



No.	CF-2011-31	1/2
Issue Date	15 August 2011	

AIRWORTHINESS DIRECTIVE

The following airworthiness directive (AD) may be applicable to an aircraft which our records indicate is registered in your name. ADs are issued pursuant to **Canadian Aviation Regulation (CAR) 521 Division X**. Pursuant to **CAR 605.84** and the further details of **CAR Standard 625, Appendix H**, the continuing airworthiness of a Canadian registered aircraft is contingent upon compliance with all applicable ADs. Failure to comply with the requirements of an AD may invalidate the flight authorization of the aircraft. Alternative means of compliance shall be applied for in accordance with **CAR 605.84** and the above-referenced **Standard**.

This AD has been issued by the Continuing Airworthiness Division (AARDG), National Aircraft Certification Branch, Transport Canada, Ottawa, telephone 613 952-4357.

Number: CF-2011-31

Subject: Incorrect Heat Treatment of Pushrod Assembly

Effective: 31 August 2011

Applicability: Bombardier Inc. DHC-8 Aeroplanes:

Models 102, 103, 106, 201, 202, 301, 311, 314 and 315, serial numbers 413, 443, 450 through 452, 456, 458, 462 through 465, 467 through 470 and 473 through 588.

Models 400, 401 and 402, serial numbers 4001, 4003 through 4006 and 4008 through 4197.

Compliance: As indicated below, unless already accomplished.

Background: 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 directive mandates the replacement of the affected pushrod assembly.

Corrective Actions: **Part I – Applicable to DHC-8 Aeroplanes, Models 102, 103, 106, 201, 202, 301, 311, 314 and 315, Serial Numbers 464, 508, 511 through 513 and 515 through 588.**

Within 3000 hours air time after the effective date of this directive, install Modsum 8Q101334 to replace the affected Brake Rudder Control Pushrod, part number (P/N) 82710274-001. Bombardier Service Bulletin (SB) 8-27-100, Revision A, dated 22 March 2011, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, contains approved instructions for incorporating Modsum 8Q101334.

Incorporation of Modsum 8Q101334 in accordance with Bombardier SB 8-27-100, Initial Issue, dated 10 October 2008 satisfies the requirement of Part I of this directive.

Part II – Applicable to DHC-8 Aeroplanes, Models 201, 202, 301, 311, 314 and 315, Serial Numbers 552 through 588.

Within 6000 hours air time after the effective date of this directive, install Modsum 8Q101335 to replace the affected Nose Landing Gear Door Pushrod P/N 83232012-001. Bombardier SB 8-32-156, Initial Issue, dated 26 February 2010, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, contains approved instructions for incorporating Modsum 8Q101335.

Pursuant to **CAR 202.51** the registered owner of a Canadian aircraft shall, within seven days, notify the Minister in writing of any change of his or her name or address.

To request a change of address, contact the **Civil Aviation Communications Centre (AARC)** at **Place de Ville, Ottawa, Ontario K1A 0N8**, or **1-800-305-2059**, or **www.tc.gc.ca/civilaviation/communications/centre/address.asp**



Part III – Applicable to DHC-8 Aeroplanes, Models 400, 401 and 402, Serial Numbers 4003 through 4005, 4009 through 4011, 4016, 4017 and 4024 through 4072.

Within 6000 hours air time after the effective date of this directive, install Modsum 4-113457 to replace the affected Nose Landing Gear door pushrod P/N 83232012-001. Bombardier SB 84-32-28, Initial Issue, dated 19 June 2008, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, contains approved instructions for incorporating Modsum 4-113457.

Part IV – Applicable to DHC-8 Aeroplanes, Models 400, 401 and 402, Serial Numbers 4001, 4003 through 4006 and 4008 through 4072.

Within 3000 hours air time after the effective date of this directive, install Modsum 4-113455 to replace the affected Brake Rudder Control Pushrod P/N 82710274-001 and the affected Rudder Control Pushrod P/N 82710028-003. Bombardier SB 84-27-21, Revision A, dated 22 March 2011, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, contains approved instructions for incorporating Modsum 4-113455.

Incorporation of Modsum 4-113455 in accordance with Bombardier SB 84-27-21, Initial Issue, dated 10 October 2008 satisfies the requirement of Part IV of this directive.

Part V – Applicable to DHC-8 Aeroplanes, Models 102, 103, 106, 201, 202, 301, 311, 314 and 315, Serial Numbers 413, 443, 450 through 452, 456, 458, 462 through 465, 467 through 470 and 473 through 588.

Within 6000 hours air time after the effective date of this directive, install Modsum 8Q101333 to replace the affected Rudder Control Pushrod P/N 82710028-003. Bombardier SB 8-27-99, Initial Issue, dated 10 October 2008, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, contains approved instructions for incorporating Modsum 8Q101333.

Part VI – Applicable to DHC-8 Aeroplanes, Models 400, 401 and 402, Serial Numbers 4006, 4008, 4012 through 4015, 4018 through 4023 and 4073 through 4197.

- A. Within 6000 hours air time after the effective date of this directive, inspect the lot number of the pushrod P/N 83232012-001 for the nose landing gear door mechanism in accordance with Bombardier SB 84-32-75, Initial Issue, dated 30 March 2010, or later revisions approved by Chief, Continuing Airworthiness, Aircraft Certification, Transport Canada.
1. If the lot number of the pushrod does not match any of those listed in the table in paragraph 3.B (2) of the above-mentioned SB, no further action is required and compliance with Part VI of this directive is complete.
 2. If the lot number of the pushrod matches any of those listed in the table in paragraph 3.B (2) of the above-mentioned SB, replace the pushrod in accordance with paragraph 3.B, Rectification, of the above-mentioned SB.
- B. As of the effective date of this directive, it is not permitted to install a replacement/spare pushrods, P/N 83232012-001, with the lot number listed in the table in paragraph 3.B (2) of the above-mentioned SB.

Authorization: For the Minister of Transport, Infrastructure and Communities

ORIGINAL SIGNED BY

Derek Ferguson
Chief, Continuing Airworthiness

Contact: Mr. Anthony Wan, Continuing Airworthiness, Ottawa, telephone 613-952-4357, facsimile 613-996-9178 or e-mail CAWWEBFeedback@tc.gc.ca or any Transport Canada Centre.