of landings or takeoffs may be counted.

(i) Create a component history card or equivalent record.

(ii) Determine and record on the history card or equivalent record the total number of takeoffs and landings for each aft crosstube. If the takeoff and landing information is unavailable, estimate the number by multiplying the airframe hours by 10.

(2) Within the next 450 takeoffs and landings, if an aft crosstube has reached 20,000 or more takeoffs and landings, replace it with an airworthy aft crosstube.

(3) Before reaching 2,500 takeoffs and landings or for an aft crosstube with 2,500 or more takeoffs and landings, within 50 hours TIS or within the next 250 takeoffs and landings, whichever occurs first, prepare the aft crosstube inspection areas as depicted in

Figure 1 of Aeronautical Accessories, Inc. (AAI) Alert Service Bulletin No. AA-07109, dated April 3, 2008 (ASB), by following the Accomplishment Instructions, Part B, paragraphs 1 through 4, of the ASB. Using a 10X or higher magnifying glass, inspect the prepared areas of each aft crosstube for a crack. If there is a crack, before further flight, replace the cracked aft crosstube with an airworthy aft crosstube. If there are no cracks, after completing the aft crosstube inspection, prime and paint the inspection area by following the Accomplishment Instructions, Part B, paragraphs 6 and 7, of the ASB.

(4) Thereafter, at intervals not to exceed 450 takeoffs and landings, clean the inspection area. Using a 10X or higher magnifying glass, inspect the clear-coated area of the aft crosstube for a crack.

(5) If there is a crack, before further flight, replace the cracked aft crosstube with an airworthy aft crosstube.

(6) Within 30 days or before reaching 2,500 takeoffs and landings, whichever occurs later, and thereafter at intervals not to exceed 2,500 takeoffs and landings or 12 months, whichever occurs first, determine the horizontal deflection of each aft crosstube from the centerline of the helicopter (BL 0.0) to the outside of the skid tubes by following the Accomplishment Instructions, Part D, paragraphs 1 through 3, of the ASB. If the measured aft crosstube horizontal deflection depicted in Figure 2 of the ASB is less than 57 inches (1448 mm) or greater than 59 inches (1499 mm), replace the aft crosstube with an airworthy aft crosstube.

(7) Within 3 months or on or before reaching 7,500 takeoffs and landings, whichever occurs later, and thereafter at intervals not to exceed 5,000 takeoffs and landings:

(i) Remove the aft crosstube assembly by removing the aft crosstube support beam assembly, P/N 604-030-001, and both aft crosstube clamp assemblies, P/N 604-027-002.

(ii) Remove paint and sealant from the aft crosstube outboard of the upper center support to top of saddles, both sides, as depicted in Figure 3 of the ASB.

(iii) Fluorescent penetrant inspect each aft crosstube outboard of the upper center support as depicted in Figure 3 of the ASB for a crack.

(iv) If there is a crack, before further flight, replace the cracked aft crosstube with an airworthy aft crosstube.

(8) Revise the helicopter Airworthiness Limitations section of the applicable maintenance manuals or the Instructions for Continued Airworthiness (ICA) by establishing a new retirement life of 20,000 takeoff and landings for aft crosstube P/N 412-321-304 by making pen and ink changes or inserting a copy of this AD into the maintenance manual or the ICAs.

(e) Alternative Methods of Compliance (AMOC).

(1) The Manager, Rotorcraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: Martin R. Crane, Aviation Safety Engineer, Rotorcraft Directorate, Rotorcraft Certification Office, 2601 Meacham Blvd., Fort Worth, Texas 76137, telephone (817) 222-5170, e-mail martin.r.crane@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.

(f) **Additional Information.** The FAA approved AAI Instructions for Continued Airworthiness Report Number AA-01136 and the Bell Helicopter Textron Alert Service Bulletin No. 412-08-129, dated May 12, 2008, which are not incorporated by reference, contain additional information about inspecting the aft crosstube for a crack.

(g) **Subject.** Joint Aircraft Service Component (JASC) Code: 32: Landing Gear.
Issued in Fort Worth, Texas, on January 23, 2012.

Kim Smith,

Manager, Rotorcraft Directorate,
Aircraft Certification Service.

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