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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2012-0422; Directorate Identifier 2011-NM-177-AD; Amendment 39-17146; AD 2012-15-16]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Bombardier, Inc. 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 certain Bombardier, Inc. Model DHC-8 series airplanes. This AD was prompted by reports that various pushrods had been manufactured with tubes having the incorrect heat treatment. This AD requires replacing the affected pushrod assembly. We are issuing this AD to prevent loss of rudder control, reduced directional control of the airplane on the ground, or a jammed nose landing gear (NLG) door that could prevent the NLG from retracting or extending.

**DATES:** This AD becomes effective September 12, 2012.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of September 12, 2012.

**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, 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 May

1, 2012 (77 FR 25642). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

It was discovered that various pushrods installed on the DHC-8 Series 100/200/300/400 aeroplanes had been manufactured with tubes having the incorrect heat treatment, using 6061-T4 instead of 6061-T6. The incorrect heat treatment appreciably degrades the strength of these affected pushrods. Failure of these affected pushrods could result in a loss of rudder control, reduced directional control of the aeroplane on the ground or a jammed nose landing gear (NLG) door that could prevent the NLG from retracting or extending.

This [Transport Canada Civil Aviation (TCCA)] directive mandates the replacement of the affected pushrod assembly.

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 (77 FR 25642, May 1, 2012) 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—except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (77 FR 25642, May 1, 2012) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (77 FR 25642, May 1, 2012).

### **Costs of Compliance**

We estimate that this AD will affect about 171 products of U.S. registry. We also estimate that it will take about 28 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 \$6,504 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 \$1,519,164, or \$8,884 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 that 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);
3. Will not affect intrastate aviation in Alaska; 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 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 (77 FR 25642, May 1, 2012), 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:



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**2012-15-16 Bombardier, Inc.:** Amendment 39-17146. Docket No. FAA-2012-0422; Directorate Identifier 2011-NM-177-AD.

**(a) Effective Date**

This airworthiness directive (AD) becomes effective September 12, 2012.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to the Bombardier, Inc. airplanes, certificated in any category, as identified in paragraphs (c)(1) and (c)(2) of this AD.

(1) Model DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 airplanes, serial numbers 413, 443, 450 through 452 inclusive, 456, 458, 462 through 465 inclusive, 467 through 470 inclusive, and 473 through 588 inclusive.

(2) Model DHC-8-400, -401, and -402 airplanes, serial numbers 4001, 4003 through 4006 inclusive, and 4008 through 4197 inclusive.

**(d) Subject**

Air Transport Association (ATA) of America Code 27: Flight controls; and Code 32: Landing gear.

**(e) Reason**

This AD was prompted by reports that various pushrods had been manufactured with tubes having the incorrect heat treatment. We are issuing this AD to prevent loss of rudder control, reduced directional control of the airplane on the ground, or a jammed nose landing gear (NLG) door that could prevent the NLG from retracting or extending.

**(f) Compliance**

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

**(g) Replace Brake Rudder Control Pushrod—Model DHC-8-100, -200, -300**

For Model DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 airplanes, serial numbers 464, 508, 511 through 513 inclusive, and 515 through 588 inclusive: Within 3,000 flight hours after the effective date of this AD, replace the affected brake rudder control pushrod, part number (P/N) 82710274-001, by incorporating Modsum 8Q101334, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-27-100, Revision A, dated March 22, 2011.

**(h) Replace NLG Door Pushrod—Model DHC-8-200, -300**

For Model DHC-8-201, -202, -301, -311, and -315 airplanes, serial numbers 552 through 588 inclusive: Within 6,000 flight hours after the effective date of this AD, replace nose landing gear door pushrod, P/N 83232012-001, by incorporating Modsum 8Q101335, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-32-156, dated February 26, 2010.

**(i) Replace NLG Door Pushrod—Model DHC-8-400**

For Model DHC-8-400, -401, and -402 airplanes, serial numbers 4003 through 4005 inclusive, 4009 through 4011 inclusive, 4016, 4017, and 4024 through 4072 inclusive: Within 6,000 flight hours after the effective date of this AD, replace nose landing gear door pushrod, P/N 83232012-001, by incorporating Modsum 4-113457, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-32-28, dated November 27, 2008.

