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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2011-1035; Directorate Identifier 2011-SW-038-AD; Amendment 39-16817; AD 2011-15-51]

RIN 2120-AA64

Airworthiness Directives; Bell Helicopter Textron Canada (Bell) Model 407 and 427 Helicopters

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This document publishes in the Federal Register an amendment adopting Airworthiness Directive (AD) 2011-15-51, which was sent previously to all known U.S. owners and operators of the specified Bell Model 407 and 427 helicopters by individual letters. This AD requires inspecting certain hydraulic servo actuators to determine whether the shaft turns independently of the nut or the clevis assembly. If the shaft turns independently, this AD requires replacing the servo with an airworthy servo. If the shaft does not turn independently, the AD requires inspecting to determine the condition of the lock washers. Based on the condition of the lock washers, the AD requires either replacing the servo with an airworthy servo, or if any tab of the lock washer is not flush against a flat surface of the nut or clevis assembly, bending it flush against a flat surface. The AD also requires reidentifying the servo by metal-impression stamping or by vibro-etching "67.01" onto the modification plate. Also, the AD requires before installing a servo with a part number or serial number identified in this AD, not identified by "67-01" on the modification plate, inspecting it by following the requirements of this AD. This AD is prompted by a report that a quality escape by a supplier has occurred and certain servos may have a loose nut, shaft, and clevis assembly due to improper lock-washer installation. An investigation after an accident revealed the clevis nut on the servo was loose. The actions specified by this AD are intended to prevent a malfunction of a servo in the flight control system and subsequent loss of control of the helicopter.

DATES: Effective November 14, 2011, to all persons except those persons to whom it was made immediately effective by Emergency AD 2011-15-51, issued on July 8, 2011, which contained the requirements of this amendment.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of November 14, 2011.

Comments for inclusion in the Rules Docket must be received on or before December 27, 2011.

ADDRESSES: Use one of the following addresses to submit comments on this AD:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

You may get the service information identified in this AD from Bell Helicopter Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J1R4, telephone (450) 437-2862 or (800) 363-8023, fax (450) 433-0272, or at <http://www.bellcustomer.com/files/>.

Examining the Docket: You may examine the docket that contains the AD, any comments, and other information 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 Docket Operations office (telephone (800) 647-5527) is located in Room W12-140 on the ground floor of the West Building at the street address stated in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Matt Wilbanks, Aviation Safety Engineer, 2601 Meacham Blvd, Fort Worth, Texas 76137, telephone (817) 222-5051, fax (817) 222-5961.

SUPPLEMENTARY INFORMATION: On July 8, 2011, the FAA issued Emergency AD 2011-15-51 for the specified model helicopters, which requires inspecting certain servos to determine whether the shaft turns independently of the nut or the clevis assembly. If the shaft turns independently, the AD requires replacing the servo with an airworthy servo. If the shaft does not turn independently, the AD requires inspecting to determine the condition of the lock washers. If at least one lock washer is not bent flush against a flat surface of the nut and at least one tab of the lock washer is not bent flush against a flat surface of the clevis assembly, the AD requires replacing the servo with an airworthy servo. If any tab of the lock washer is not bent flush against either a flat surface of the nut or clevis assembly, the AD requires bending the tab flush against a flat surface. The AD also requires reidentifying the servo by metal-impression stamping or by vibro-etching "67.01" onto the modification plate. Also, the AD requires before installing a servo with a part number or serial number identified in this AD, not identified by "67-01" on the modification plate, inspecting and reidentifying it by following the requirements of this AD. That action was prompted by a report that a quality escape by a supplier has occurred and certain servos may have a loose nut, shaft, and clevis assembly due to improper lock-washer installation. An investigation after an accident revealed the clevis nut on the servo was loose. This condition, if not corrected, could result in a malfunction of a servo in the flight control system and subsequent loss of control of the helicopter.

Transport Canada, the airworthiness authority for Canada, notified the FAA that an unsafe condition may exist on these helicopter models. Transport Canada advises that a quality escape by a supplier has occurred, and a number of servos may have a loose nut, shaft, and clevis assembly. Transport Canada states in its AD that the loose connection is due to improper lock-washer installation, which is not traceable or identifiable except by inspection. The authority also states a disconnect of the affected parts may lead to loss of control of the helicopter.

