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-2013-09R1**

Subject: **Fuel System – Insufficient Clearance Between Fuel Line and Structure**

Effective: **11 June 2013**

Revision: **Supersedes Airworthiness Directive CF-2013-09, issued 09 April 2013.**

Applicability: **Bombardier Inc. DHC-8 model 400, 401 and 402 aeroplanes, serial numbers 4001, 4003 through 4417.**

Compliance: **As indicated below, unless already accomplished.**

Background: Reports from operators have revealed a number of instances of chafing of the fuel lines due to contact with the surrounding structures in the fuel tank. An internal audit conducted by Bombardier revealed a number of locations in the fuel tank where low clearances were noted between fuel lines and the surrounding structure. Low clearances between fuel lines and the surrounding structures may result in ignition sources in the fuel tank in the event of a lightning strike, creating an unacceptable level of safety.

Bombardier had issued Service Bulletin (SB) 84-28-09 to introduce new fuel line assemblies that include new fuel lines and Teflon protective sleeves, and SBs 84-28-10 and 84-28-13 to remove unnecessary hardware in the wing fuel tanks, in order to eliminate potential fouling conditions on the affected fuel lines.

Upon an operator's incorporation of SB 84-28-09, an additional fouling condition was identified on the post-modification fuel lines. In order to address this concern on the aeroplane, Bombardier has issued SBs 84-28-14 and 84-28-15, along with ModSum IS4Q2800012 to rectify this problem.

This AD mandates the replacement of fuel lines and the installation of fuel line Teflon protective sleeves. In addition, the fuel line Teflon protective sleeves have been added to the Critical Design Configuration Control Limitations (CDCCL) along with the introduction of associated Fuel System Limitations tasks, to ensure integrity of the new assembly.

Since the original issue of this AD, it was found that there were editorial errors in Parts I B and II A of this AD. In addition, the Temporary Revisions (TR) Airworthiness Limitation Items (ALI)-111/-112 referenced in Parts III and IV of this AD had been superseded by later revisions. This AD is revised to correct the editorial errors and accept the later TR approved by Transport Canada.

Corrective Actions:

Within 6000 hours air time or 3 years, whichever occurs first, from the effective date of this AD, incorporate Part I and Part II as follows:

Part I - Installation of New Fuel Tube Assemblies - Applicable to Aeroplane Serial Numbers 4001, 4003, 4004, 4006, 4008-4417

A. For aeroplanes that have incorporated SB 84-28-09 initial issue, or later revisions prior to the effective date of this AD, or that have ModSum 4-113643 incorporated in production:

Incorporate SB 84-28-14 dated 17 August 2012, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

B. For aeroplanes that have not incorporated SB 84-28-09 initial issue, or later revisions of this SB prior to the effective date of this AD, or ModSum 4-113643, accomplish either (1) or (2) below:

1. Incorporate SB 84-28-09 Revision D dated 29 January 2013, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, together with SB 84-28-14 dated 17 August 2012, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada; or

2. Incorporate SB 84-28-15 dated 17 August 2012, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

C. Aeroplanes that have incorporated SB 84-28-09 initial issue or later revisions, or ModSum 4-113643 in production, along with ModSum IS4Q2800012, prior to the effective date of this AD, meet the requirements of Part I of this AD.

Part II - Removal of Clamps and Mounting Hardware - Applicable to Aeroplane Serial Numbers 4003 through 4151, and 4332 through 4417

A. For aeroplane serial numbers 4003 through 4151 that have incorporated ModSum IS4Q2800010, accomplish the following:

Incorporate Bombardier SB 84-28-10 Revision B dated 19 March 2013, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada. Aeroplanes that have incorporated Bombardier SB 84-28-10 original issue dated 6 December 2011, or SB 84-28-10 Revision A dated 17 August 2012, prior to the effective date of this AD, satisfies the requirements of Part II A this AD.

B. For aeroplane serial numbers 4332 to 4417, accomplish the following:

Incorporate Bombardier SB 84-28-13 dated 17 August 2012 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Part III - Incorporation of Fuel System Limitations (FSL) Tasks

Within 60 days from the effective date of this AD, revise the Transport Canada approved maintenance schedule by incorporating the FSL task numbers 284000-406 and 284000-418 as introduced by the TR ALI-111 of the DHC-8 Series 400 Maintenance Requirements Manual, PSM 1-84-7.

Compliance in accordance with superseding TRs or later revisions of ALI of the DHC-8-400 Maintenance Requirements Manual, PSM 1-84-7, approved by Transport Canada also satisfies the requirements of Part III of this AD.

Part IV - Management and Control of Critical Design Configuration Control Limitations (CDCCL) Items

Within 60 days from the effective date of this AD, to ensure management and control of CDCCL items, each operator must:

A. Amend their copies of the DHC-8-400 Maintenance Requirements Manual, PSM 1-84-7, Part 2 “Airworthiness Limitation Items” to incorporate the CDCCL items introduced in TR ALI-112 of the DHC-8 Series 400 Maintenance Requirements Manual, PSM 1-84-7.

B. Amend the maintenance and other related documents for their DHC-8-400 series aeroplane, to highlight the existence and the necessary requirements for maintaining the design features of CDCCL items as noted in Part IV, A, above.

C. Compliance in accordance with superseding TRs or later revisions of ALI of the DHC-8-400 Maintenance Requirements Manual PSM 1-84-7, approved by Transport Canada also satisfies the requirements of Part IV of this AD.

Authorization: For the Minister of Transport, Infrastructure and Communities,

ORIGINAL SIGNED BY

Derek Ferguson
Chief, Continuing Airworthiness

Contact: Robin Lau, Continuing Airworthiness, Ottawa, telephone 613-952-4357, facsimile 613-996-9178 or e-mail AD-CN@tc.gc.ca or any Transport Canada Centre.