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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2009-0361; Directorate Identifier 2009-NM-046-AD; Amendment 39-15888; AD 2009-09-02]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Bombardier Model DHC-8-400 Series Airplanes**

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

**ACTION:** Final rule; request for comments.

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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 failures of the aft hinge of the main landing gear (MLG) forward stabilizer brace. Laboratory examinations have found that the fatigue cracks were initiated from the dowel pin hole at the aft hinge lug of the MLG forward stabilizer brace where the stop bracket is attached. Failure of the stabilizer brace could result in the collapse of the main landing gear.

This AD requires actions that are intended to address the unsafe condition described in the MCAI.

**DATES:** This AD becomes effective May 6, 2009.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of May 6, 2009.

We must receive comments on this AD by May 21, 2009.

**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 W12-40, 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

## **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 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:** Jon Hjelm, Aerospace Engineer, Airframe and Propulsion Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7323; fax (516) 794-5531.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Emergency Airworthiness Directive CF-2009-11, dated March 13, 2009 (referred to after this as "the MCAI"), to correct an unsafe condition for the specified products. The MCAI states:

Several reports have been received on failures of the aft hinge of the main landing gear (MLG) forward stabilizer brace. Laboratory examinations have found that the fatigue cracks were initiated from the dowel pin hole at the aft hinge lug of the MLG forward stabilizer brace where the stop bracket is attached. Failure of the stabilizer brace could result in the collapse of the main landing gear.

Required actions include inspections for damage (including excessive wear, corrosion, foreign object damage, and cracking) of the MLG forward stabilizer brace assemblies and applicable corrective actions. The inspections include the following inspections:

- A visual inspection for evidence of excessive wear on the outside diameter of apex pins part number 46418-1.
- A visual inspection for damage (including cracking, corrosion, and foreign object damage) of the face of the forward stabilizer brace lugs, stop bracket retention hole apex bushings, and stop bracket.
- An inspection to detect 0.050-inch-long exposed surface cracks around the stop bracket mounting face and retention pin hole areas, using either of the following nondestructive inspection methods: (1) An eddy current inspection, or (2) a visual inspection using liquid penetrant under 10X magnification.

The applicable corrective actions include the following:

- Contacting Goodrich for repair instructions and doing the repair.
- Replacing the stop bracket.
- Reworking the forward stabilizer brace assembly.
- Replacing the forward stabilizer brace assembly.

The required actions also include, for certain airplanes, repetitive detailed visual inspection for cracking of both MLG forward stabilizer braces, including liquid penetrant inspections for cracking if necessary, and repair of the cracking if necessary. The required actions also include, for certain airplanes, a detailed visual inspection for cracking of the stabilizer brace apex lugs. The required actions also include, for certain airplanes, repair in accordance with a method approved by the FAA or TCCA.

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

### **Relevant Service Information**

Bombardier has issued Repair Drawing 8/4-32-099, Issue 1, dated March 10, 2009; and Q400 All Operator Message 338, dated February 23, 2009. Goodrich has issued Service Concession Request 026-09, Revision B, dated March 10, 2009. 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 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 issuing this AD because we evaluated all pertinent information and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design.

### **Differences Between the 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 FAA policies. Any such differences are highlighted in a Note within the AD.

### **FAA's Determination of the Effective Date**

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because some affected airplanes are approaching the threshold at which failure of the aft hinge MLG brace could occur and result in the collapse of the MLG. Therefore, we determined that notice and opportunity for public comment before issuing this AD are impracticable and that good cause exists for making this amendment effective in fewer than 30 days.

### **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety, and we did not precede it by notice and opportunity for public comment. We invite you to send any written relevant data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2009-0361; Directorate Identifier 2009-NM-046-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD because 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 we receive about this AD.

## **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.

## **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:



**2009-09-02 Bombardier, Inc. (Formerly de Havilland, Inc.):** Amendment 39-15888. Docket No. FAA-2009-0361; Directorate Identifier 2009-NM-046-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective May 6, 2009.

**Affected ADs**

- (b) None.

**Applicability**

- (c) This AD applies to Bombardier Model DHC-8-400, DHC-8-401, and DHC-8-402 series airplanes; certificated in any category, serial numbers 4001, 4003, and subsequent.

