



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2012-0594; Directorate Identifier 2012-NM-019-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Airplanes**

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for certain Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes. This proposed AD was prompted by reports of movement of the rudder pedals being impeded due to corrosion of the trunnion shaft of the rudder feel trim unit (RFTU). This proposed AD would require inspecting to determine if certain RFTUs are installed, an operational check for signs of seizure of affected parts, repetitive lubrication for certain RFTUs, and replacing the RFTU with a new RFTU if necessary. Installation of replaced RFTUs with conformal bushings terminates the repetitive lubrication requirements. We are proposing this AD to detect and correct any sign of seizure of the trunnion shaft and its bushing, which could cause a rudder control jam or a large and rapid alternating rudder input leading to a structural failure of the vertical fin.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- 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, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed 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>. You may review copies of the referenced 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.

### **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 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.

**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:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-0594; Directorate Identifier 2011-NM-019-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on 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 we receive about this proposed AD.

**Discussion**

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2012-02, dated January 9, 2012

(referred to after this as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

There have been several reported incidents on DHC-8 Series 400 aeroplanes where the movement of the rudder pedals has been impeded. An investigation showed that the Rudder Feel Trim Unit (RFTU) trunnion shaft was corroded. The root cause of the corrosion was a quality escape where cadmium plating on the trunnion bushing within the RFTU assembly was not removed. Corrosion on the shaft and in the trunnion bushing seized the trunnion and caused difficulties in controlling the rudder movement.

This condition, if not corrected, could cause a rudder control jam or a large and rapid alternating rudder input leading to a structural failure of the vertical fin.

This [TCCA] Airworthiness Directive (AD) is issued [inspect to determine serial number, an operational check for seizure, repetitive lubrication and] to replace the affected RFTUs to limit the possibility of binding and replace the affected RFTUs with units that have been reworked with conformal bushings to terminate the lubrication requirements.

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

### **Relevant Service Information**

Bombardier, Inc. has issued Service Bulletin 84-27-57, dated July 22, 2011.

The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

### **FAA’s Determination and Requirements of This Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in

the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

### **Costs of Compliance**

Based on the service information, we estimate that this proposed AD would affect about 83 products of U.S. registry. We also estimate that it would take about 5 work-hours per product to comply with the basic requirements of this proposed AD. The average labor rate is \$85 per work-hour. Required parts would 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 the proposed AD on U.S. operators to be \$35,275, or \$425 per product.

In addition, we estimate that any necessary follow-on actions would take about 10 work-hours and require parts costing \$0, for a cost of \$850 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 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 above, 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; 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 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:

**Bombardier, Inc.:** Docket No. FAA-2012-0594; Directorate Identifier 2012-NM-019-AD.

#### **(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes; certificated in any category; serial numbers 4001, 4003 and subsequent, equipped with rudder feel trim unit part number 399500-1007.

**(d) Subject**

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

**(e) Reason**

This AD was prompted by reports of movement of the rudder pedals being impeded due to corrosion of the trunnion shaft of the rudder feel trim unit (RFTU). We are issuing this AD to detect and correct any sign of seizure of the trunnion shaft and its bushing, which could cause a rudder control jam or a large and rapid alternating rudder input leading to a structural failure of the vertical fin.

**(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) Inspection**

Within 600 flight hours or six months after the effective date of this AD whichever occurs first, inspect the RFTU to determine whether the serial number (S/N) is in the range from 0009 through 0388 without a suffix "A," in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-27-57, dated July 22, 2011. A review of airplane maintenance records is acceptable in lieu of this inspection if the serial number of the RFTU can be conclusively determined from that review.

(1) If the RFTU's serial number is not in the range from 0009 through 0388 or if the serial number has a suffix "A," no further action is required for this paragraph.

(2) If the RFTU's serial number is in the range from 0009 through 0388 without a suffix "A," before further flight, perform an operational check of the RFTU for any sign of seizure of the trunnion and its bushing, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-27-57, dated July 22, 2011.

(i) If a seizure of the RFTU trunnion and its bushings is found: Before further flight, replace the RFTU with a new RFTU, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-27-57, dated July 22, 2011.

(ii) If no seizure of the RFTU trunnion and its bushings is found: Before further flight, lubricate the RFTU, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-27-57, dated July 22, 2011. Repeat the lubrication of the RFTU at intervals not to exceed 600 flight hours until the replacement required by paragraph (h) is done.

**(h) Replacement**

For airplanes identified in paragraph (g)(2) of this AD: Within 6,000 flight hours after the effective date of this AD, replace all affected RFTUs with units that have a serial number outside the range from 0009 through 0388 or that have a serial number with a suffix "A," in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-27-57, dated July 22, 2011.

**(i) Parts Installation**

As of the effective date of this AD, no person may install a RFTU P/N 399500-1007 with a serial number from 0009 through 0388 without a suffix "A" on any airplane.

**(j) 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.

**(k) Related Information**

(1) Refer to MCAI Canadian Airworthiness Directive CF-2012-02, dated January 9, 2012; and Bombardier Service Bulletin 84-27-57, dated July 22, 2011; for related information.

(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>. You may review copies of the referenced 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.

Issued in Renton, Washington, on May 31, 2012.

Michael Kaszycki,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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