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| No.        | CF-2005-38      | 1/2 |
| Issue Date | 25 October 2005 |     |

# 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) 593**. 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), Aircraft Certification Branch, Transport Canada, Ottawa, telephone 613 952-4357.

**Number:** CF-2005-38

**Subject:** Elevator Trim and Gust Lock Chain Failure

**Effective:** 5 December 2005

**Applicability:** Bombardier Inc. DHC-8 aircraft, Models 102, 103, 106, 201, 202, 301, 311, 314 and 315, Serial Numbers 003 through 610.

**Compliance:** As indicated below, unless already accomplished.

**Background:** Several elevator trim chain failures have been reported. The trim chain failures have resulted from hydrogen embrittlement cracking of the link plates. Failures of a trim chain are not annunciated to the flight crew. If a trim chain were to fail when the trim was set in an extreme *Nose Down*, or extreme *Nose Up* position, an undetected failure could result in control difficulties during aircraft rotation for takeoff.

**Corrective Actions:**

1. Within 30 days of the effective date of this directive, insert a copy of the appropriate Temporary Amendment listed below in the Dash 8 aircraft flight manual (AFM) and brief flight crew on the requirement to conduct elevator trim checks.

| Model                  | PSM     | Temporary Amendment |
|------------------------|---------|---------------------|
| 102, 103 and 106       | 1-81-1A | No. 9               |
| 102NS, 103NS and 106NS | 1-81-1A | No. 8               |
| 201                    | 1-82-1A | No. 11              |
| 202                    | 1-82-1A | No. 10              |
| 201S and 202S          | 1-82-1A | No. 9               |
| 202HT                  | 1-82-1A | No. 8               |
| 301                    | 1-83-1A | No. 8               |
| 311                    | 1-83-1A | No. 15              |
| 314 and 315            | 1-83-1A | No. 9               |

2. Before accumulating 6 000 hours air time, from the effective date of this directive or within 36 months of the effective date of this directive, whichever is reached first, and in accordance with Bombardier SB 8-27-105, Revision A, dated 13 September 2005, or later revisions approved by the Chief, Continuing Airworthiness, Aircraft Certification, Transport Canada, carry out the following:
  - (a) Visually inspect the elevator gust lock/ trim chains for the identifier RC 25; and
  - (b) Replace any chains and/or chain cable assemblies that do not have the RC 25 identifier.

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](http://www.tc.gc.ca/civilaviation/communications/centre/address.asp)

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3. As of the effective date of this directive, chains and chain cable assemblies, which do not have the identifier RC 25, shall not be used as a replacement on any aircraft.
4. After completing the inspection and replacing the chains that do not have the RC 25 identifier, the temporary amendment inserted in the AFM in accordance with paragraph 1 of this directive, may be removed.

**Authorization:** For Minister of Transport



for  
B. Goyaniuk  
Chief, Continuing Airworthiness

**Contact:** Mr. Ian McLellan, Continuing Airworthiness, Ottawa, telephone 613 952-4362, facsimile 613 996-9178 or e-mail [mclelli@tc.gc.ca](mailto:mclelli@tc.gc.ca) or any Transport Canada Centre.