**Subject**

- (d) Air Transport Association (ATA) of America Code 32: Landing gear.

**Reason**

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

Several reports have been received on failures of the aft hinge of the main landing gear (MLG) forward stabilizer brace. Laboratory examinations have found that the fatigue cracks were initiated from the dowel pin hole at the aft hinge lug of the MLG forward stabilizer brace where the stop bracket is attached. Failure of the stabilizer brace could result in the collapse of the main landing gear.

**Actions and Compliance**

- (f) Unless already done, do the following actions:

(1) At the applicable time specified in paragraph (f)(1)(i), (f)(1)(ii), (f)(1)(iii), or (f)(1)(iv) of this AD: Perform non-destructive inspections for damage of the MLG forward stabilizer brace assemblies part number (P/N) 46401-7, in accordance with Bombardier Repair Drawing 8/4-32-099, Issue 1, dated March 10, 2009; and Goodrich Service Concession Request 026-09, Revision B, dated March 10, 2009. Repeat the inspection thereafter at intervals not to exceed 2,000 flight cycles.

(i) For airplanes with MLG forward stabilizer braces that have accumulated 12,000 or more total flight cycles as of the effective date of this AD: Inspect within 50 flight cycles after the effective date of this AD.

(ii) For airplanes with MLG forward stabilizer braces that have accumulated 9,000 or more total flight cycles but fewer than 12,000 total flight cycles as of the effective date of this AD: Inspect before the accumulation of 12,050 total flight cycles, or within 500 flight cycles after the effective date of this AD, whichever occurs earlier.

(iii) For airplanes with MLG forward stabilizer braces that have accumulated 4,500 or more total flight cycles but fewer than 9,000 total flight cycles as of the effective date of this AD: Inspect before the accumulation of 9,500 total flight cycles, or within 1,500 flight cycles after the effective date of this AD, whichever occurs earlier.

(iv) For airplanes with MLG forward stabilizer braces that have accumulated fewer than 4,500 total flight cycles as of the effective date of this AD: Inspect before the accumulation of 6,000 total flight cycles.

(2) If any damage is found during any inspection required by paragraph (f)(1) of this AD, before further flight, do all applicable corrective actions in accordance with Goodrich Service Concession Request 026-09, Revision B, dated March 10, 2009, except as provided by paragraphs (f)(3), (f)(4), (f)(5), and (f)(6) of this AD.

(3) For airplanes on which step 24. of Goodrich Service Concession Request 026-09, Revision B, dated March 10, 2009, has been done: Within 1,200 flight cycles after the effective date of this AD, rework the MLG forward stabilizer brace, and except for airplanes on which the rework has been done, within 600 flight cycles after the effective date of this AD do a detailed visual inspection for damage of the stabilizer brace apex lugs, in accordance with Goodrich Service Concession Request 026-09, Revision B, dated March 10, 2009. If any damage is found, repair before further flight in accordance with Section C of Goodrich Service Concession Request 026-09, Revision B, dated March 10, 2009.

(4) At the applicable time specified in paragraph (f)(4)(i), (f)(4)(ii), or (f)(4)(iii) of this AD, replace the forward stabilizer brace assembly, in accordance with Goodrich Service Concession Request 026-09, Revision B, dated March 10, 2009.

(i) For airplanes on which cracking is found during any inspection required by this AD, and the cracking exceeds the limit specified in Section C of Goodrich Service Concession Request 026-09, Revision B, dated March 10, 2009: Replace the assembly before further flight.

(ii) For airplanes on which any cracking is found after the rework specified in Section C of Goodrich Service Concession Request 026-09, Revision B, dated March 10, 2009: Replace the assembly before further flight.

(iii) For airplanes on which no cracking is found after the rework specified in Section C of Goodrich Service Concession Request 026-09, Revision B, dated March 10, 2009: Replace the assembly within 2,700 flight cycles after doing the rework.

(5) If foreign object damage is found during any inspection required by this AD, or if damage is found to a forward stabilizer brace lug or stop bracket retention hole apex bushing, before further flight, repair using a method approved by either the Manager, New York Aircraft Certification Office, ANE-170, FAA; or Transport Canada Civil Aviation (TCCA) (or its delegated agent).