Bell has issued Alert Service Bulletin (ASB) 407-11-96 and 427-11-35, both dated June 29, 2011, which specify the part numbers and serial numbers of the affected servos and refer to ASB 407-05-70, Revision A, dated November 10, 2005; ASB 427-05-12, Revision A, dated November 14, 2005; with HR Textron Service Bulletin (SB) 41011300-67-01, Revision 2, dated November 9, 2005; HR Textron SB 41011400-67-01, Revision 2, dated November 9, 2005; and HR Textron SB 41011700-67-01, Revision 2, dated November 9, 2005, attached. The ASBs also specify reidentifying

the servos with a "67-01" on the modification plate indicating the inspection procedures were followed.

Transport Canada classified the ASBs as mandatory and issued AD No. CF-2011-17, dated June 30, 2011, to ensure the continued airworthiness of these helicopters.

This helicopter model is manufactured in Canada and is type certificated for operation in the United States under the provisions of 14 CFR 21.29 and the applicable bilateral agreement. Pursuant to the applicable bilateral agreement, Transport Canada has kept us informed of the situation described above. We have examined the findings of Transport Canada, reviewed all available information, and determined that AD action is necessary for helicopters of this type design that are certificated for operation in the United States.

Since the unsafe condition described is likely to exist or develop on other Bell Model 407 and 427 helicopters of these same type designs, the FAA issued Emergency AD 2011-15-51 to prevent a malfunction of a servo in the flight control system and subsequent loss of control of the helicopter. The AD requires before further flight for certain affected servos and within 25 hours time-in-service for certain other affected servos, identified by a serial number, retracting the boot and inspecting the servo as follows:

- Applying only hand pressure, determining whether the nut, shaft, or clevis assembly turns independently. If the shaft turns independently of the nut or the clevis assembly, before further flight, replacing the servo with an airworthy servo.
- If the shaft does not turn independently, inspecting to determine whether at least one tab of a lock washer is bent flush against a flat surface of the nut and at least one tab of the lock washer is bent flush against a flat surface of the clevis assembly.
- If at least one lock washer tab is not aligned and bent flush with a flat surface of the nut and at least one lock washer tab is not aligned and bent flush with a flat surface of the clevis assembly, before further flight, replacing the servo with an airworthy servo.
- If any tab of the lock washer is not bent flush against either a flat surface of the nut or clevis assembly, bend the tab flush against a flat surface.
- Reidentifying the servo by metal-impression stamping or by vibro-etching "67.01" onto the modification plate.
- Before installing a servo with a P/N and S/N identified in this AD, not identified by "67-01" on the modification plate, inspecting it by following the requirements of this AD.

This AD differs from the Transport Canada AD in that we do not require that the servo be returned to the manufacturer. Also, we do not limit the applicability to specific serial-numbered helicopters. We have specified the inspection requirements rather than referring to the applicable service bulletins. The AD requires that the servo be replaced before further flight, and the Transport Canada AD refers to the ASB, which requires that the servo be replaced within 300 hours time-in-service.

The short compliance time involved is required because the previously described critical unsafe condition can adversely affect the controllability of the helicopter. Therefore, inspecting the servos for specified conditions and replacing any affected servo, as necessary, are required before further flight, and this AD must be issued immediately.

Since it was found that immediate corrective action was required, notice and opportunity for prior public comment thereon were impracticable and contrary to the public interest, and good cause existed to make the AD effective immediately by individual letters issued on July 8, 2011, to all known U.S. owners and operators of Bell Model 407 and 427 helicopters. These conditions still exist, and the AD is hereby published in the Federal Register as an amendment to 14 CFR 39.13 to make it effective to all persons.

We estimate that this AD will affect 582 helicopters of U.S. registry, and inspecting or replacing an affected servo will take about 2 work hours to inspect and 2 work hours to replace per helicopter at an average labor rate of \$85 per work hour. Required parts will cost about \$33,000 per helicopter. Based on these figures, we estimate the total cost impact of the AD on U.S. operators to be \$164,940, assuming 2 servos are replaced on the entire fleet.

Comments Invited

This AD is a final rule that involves requirements that affect flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to submit any written data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2011-1035; Directorate Identifier 2011-SW-038-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the AD. We will consider all comments received by the closing date and may amend the AD in light of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of our docket Web site, you can find and read the comments to any of our dockets, including the name of the individual who sent the comment. You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78).

Regulatory Findings

We have determined that 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 the 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); and
3. 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. See the AD docket to examine the economic evaluation.

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.

List of Subjects in 14 CFR Part 39

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

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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. Section 39.13 is amended by adding a new airworthiness directive to read as follows:



FAA
Aviation Safety

AIRWORTHINESS DIRECTIVE

www.faa.gov/aircraft/safety/alerts/
www.gpoaccess.gov/fr/advanced.html

2011-15-51 Bell Helicopter Textron, Inc. (Bell): Amendment 39-16817; Docket No. FAA-2011-1035; Directorate Identifier 2011-SW-038-AD.

