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-600/103 Refuel/Defuel Valve Electrical Bonding 11/2008

Applicability: Model CL-600-2B19 aircraft as follows:

- Serial numbers 7003 through 7067, 7069 through 7939 that have not incorporated the modification of the refuel/defuel shutoff valves according to the original issue of Bombardier Service Bulletin (SB) 601R-28-053.
- Serial numbers 7989, 7990 and 8000 through 8034.

Requirement: Carry out the modification of refuel/defuel system in the centre wing fuel tank according to the Accomplishment Instructions of Bombardier SB 601R-28-053, Revision C, dated 14 March 2006 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Note 1: Modification of refuel/defuel system accomplished prior to the effective date of this Directive according to Revision A or Revision B of the SB601R-28-053 satisfy the requirements of this Directive.

Note 2: Transport Canada AD CF-2008-20 refers.

Compliance: Within 5000 hours time in service after the effective date of this Directive.

This Airworthiness Directive becomes effective on 23 October 2008.

Background: Bombardier Aerospace has completed a system safety review of the CL-600-2B19 aircraft fuel system against the new fuel tank safety standards, introduced in Chapter 525 of the Transport Canada Airworthiness Manual through Notice of Proposed Amendment (NPA) 2002-043. The identified non-compliances were assessed using Transport Canada Policy Letter 525-001 to determine if mandatory corrective action is required.

The assessment showed that insufficient electrical bonding between the refuel/defuel shutoff valves and the aircraft structure could occur due to the presence of a non-conductive gasket (Gask-O-Seal). In addition, it was also determined that the presence of an anodic coating on the shutoff valve electrical conduit connection fitting could affect electrical bonding. The above conditions, if not corrected, could result in arcing and potential ignition source inside the fuel tank during lightning strikes and consequent fuel tank explosion.

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

AD/CL-600/103 (continued)

To correct the unsafe condition, this Directive mandates the modification of the refuel/defuel system.

Charles Lenarcic
Delegate of the Civil Aviation Safety Authority

9 September 2008