(6) If any crack is found during the visual inspection under 10X magnification, repair before further flight, in accordance with Goodrich Service Concession Request 026-09, Revision B, dated March 10, 2009.

(7) Before the accumulation of 6,000 total flight cycles on the MLG forward stabilizer braces, or within 600 flight hours after the effective date of this AD, whichever occurs later: Do a detailed visual inspection for cracking of both MLG forward stabilizer braces and do all applicable liquid penetrant inspections for cracking, in accordance with Bombardier Q400 All Operator Message 338, dated February 23, 2009. Repeat the inspection thereafter at intervals not to exceed 600 flight hours. If any cracking is found during any inspection required by this paragraph, repair before further flight in accordance with Bombardier Repair Drawing 8/4-32-099, Issue 1, dated March 10, 2009; and Goodrich Service Concession Request 026-09, Revision B, dated March 10, 2009.

(8) Submit a report of all findings of the inspections required by paragraph (f)(1) of this AD to the Bombardier Technical Help Desk, e-mail: [thd.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); fax: (416) 375-4539; telephone: (416) 375-4000; at the applicable time specified in paragraph (f)(8)(i) or (f)(8)(ii) of this AD. The report must include the information specified in sheets 3 and 4 of Bombardier Repair Drawing 8/4-32-099, Issue 1, dated March 10, 2009.

(i) If the inspection was done on or after the effective date of this AD: Submit the report within 10 days after the inspection.

(ii) If the inspection was accomplished prior to the effective date of this AD: Submit the report within 10 days after the effective date of this AD.

### **FAA AD Differences**

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

### **Other FAA AD Provisions**

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

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York Aircraft Certification Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Jon Hjelm, Aerospace Engineer, Airframe and Propulsion Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7323; fax (516) 794-5531. Before using any approved AMOC on any airplane to which the AMOC applies, notify your principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards 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 ensure the product is airworthy before it is returned to service.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act, the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

(4) Special Flight Permits: Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the airplane can be modified (if the operator elects to do so), provided that, within 10 flight cycles after detection of the discrepancy that requires repair, operators perform a detailed visual inspection for cracking of both MLG forward stabilizer braces and do all applicable non-destructive inspections (eddy current or visual liquid penetrant inspections) for cracking, in accordance with Bombardier Q400 All Operator Message 338, dated February 23, 2009; and repair any cracking before further flight in accordance with Goodrich Service Concession Request 026-09, Revision B, dated March 10, 2009.

### **Related Information**

(h) Refer to MCAI Canadian Emergency Airworthiness Directive CF-2009-11, dated March 13, 2009; Bombardier Q400 All Operator Message 338, dated February 23, 2009; Bombardier Repair Drawing 8/4-32-099, Issue 1, dated March 10, 2009; and Goodrich Service Concession Request 026-09, Revision B, dated March 10, 2009; for related information.

### **Material Incorporated by Reference**

(i) You must use Bombardier Q400 All Operator Message 338, dated February 23, 2009; Bombardier Repair Drawing 8/4-32-099, Issue 1, dated March 10, 2009; and Goodrich Service Concession Request 026-09, Revision B, dated March 10, 2009; as applicable; to do the actions required by this AD, unless the AD specifies otherwise. (The issue date of Bombardier Q400 All

Operator Message 338, dated February 23, 2009; and Bombardier Repair Drawing 8/4-32-099, Issue 1, dated March 10, 2009; is specified only on the first page of the documents.) Goodrich Service Concession Request 026-09, Revision B, dated March 10, 2009, contains the following effective pages:

<b>Page No.</b>	<b>Revision level shown on page</b>	<b>Date shown on page</b>
1-8	B	March 5, 2009.
9-22	B	March 10, 2009.

(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 Bombardier 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.qseries@aero.bombardier.com](mailto:thd.qseries@aero.bombardier.com); Internet <http://www.bombardier.com>. For Goodrich service information identified in this AD, contact Goodrich Corporation, Landing Gear, 1400 South Service Road, West Oakville L6L 5Y7, Ontario, Canada; telephone 905-825-1568; e-mail [jean.breed@goodrich.com](mailto:jean.breed@goodrich.com); Internet <http://www.goodrich.com/TechPubs>.

(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 or 425-227-1152.

(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 April 8, 2009.

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