



# AIRWORTHINESS DIRECTIVE

*This Airworthiness Directive (AD) is issued pursuant to Canadian Aviation Regulation (CAR) 521.427. No person shall conduct a take-off or permit a take-off to be conducted in an aircraft that is in their legal custody and control, unless the requirements of CAR 605.84 pertaining to ADs are met. Standard 625 - Aircraft Equipment and Maintenance Standards Appendix H provides information concerning alternative means of compliance (AMOC) with ADs.*

**Number:**

CF-2022-28

**Effective Date:**

9 June 2022

**ATA:**

24

**Type Certificate:**

A-234

**Subject:**

Electrical Power – Misleading indication

**Applicability:**

Bombardier Inc. model BD-100-1A10 aeroplanes, serial numbers 20003 through 20795, 20797 through 20812, 20814 through 20832 and 20834 through 20836.

**Compliance:**

As indicated below, unless already accomplished.

**Background:**

There have been multiple in-service reports of erratic electrical system status on the push button annunciators (PBA) and the engine instrument and crew alerting system (EICAS) while on-ground and during flight. Several of these incidents resulted in the aeroplane experiencing a momentary loss of electrical power and loss of flight displays following crew action.

During the investigation, it was found that aeroplanes can experience misleading electrical system status indications (PBA and EICAS) as a result of contamination of electrical contacts in the left-hand (LH) direct current power centre (DCPC) internal communication data bus.

The erratic indications could cause the crew to turn off fully operational electrical power sources, leading to partial or complete loss of electrical power. Loss of electrical power could result in the loss of flight displays and reduced controllability of the aeroplane.

Transport Canada previously issued AD CF-2020-46, which mandated the use of revised Electrical Emergency and Non-Normal Procedures in the Airplane Flight Manual that directed crews not to turn off active generators in the event of an erroneous electrical system status indication.

Further corrective action is being developed to introduce a design improvement to the DCPC that is intended to protect the internal communication data bus from contaminants. A time-limited maintenance check will also be implemented. As a mitigating action, this AD mandates a verification of the aeroplane records and the replacement of certain LH DCPC units, part numbers 975GC02Y04, 975GC02Y05, 975GC02Y06 or 975GC02Y07 with units that have been cleaned.

**Corrective Actions:**

**Part I – Records Check – Verification of the Accumulated Hours Air Time on the LH DCPC Unit**

Within 60 days from the effective date of this AD, verify the total accumulated hours air time of the LH DCPC unit since the date of manufacture by performing a records check in accordance with paragraph 2.B.(1) of the Accomplishment Instructions of the applicable service bulletin (SB) listed in Table 1 below or later revisions of the applicable SB approved by the Chief, Continuing Airworthiness, Transport Canada.

- a) If the total accumulated hours air time since the date of manufacture of the LH DCPC unit is equal

to or more than 3100 hours air time, proceed to Part II of this AD.

- b) If the total accumulated hours air time since the date of manufacture of the LH DCPC unit is less than 3100 hours air time, no further action is required at this time.

If the LH DCPC has been cleaned in accordance with Safran SB 975GC02Y-24-018 prior to the effective date of this AD, no further action is required at this time.

**Table 1 – Applicable Bombardier SBs**

<b>Aeroplane Model</b>	<b>Serial Number</b>	<b>SB / Revision</b>	<b>Issue Date</b>
BD-100-1A10 (CH300)	20001 through 20500	100-24-29 / Basic Issue	9 April 2021
BD-100-1A10 (CH350)	20501 through 20999	350-24-004 / Basic Issue	9 April 2021

**Part II – Replacement of the LH DCPC**

Within 19 months from the effective date of this AD, replace the LH DCPC unit in accordance with paragraph 2.B.(2) through 2.B.(5) and paragraph 2.C. of the Accomplishment Instructions of the applicable SB listed in Table 1 above or later revisions of the applicable SBs approved by the Chief, Continuing Airworthiness, Transport Canada.

**Authorization:**

For the Minister of Transport,

*ORIGINAL SIGNED BY*

Daniel Gosselin  
Acting Chief, Continuing Airworthiness  
Issued on 26 May 2022

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