**(j) Replace Brake Rudder Control and Rudder Control Pushrods—Model DHC-8-400**

For Model DHC-8-400, -401, and -402 airplanes, serial numbers 4001, 4003 through 4006 inclusive, and 4008 through 4072 inclusive: Within 3,000 flight hours after the effective date of this AD, replace brake rudder control pushrod, P/N 82710274-001, and rudder control pushrod, P/N 82710028-003, by incorporating Modsum 4-113455, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-27-21, Revision A, dated March 22, 2011.

**(k) Replace Rudder Control Pushrod—Model DHC-8-100, -200, -300**

For Model DHC-8-102, -103, -106, -201, -202, -301, -311, and -315 airplanes, serial numbers 413, 443, 450 through 452 inclusive, 456, 458, 462 through 465 inclusive, 467 through 470 inclusive, and 473 through 588 inclusive: Within 3,000 flight hours after the effective date of this AD, replace rudder control pushrod, P/N 82710028-003, by incorporating Modsum 8Q101333, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-27-99, dated October 10, 2008.

**(l) Inspect/Replace NLG Landing Gear Door Pushrod**

For Model DHC-8-400, -401, and -402 airplanes, serial numbers 4006, 4008, 4012 through 4015 inclusive, 4018 through 4023 inclusive, and 4073 through 4197 inclusive: Within 6,000 flight hours after the effective date of this AD, inspect the lot number of the pushrod, P/N 83232012-001, for the nose landing gear door mechanism, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-32-75, dated June 1, 2010.

(1) If the lot number of the pushrod does not match any of those listed in the table in paragraph 3.B.(2) of Bombardier Service Bulletin 84-32-75, dated June 1, 2010, no further action is required by this paragraph.

(2) If the lot number of the pushrod matches any of those listed in the table in paragraph 3.B.(2) of Bombardier Service Bulletin 84-32-75, dated June 1, 2010, before further flight, replace the pushrod, in accordance with paragraph 3.B., Rectification, of the Accomplishment Instructions of Bombardier Service Bulletin 84-32-75, dated June 1, 2010.

**(m) Parts Installation Prohibition**

For Model DHC-8-400, -401, and -402 airplanes, serial numbers 4006, 4008, 4012 through 4015 inclusive, 4018 through 4023 inclusive, and 4073 through 4197 inclusive: As of the effective date of this AD, no person may install a pushrod, P/N 83232012-001, with the lot number listed in the table in paragraph 3.B.(2) of Bombardier Service Bulletin 84-32-75, dated June 1, 2010, on any airplane.

#### **(n) Credit for Previous Actions**

This paragraph provides credit for the actions required by paragraphs (g) and (j) of this AD, if those actions were performed before the effective date of this AD using the service bulletins identified in paragraph (n)(1) or (n)(2) of this AD.

(1) Bombardier Service Bulletin 8-27-100, dated October 10, 2008 (for paragraph (g) of this AD).

(2) Bombardier Service Bulletin 84-27-21, dated October 10, 2008 (for paragraph (j) of this AD).

#### **(o) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York Aircraft Certification Office (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.

#### **(p) Related Information**

Refer to MCAI Canadian AD CF-2011-31, dated August 15, 2011, and the Bombardier service bulletins identified in paragraphs (p)(1) through (p)(6) of this AD, for related information.

(1) Bombardier Service Bulletin 8-27-99, dated October 10, 2008.

(2) Bombardier Service Bulletin 8-27-100, Revision A, dated March 22, 2011.

(3) Bombardier Service Bulletin 8-32-156, dated February 26, 2010.

(4) Bombardier Service Bulletin 84-27-21, Revision A, dated March 22, 2011.

(5) Bombardier Service Bulletin 84-32-28, dated November 27, 2008.

(6) Bombardier Service Bulletin 84-32-75, dated June 1, 2010.

#### **(q) Material Incorporated by Reference**

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

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Bombardier Service Bulletin 8-27-99, dated October 10, 2008.

(ii) Bombardier Service Bulletin 8-27-100, Revision A, dated March 22, 2011.

(iii) Bombardier Service Bulletin 8-32-156, dated February 26, 2010.

(iv) Bombardier Service Bulletin 84-27-21, Revision A, dated March 22, 2011.

(v) Bombardier Service Bulletin 84-32-28, dated November 27, 2008.

(vi) Bombardier Service Bulletin 84-32-75, dated June 1, 2010.

(3) For Bombardier 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; email [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>.

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

(5) 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 an NARA facility, 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 July 24, 2012.

Kalene C. Yanamura,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.