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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2011-0260; Directorate Identifier 2010-NM-242-AD;  
Amendment 39-16731; AD 2011-13-08]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Model DHC-8-400 Series 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:

Several reports have been received on the elevator power control units (PCUs) where the shaft (tailstock) swaged bearing liners had shown a higher than normal rate of wear. Investigation revealed that the excessive wear was due to the paint contamination between the bearing roller and bearing liner. The bearing paint contamination is known to be abrasive and could seize the bearing.

This condition, if not corrected, could lead to excessive airframe vibrations and difficulties in aircraft pitch control.

\* \* \* \* \*

The unsafe condition is loss of controllability. We are issuing this AD to require actions to correct the unsafe condition on these products.

**DATES:** This AD becomes effective August 1, 2011.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of August 1, 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:** Cesar Gomez, 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) 228-7318; 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 29, 2011 (76 FR 17362). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

Several reports have been received on the elevator power control units (PCUs) where the shaft (tailstock) swaged bearing liners had shown a higher than normal rate of wear. Investigation revealed that the excessive wear was due to the paint contamination between the bearing roller and bearing liner. The bearing paint contamination is known to be abrasive and could seize the bearing.

This condition, if not corrected, could lead to excessive airframe vibrations and difficulties in aircraft pitch control.

This directive mandates a free-play check of the shaft swaged bearing installed in the elevator PCU tailstock end and replacement of the shaft swaged bearings if excessive free-play is found.

The unsafe condition is loss of controllability. 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 66 products of U.S. registry. We also estimate that it will take about 2 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$11,220, or \$170 per product.

In addition, we estimate that any necessary follow-on actions would take about 3 work-hours and require parts costing \$33, for a cost of \$288 per product. We have no way of determining the number of products that may need these actions.

## **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:



**2011-13-08 Bombardier, Inc.:** Amendment 39-16731. Docket No. FAA-2011-0260; Directorate Identifier 2010-NM-242-AD.

**Effective Date**

(a) This airworthiness directive (AD) becomes effective August 1, 2011.

**Affected ADs**

(b) None.

**Applicability**

(c) This AD applies to Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes having serial numbers (S/Ns) 4001 through 4304 inclusive; certificated in any category.

**Subject**

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

**Reason**

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

Several reports have been received on the elevator power control units (PCUs) where the shaft (tailstock) swaged bearing liners had shown a higher than normal rate of wear. Investigation revealed that the excessive wear was due to the paint contamination between the bearing roller and bearing liner. The bearing paint contamination is known to be abrasive and could seize the bearing.

This condition, if not corrected, could lead to excessive airframe vibrations and difficulties in aircraft pitch control.

\* \* \* \* \*

The unsafe condition is loss of controllability.

**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.

**Free-Play Check and Corrective Actions**

(g) At the applicable time specified in paragraph (g)(1) or (g)(2) of this AD: Perform a free-play check for any shaft swaged bearing having part number (P/N) MS14103-7 that is installed in the

tailstock end of each elevator PCU (three PCUs per elevator surface), having P/Ns 390600-1007 and 390600-1009, in accordance with paragraph 3.B., Part A, of Bombardier Service Bulletin 84-27-52, dated May 25, 2010.

(1) For airplanes that have accumulated 8,000 or more total flight hours as of the effective date of this AD: Within 2,000 flight hours after the effective date of this AD.

(2) For airplanes that have accumulated less than 8,000 total flight hours as of the effective date of this AD: Within 6,000 flight hours after the effective date of this AD or before the accumulation of 10,000 total flight hours, whichever occurs first.

(h) If, during the check required by paragraph (g) of this AD, the bearing free-play is within the limits specified in Bombardier Service Bulletin 84-27-52, dated May 25, 2010, no further action is required by this AD.

(i) If, during the check required by paragraph (g) of this AD, the bearing free-play exceeds the limits specified in Bombardier Service Bulletin 84-27-52, dated May 25, 2010: Before further flight, replace the elevator PCU with a serviceable one, in accordance with paragraph 3.B., Part B, of Bombardier Service Bulletin 84-27-52, dated May 25, 2010.

### **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 ACO, 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. If sending information directly to the ACO, send it 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-2010-28, dated August 20, 2010; and Bombardier Service Bulletin 84-27-52, dated May 25, 2010; for related information.

### **Material Incorporated by Reference**

(l) You must use Bombardier Service Bulletin 84-27-52, dated May 25, 2010, 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., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; e-mail [thd.qseries@aero.bombardier.com](mailto:thd.qseries@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 June 14, 2011.

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