
AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Bombardier (Canadair) CL-600 (Challenger) Series Aeroplanes**AD/CL-600/114 Landing Gear Alternate Extension System 8/2009**

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.

Requirement: 1. Bypass Valve - Clevis 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.

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 Requirement 1 of this AD.

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

2. Downlock Assist Valve - Clevis 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, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

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 Requirement 2 of this AD.

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

3. Installation of Support Brackets:

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, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Bombardier (Canadair) CL-600 (Challenger) Series Aeroplanes

AD/CL-600/114 (continued)

Note: Transport Canada AD CF-2009-22 dated 14 May 2009 refers.

Compliance: For Requirement 1:

If, at the effective date of this AD, the bypass valve, Part Number (P/N) 53342-3, has accumulated 9,400 flight cycles (FC) or less, replace the clevis before the valve has accumulated 10,000 FC.

If, at the effective date of this AD, the bypass valve has accumulated more than 9,400 FC, replace the clevis within 550 flight hours (FH) after the effective date of this AD.

If it is not possible to determine the flight cycles accumulated by the bypass valve, replace the clevis within 550 FH after the effective date of this AD.

For Requirement 2:

If, at the effective date of this AD, the downlock assist valve, P/N 53341-5, has accumulated 9,400 FC or less, replace the clevis before the valve has accumulated 10,000 FC.

If, at the effective date of this AD, the downlock assist valve has accumulated more than 9,400 FC, replace the clevis within 550 FH after the effective date of this AD.

If it is not possible to determine the FC accumulated by the downlock assist valve, replace the clevis within 550 FH after the effective date of this AD.

For Requirement 3:

Within 4,500 FH after the effective date of this AD; or

Within 6000 FH after the accomplishment of Requirement 1 of this AD; or

Within 6000 flight cycles after the accomplishment of Requirement 2 of this AD, whichever comes first.

This Airworthiness Directive becomes effective on 30 July 2009.

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.

Bombardier (Canadair) CL-600 (Challenger) Series Aeroplanes

AD/CL-600/114 (continued)

This AD 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.

A handwritten signature in black ink, appearing to read 'James Coyne', with a stylized flourish at the end.

James Coyne
Delegate of the Civil Aviation Safety Authority

19 June 2009