Applicability: Model 407 helicopters with a hydraulic servo actuator assembly (servo), part number (P/N) 206-076-062-105, or -107 and Model 427 helicopters, with servo, P/N 206-076-062-109 or -111, installed, certificated in any category.

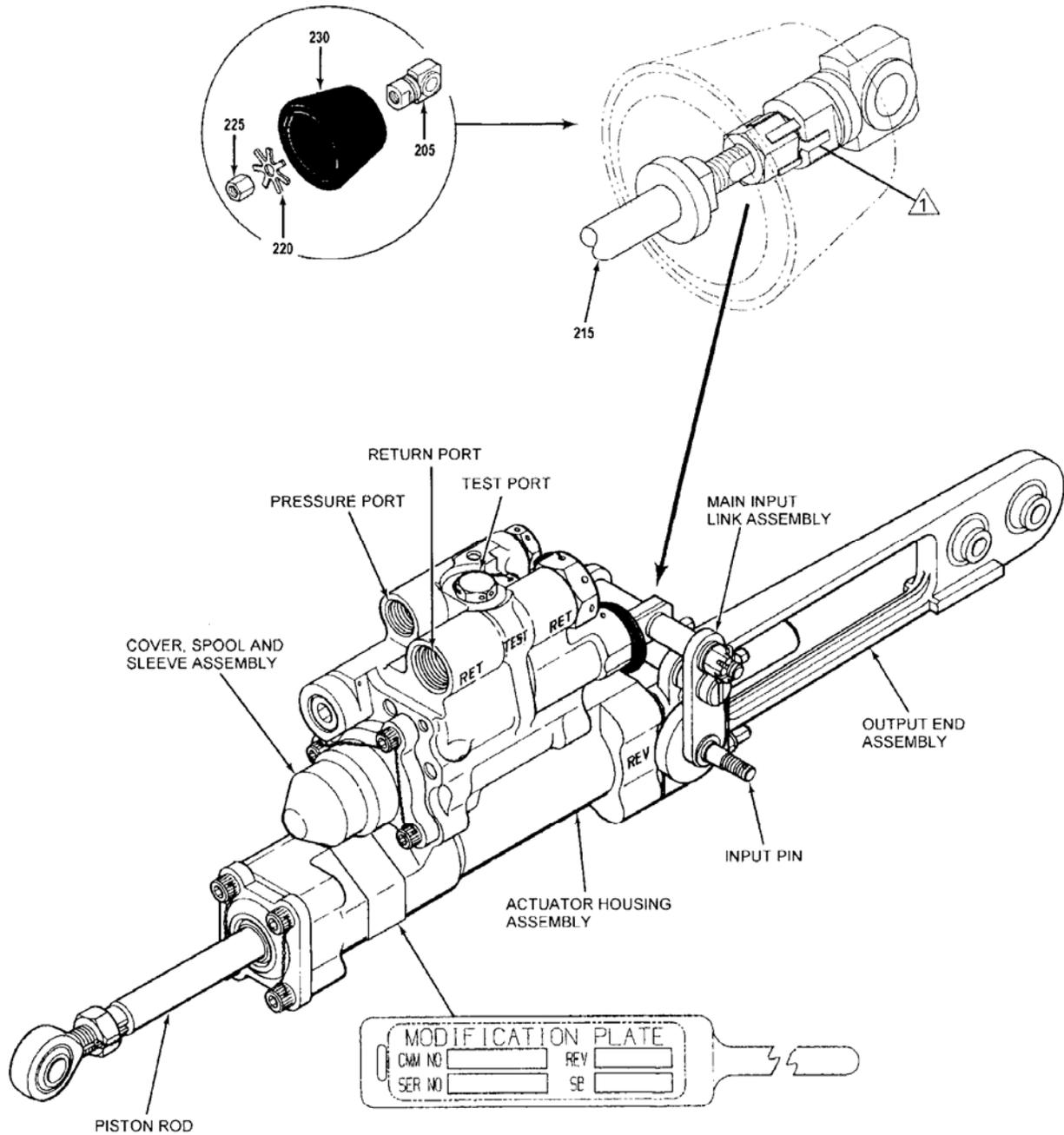
Compliance: Required as indicated, unless accomplished previously.

