



No.	<b>CF-2001-42</b>	1/2
Issue Date	23 November 2001	

# 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-2001-42

**Subject:** Bombardier DHC-8 – Inspection and Replacement for Fuselage to Rear Spar Fittings

**Effective:** 28 December 2001

**Applicability:** Bombardier Inc. (formerly de Havilland Inc.) DHC-8 aircraft:

- (i) Models 102, 103, 106, 201, 202    S/Ns 003 to 539 (except 097)
- (ii) Model 301    S/Ns 100 to 200
- (iii) Models 311, 314, and 315    S/Ns 202 to 539 (except 395)

**Compliance:** When indicated, unless already accomplished.

**Background:** Chafing/wear damage has been found on the fuselage to wing rear spar fittings (P/Ns 85320053, 85322060 and 85334180) as a result of inadequate clearance between these fittings and the flex shaft of the flap secondary drive mechanism.

Vibration of the flex drive during flap deployment/retraction has been determined to be the cause of the damage. The abrasion caused by the chafing/wear may affect the fatigue life of the fittings.

**Corrective Actions:** Accomplish the following in accordance with Bombardier Service Bulletin (SB) 8-27-83, dated 19 October 2001, or later revisions approved by the Director, Aircraft Certification, Transport Canada:

1. Within 12 months from the effective date of this Airworthiness Directive:
  - (a) Perform visual inspections on the rear spar fittings P/Ns 85320053, 85322060 and 85334180 for cracks and wear damage in accordance with Tables 1 and 2 of the above-mentioned SB.
  - (b) Replace the damaged fittings before the next flight if any of the following conditions are present:
    - (i) The wear damage before blending is greater than the limits specified in Table 2 of the above-noted SB;
    - (ii) The area removed after blending is greater than that specified in Table 3 of the above-noted SB; or
    - (iii) If the fittings are cracked.
2. Re-inspect/repair fittings in accordance with the requirements of the following Table:

<u>Condition of Fittings</u>	<u>Repeat Inspection Schedule / Repair</u>
No wear damage.	Re-inspect at intervals not to exceed 24 months.
If the fittings have been replaced as per paragraph 1(b) above.	Re-inspect at intervals not to exceed 12 months.
The wear damage of the fittings before blending is less than the limits specified in Table 1 of the above-mentioned SB.	<p>The aircraft may be returned to service for a maximum of 4000 flight cycles without blending. Re-inspect at intervals not to exceed 12 months.</p> <p>Permanent continued operation is allowed provided the fitting is blended smooth within 4000 flight cycles following detection of the damage. After blending, the fitting must be free of nicks, finished, be within the limits of Table 3, and be found crack free by Eddy current inspection. Re-inspect at intervals, not to exceed 12 months.</p>
The wear damage of the fittings before blending is greater than those specified in Table 1, but less than the limits specified in Table 2 of the above-mentioned SB.	<p>The aircraft may be returned to service for a maximum of 400 flight cycles without blending. Re-inspect at intervals not to exceed 6 months.</p> <p>Permanent continued operation is allowed provided the fitting is blended, smooth within 400 flight cycles following detection of the damage. After blending, the fitting must be free of nicks, finished, be within the limits of Table 3, and be found crack free by Eddy current inspection. Re-inspect at intervals not to exceed 12 months.</p>

3. Incorporation of modification 8/3149 will terminate the inspection requirements of this AD. Bombardier SB 8-27-83, dated 19 October 2001, or later approved revisions by the Director, Aircraft Certification, provides instructions for incorporation of modification 8/3149.

**Authorization:** For Minister of Transport



for B. Goyaniuk  
Chief, Continuing Airworthiness

**Contact:** Mr. Luc Deniger, Continuing Airworthiness, Ottawa, telephone (613) 952-5385, facsimile (613) 996-9178 or e-mail denigel@tc.gc.ca or any Transport Canada Centre.