



No.	CF-2012-04	1/2
Issue Date	13 January 2012	

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-2012-04
- Subject:** Hydraulic Accumulators – Screw Cap/End Cap Failure
- Effective:** 30 January 2012
- Applicability:** Bombardier Inc. DHC-8 Aeroplane, Models 400, 401 and 402, Serial Numbers 4001 through 4346
- Compliance:** As indicated below, unless already accomplished.
- Background:** Seven cases of on-ground hydraulic accumulo/r screw cap/end cap failure have been experienced on CL-600-2B19 (CRJ) aeroplanes, resulting in loss of the associated hydraulic system and high-energy impact damage to adjacent systems and structure. To date, the lowest number of flight cycles accumulated at the time of failure has been 6991.

Although there have been no failures to date on any DHC-8 aeroplanes, similar accumulators to those installed on the CL-600-2B19, Part Number (P/N) 08-60197-001 (Parking Brake Accumulator), are installed on the aeroplanes listed in the Applicability section of this Airworthiness Directive (AD). It was also found that some of these accumulators may be affected by manufacturing non-conformances.

A detailed analysis of the systems and structure in the potential line of trajectory of a failed screw cap/end cap for the accumulator has been conducted. It has been identified that the worst-case scenarios would be the damage to the aeroplane's primary structures, which could have an adverse effect on the controllability of the aeroplane.

This AD mandates the replacement of the affected hydraulic accumulators and the relocation of the parking brake accumulator.

Corrective Actions: **Part I - Replacement of Affected Hydraulic Accumulators with Single End Cap Accumulator – Applicable to serial numbers 4001 through 4337**

Within 1200 hours air time or 6 months, whichever comes first, from the effective date of this AD:

- A. Determine the part number and serial number of the parking brake accumulator, in accordance with Bombardier Service Bulletin (SB) 84-32-88 dated 16 February 2011, or later revision approved by the Chief, Continuing Airworthiness, Transport Canada.
- B. If the part number and serial number is included in Section 1.A, Effectivity, of the above-mentioned SB, replace the accumulator with a single end cap accumulator, P/N 48904-1, in accordance with the above-mentioned SB.

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



C. If the part number and serial number is not included in Section 1.A, Effectivity, of the above-mentioned SB, proceed to Part II of this AD.

Part II - Relocation of the Parking Brake Accumulator – Applicable to serial numbers 4001 through 4068, 4070 through 4214, 4216, 4219 through 4261 and 4263 through 4346

Within 6000 hours air time from the effective date of this AD, relocate the parking brake accumulator in accordance with the Accomplishment Instructions of Bombardier SB 84-32-87, Revision B, dated 22 November 2011, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Accomplishment in accordance with previous revisions of SB 84-32-87 **does not** meet the requirements of Part II of this AD.

Authorization: For the Minister of Transport, Infrastructure and Communities

ORIGINAL SIGNED BY

Derek Ferguson
Chief, Continuing Airworthiness

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