To detect loose or misaligned parts of the servo that could lead to failure of the servo and subsequent loss of control of the helicopter, do the following:

(a) Before further flight, for those helicopters with a servo serial number (S/N) on the modification plate listed in Table 1 of Bell Alert Service Bulletin (ASB) No. 407-11-96, dated June 29, 2011, for the Model 407 helicopters or Table 1 of ASB 427-11-35, dated June 29, 2011, for the Model 427 helicopters, do the following:

(1) Retract the boot depicted as "230" in Figure 1 of this AD:

Note 1: Bell ASB 427-05-12, Revision A, dated November 14, 2005; HR Textron SBs 41011300-67-01, 41011400-67-01, and 41011700-67-01, all Revision 2, all dated November 9, 2005, which are not incorporated by reference, contain information pertaining to the subject of this AD.



NOTE:

1 ACCEPTABLE CONDITION
 A MINIMUM OF ONE TAB SHALL BE IN LINE AND BENT FLUSH WITH THE NUT FLAT SURFACE AND A MINIMUM OF ONE TAB SHALL BE IN LINE AND BENT FLUSH WITH THE CLEVIS ASSEMBLY FLAT SURFACE

Clevis Assembly
Figure 1

Legend:

- 205 Clevis Assembly
- 215 Shaft
- 225 Nut
- 220 Lock Washer
- 230 Boot

(2) Applying only hand pressure, determine whether the nut, shaft, or clevis assembly, depicted as "225," "215," and "205," respectively, in Figure 1 of this AD, turns independently. If the shaft turns independently of the nut or the clevis assembly, before further flight, replace the servo with an airworthy servo.

(3) If the shaft does not turn independently, inspect to determine whether at least one tab of the lock washer is bent flush against a flat surface of the nut and at least one tab of the lock washer is bent flush against a flat surface of the clevis assembly.

(i) If at least one lock washer tab is not aligned and bent flush with a nut flat surface and at least one lock washer tab is not aligned and bent flush with a flat surface of the clevis assembly, before further flight, replace the servo with an airworthy servo.

(ii) If any tab of the lock washer is not bent flush against either a flat surface of the nut or clevis assembly, bend the tab flush against a flat surface.

(4) After accomplishing paragraph (a)(1) through (a)(3) of this AD, reidentify the servo by metal-impression stamping or by vibro-etching "67-01" onto the modification plate.

(b) For those servo P/Ns with a S/N less than the S/Ns listed in the following Table A of this AD but NOT specifically included in the list of S/Ns in Table 1 referenced in paragraph (a) of this AD, within 25 hours time-in-service, inspect the nut, shaft, and clevis assembly and accomplish the requirements of paragraphs (a)(1) through (a)(4) of this AD.

Table A

Helicopter Model	Servo P/N	Servo Prefix "HR," S/N
407	41011300-101 (BHT 206-076-062-105)	Less than 807
	41011400-101 (BHT 206-076-062-107)	Less than 2248
427	41011300-101 (BHT 206-076-062-111)	Less than 807
	41011700-101 (BHT 206-076-062-109)	Less than 230

(c) Before installing a servo with a P/N and S/N identified in paragraphs (a) or (b) of this AD, not identified by "67-01" on the modification plate, inspect the servo by following the requirements of this AD.

(d) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Contact the Manager, Safety Management Group, FAA, ATTN: Matt Wilbanks, Aviation Safety Engineer, 2601 Meacham Blvd, Fort Worth, Texas 76137, telephone (817) 222-5051, fax (817) 222-5961, for information about previously approved alternative methods of compliance.

(e) The Joint Aircraft System/Component (JASC) Code is: 6730: Rotorcraft Servo System.

(f) The affected servo serial numbers are listed in Table 1 of Bell Alert Service Bulletin (ASB) No. 407-11-96, dated June 29, 2011, for the Model 407 helicopters or Table 1 of ASB 427-11-35, dated June 29, 2011, for the Model 427 helicopters. The Director of the Federal Register approved this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Bell Helicopter Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J1R4, telephone (450) 437-2862 or (800) 363-8023, fax (450) 433-0272, or at <http://www.bellcustomer.com/files/>. Copies may be inspected at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas or 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/code_of_federal_regulations/ibr_locations.html.

(g) This amendment becomes effective on November 14, 2011, to all persons except those persons to whom it was made immediately effective by Emergency AD 2011-15-51, issued July 8, 2011, which contained the requirements of this amendment.

Note 2: The subject of this AD is addressed in Transport Canada AD CF-2011-17, dated June 30, 2011.

Issued in Fort Worth, Texas, on September 19, 2011.

Kim Smith,
Manager, Rotorcraft Directorate,
Aircraft Certification Service.