



AD Number: **CF-2014-31R2**
Issue Date: **14 November 2014**

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-2014-31R2 **Effective Date:** 27 November 2014

ATA: 24 **Type Certificate:** A-142

Subject: Electrical Power – Generator Undervoltage

Revision: Supersedes AD CF-2014-31R1, dated 21 October 2014.

Applicability: Bombardier Inc. model DHC-8-102, -103, -106, -201, -202, -301, -311, -314 and -315 aeroplanes, serial numbers 003 through 672.

Compliance: Within 6000 hours air time or 36 months, whichever occurs first, from the effective date of the original issue of this AD (19 September 2014), unless already accomplished.

Background: Four occurrences of un-annunciated failure of the No. 1 Direct Current (DC) Starter Generator prompted emergency descents and landings resulting from the illumination of numerous caution indications of the affected systems. The functionality of the affected systems such as Flight Management System, Navigation, and transponder systems, were reportedly reduced or lost. Investigation determined the failure was a result of a low voltage condition of the Left Main DC Bus. During critical phases of flight, the loss of these systems could affect continued safe flight.

The original issue of this AD mandated the modification which introduces generator control unit (GCU) undervoltage protection.

Revision 1 of this AD added a GCU part number to the applicability of Part III of this AD, in order to ensure that all units are fitted with a warning label.

Revision 2 of this AD corrects the GCU part number in the applicability of Part III of this AD.

Corrective Actions:

Part I - Applicable to aeroplanes with Goodrich DC GCU Part Number 51539-008B, 51539-008C or 51539-008D installed

Incorporate Bombardier ModSum 8Q101925. Bombardier Service Bulletin (SB) 8-24-89, Revision B, dated 9 April 2014, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada provides approved instructions for incorporating ModSum 8Q101925.

Accomplishment in accordance with previous revisions of Bombardier SB 8-24-89 also meets the requirements of Part I of this AD.

Part II - Applicable to aeroplanes with Phoenix DC GCU Part Number GC-1010-24-5DIII or GC-1010-24-5DII Installed

Incorporate Bombardier ModSum 8Q101710. Bombardier SB 8-24-84, Revision D, dated 10 April 2014, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada provides approved instructions for incorporating ModSum 8Q101710.

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.

For all changes to your mailing address, contact your TC Regional Aircraft Registration Office at 1-800-305-2059, option 1 for English, 2 for Aircraft Registration and then select the appropriate region.

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Accomplishment in accordance with previous revisions of Bombardier SB 8-24-84 also meets the requirements of Part II of this AD.

Part III - Applicable to aeroplanes with Phoenix DC GCU Part Number GC-1010-24-5DIV or GC-1010-24-5DV Installed

Replace the DC GCU Label in accordance with Section 3.B, Part 2 of the Accomplishment Instructions in Bombardier SB 8-24-84, Revision D, dated 10 April 2014, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Authorization: For the Minister of Transport,

ORIGINAL SIGNED BY

Derek Ferguson
Chief, Continuing Airworthiness

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