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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2011-0159; Directorate Identifier 2010-NM-246-AD;  
Amendment 39-16713; AD 2011-12-06]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Model CL-600-2C10 (Regional Jet Series 700, 701, & 702), Model CL-600-2D15 (Regional Jet Series 705), and Model CL-600-2D24 (Regional Jet Series 900) Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

An inspection by the vendor revealed that a number of Rubber Bull Gears (RBG) in the Horizontal Stabilizer Trim Actuator (HSTA) of the CL-600-2C10, CL-600-2D15 and CL-600-2D24 aeroplanes were installed with a wheel material hardness out of specification. This non-conformity has a direct impact on the HSTA life limit. The teeth of these non-conformant RBGs could break and in extreme cases, could lead to uncontrolled HSTA movement without the ability to re-trim the aeroplane. If not corrected, this condition could result in a difficulty to control the pitch and subsequent loss of the aeroplane.

\* \* \* \* \*

We are issuing this AD to require actions to correct the unsafe condition on these products.

**DATES:** This AD becomes effective July 15, 2011.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of July 15, 2011.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Fabio Buttitta, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7303; fax (516) 794-5531.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on March 14, 2011 (76 FR 13536). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

An inspection by the vendor revealed that a number of Rubber Bull Gears (RBG) in the Horizontal Stabilizer Trim Actuator (HSTA) of the CL-600-2C10, CL-600-2D15 and CL-600-2D24 aeroplanes were installed with a wheel material hardness out of specification. This non-conformity has a direct impact on the HSTA life limit. The teeth of these non-conformant RBGs could break and in extreme cases, could lead to uncontrolled HSTA movement without the ability to re-trim the aeroplane. If not corrected, this condition could result in a difficulty to control the pitch and subsequent loss of the aeroplane.

This [Canadian airworthiness] directive mandates replacement of the RBGs which have material hardness out of specification [with a modified HSTA].

You may obtain further information by examining the MCAI in the AD docket.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM or on the determination of the cost to the public.

### **Conclusion**

We reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed.

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

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow our FAA policies. Any such differences are highlighted in a Note within the AD.

## **Costs of Compliance**

We estimate that this AD will affect 387 products of U.S. registry. We also estimate that it will take about 9 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts will cost about \$0 per product. Where the service information lists required parts costs that are covered under warranty, we have assumed that there will be no charge for these parts. As we do not control warranty coverage for affected parties, some parties may incur costs higher than estimated here. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$296,055, or \$765 per product.

## **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 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 this AD:

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 a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

## **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 the NPRM, the regulatory 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.

## **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 AD:



**2011-12-06 Bombardier, Inc.:** Amendment 39-16713. Docket No. FAA-2011-0159; Directorate Identifier 2010-NM-246-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective July 15, 2011.

**Affected ADs**

- (b) None.

**Applicability**

(c) This AD applies to Bombardier, Inc. Model CL-600-2C10 (Regional Jet Series 700, 701, & 702), Model CL-600-2D15 (Regional Jet Series 705), and Model CL-600-2D24 (Regional Jet Series 900) airplanes, certificated in any category, equipped with a horizontal stabilizer trim actuator having part numbers (P/Ns) 8489-5, 8489-6, 8489-7, and 8489-7R.

**Subject**

- (d) Air Transport Association (ATA) of America Code 27: Flight controls.

**Reason**

- (e) The mandatory continuing airworthiness information (MCAI) states:

An inspection by the vendor revealed that a number of Rubber Bull Gears (RBG) in the Horizontal Stabilizer Trim Actuator (HSTA) of the CL-600-2C10, CL-600-2D15 and CL-600-2D24 aeroplanes were installed with a wheel material hardness out of specification. This non-conformity has a direct impact on the HSTA life limit. The teeth of these non-conformant RBGs could break and in extreme cases, could lead to uncontrolled HSTA movement without the ability to re-trim the aeroplane. If not corrected, this condition could result in a difficulty to control the pitch and subsequent loss of the aeroplane.

\* \* \* \* \*

**Compliance**

(f) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

**Modifying the HSTA**

(g) For airplanes having any HSTA with S/N 107, 111, 124, 126, 135, 139, 142, 145, 146, 266, 268, 271, 274, 276, 277, 280, 282 through 285 inclusive, 290, 292, 294, 297, 299, 307, 309, 320, 337,

400, 402, 403, 410, 412, 418, 421 through 428 inclusive, 430, 435 through 439 inclusive, 441, 443 through 446 inclusive, 448 through 450 inclusive, 452 through 454 inclusive, 456, 459, 461, 463 through 470 inclusive, 472, 474 through 476 inclusive, 478, 545 through 549 inclusive, 570, 571, 573, 574, 600, 603, 608, 612 through 616 inclusive, 623, 627, and 629 through 659 inclusive: At the applicable compliance time specified in paragraph (g)(1) or (g)(2) of this AD, replace the HSTA with a modified HSTA, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 670BA-27-058, dated August 31, 2010.

(1) For HSTAs that have accumulated 8,700 total flight cycles or less as of the effective date of this AD: Within 3,000 flight cycles from the effective date of this AD, or before the HSTA has accumulated 10,500 flight cycles, whichever occurs first.

(2) For HSTAs that have accumulated more than 8,700 total flight cycles as of the effective date of this AD: Within 1,800 flight cycles after the effective date of this AD.

(h) For airplanes having any HSTA with S/N 185, 479, 481, 482, 485, 487, 489, 491 through 496 inclusive, 498, 499, 501, 503, 504, 506, 507, 509, 512 through 514 inclusive, 517, 519 through 522 inclusive, 524, 526 through 528 inclusive, 530, 534 through 536 inclusive, 539, 542, and 543: Within 1,800 flight cycles after the effective date of this AD, replace the affected HSTA with a modified HSTA in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 670BA-27-058, dated August 31, 2010.

### **Parts Installation**

(i) As of the effective date of this AD, no person may install a HSTA, having P/N 8489-5, 8489-6, 8489-7, or 8489-7R, with any serial numbers identified in paragraph (g) or (h) of this AD, on any airplane, unless that HSTA has been modified in accordance with SAGEM Service Bulletin 8489-27-007, Revision 1, dated August 10, 2010, and that HSTA has a suffix "B" beside the serial number.

### **FAA AD Differences**

Note 1: This AD differs from the MCAI and/or service information as follows: No differences.

### **Other FAA AD Provisions**

(j) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York Aircraft Certification Office, ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. Send information to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

### **Related Information**

(k) Refer to MCAI Canadian Airworthiness Directive CF-2010-34, dated October 5, 2010; Bombardier Service Bulletin 670BA-27-058, dated August 31, 2010; and SAGEM Service Bulletin 8489-27-007, Revision 1, dated August 10, 2010; for related information.

## **Material Incorporated by Reference**

(1) You must use Bombardier Service Bulletin 670BA-27-058, dated August 31, 2010; and SAGEM Service Bulletin 8489-27-007, Revision 1, dated August 10, 2010; as applicable; to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; e-mail [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>.

(3) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

(4) You may also review copies of the 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/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on May 20, 2011.

Ali Bahrami,  
Manager, Transport Airplane Directorate,  
Aircraft Certification Service.