Transport Canada Transports Canada

TP 7245E

No. CF-2009-22 1/2
Issue Date 14 May 2009

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), National Aircraft Certification Branch, Transport Canada, Ottawa, telephone 613 952-4357.

Number: **CF-2009-22**

Subject: **Landing Gear Alternate Extension System (AES) – Valve Clevis Damage**

Effective: 08 June 2009

Applicability: Bombardier Inc. Models:

CL-600-2C10 (Regional Jet Series 700 and 701) – Serial Numbers 10003 through 10216
CL-600-2D15 (Regional Jet Series 705) and CL-600-2D24 (Regional Jet Series 900) – Serial Numbers 15001 through 15039

Compliance: As indicated below, unless already accomplished.

Background: Investigation into a landing gear retraction problem on a production test flight revealed that, during aircraft pressurization and depressurization cycles, the pressure floor in the main landing gear bay deflects to a small extent. This causes relative misalignment between the AES bypass valve, the downlock assist valve and the summing lever which, in turn, can result in damage to and potential failure of the respective clevis attached to one or both of the valves. Such a clevis failure could remain dormant and, in the subsequent event that use of the AES was required, full landing gear extension may not be achievable.

This directive gives instructions to replace the clevis, with a new part, for both the bypass and the downlock assist valves. It also gives instructions to install new support brackets for both valves, in order to increase the stiffness of the installations and thus prevent future relative misalignment and potential clevis failure.

Corrective Actions:

Part I: Bypass Valve – Clevis Replacement

A. Schedule

1) If, at the effective date of this directive, the bypass valve, Part Number (P/N) 53342-3, has accumulated 9400 flight cycles or less, replace the clevis before the valve has accumulated 10000 flight cycles.

2) If, at the effective date of this directive, the bypass valve has accumulated more than 9400 flight cycles, replace the clevis within 550 hours air time after the effective date of this directive.

3) If it is not possible to determine the flight cycles accumulated by the bypass valve, replace the clevis within 550 hours air time after the effective date of this directive.

4) It is not necessary to replace the clevis if Part III of this directive has already been accomplished.

B. Replacement

Replace the existing clevis with a new clevis, P/N 2323H037, in accordance with Part A of the Accomplishment Instructions in Alert Service Bulletin (ASB) A670BA-32-022, Revision A, dated 1 May 2009, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Note: Replacement of the existing clevis in accordance with Part A of the original issue, dated 8 November 2007, of ASB A670BA-32-022 also meets the intent of Part I, Paragraph B, of this directive.

Part II: Downlock Assist Valve – Clevis Replacement

A. Schedule

1) If, at the effective date of this directive, the downlock assist valve, P/N 53341-5, has accumulated 9400 flight cycles or less, replace the clevis before the valve has accumulated 10000 flight cycles.

2) If, at the effective date of this directive, the downlock assist valve has accumulated more than 9400 flight cycles, replace the clevis within 550 hours air time after the effective date of this directive.

3) If it is not possible to determine the flight cycles accumulated by the downlock assist valve, replace the clevis within 550 hours air time after the effective date of this directive.

4) It is not necessary to replace the clevis if Part III of this directive has already been accomplished.

B. Replacement

Replace the existing clevis with a new clevis, Part Number 2323H037, in accordance with Part B of the Accomplishment Instructions in ASB A670BA-32-022, Revision A, dated 1 May 2009, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Note: Replacement of the existing clevis in accordance with Part B of the original issue, dated 8 November 2007, of ASB A670BA-32-022 also meets the intent of Part II, Paragraph B, of this directive.

Part III: Installation of Support Brackets

A. Schedule

Install new support brackets for the bypass valve and downlock assist valve,

- within 4500 hours air time after the effective date of this directive, or

- within 6000 flight cycles after the accomplishment of Part I of this directive, or

- within 6000 flight cycles after the accomplishment of Part II of this directive,

whichever comes first.

B. Installation

Install new support brackets for the bypass valve and downlock assist valve in accordance with Part C of the Accomplishment Instructions in ASB A670BA-32-022, Revision A, dated 1 May 2009, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Authorization: For Minister of Transport, Infrastructure and Communities

Derek Ferguson
Acting Chief, Continuing Airworthiness

Contact: Mr. Richard Topham, Continuing Airworthiness, Ottawa, telephone 613-952-4428, facsimile 613-996-9178 or e-mail richard.topham@tc.gc.ca or any Transport Canada Centre.