



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-2020-31

Effective Date:

7 October 2020

ATA:

29

Type Certificate:

A-234

Subject:

Hydraulic Power – Direct Current (DC) Motor Pump Failures

Applicability:

Bombardier Inc. model BD-100-1A10 aeroplanes, serial numbers 20003 through 20406.

Compliance:

Within 6 months from the effective date of this AD, unless already accomplished.

Background:

It was reported that some DC motor pump (DCMP) failures were observed on aeroplanes during production flight tests. These failures caused the electrical system generators to disconnect due to the induced excessive voltage in the bus.

Subsequent investigation found that the induced excessive voltage in the bus was caused by the DCMP improper operation due to overheating at high altitude. This condition could lead to the potential loss of normal electrical power on the aeroplane.

To address this unsafe condition, the manufacturer of the hydraulic DCMP has re-designed the DCMP electric motor so that it has greater resistance to the higher temperatures present in the aft equipment bay environment where the DCMPs are located.

This AD mandates compliance with Bombardier Service Bulletin (SB) 100-29-18 that introduces a redesigned DCMP electric motor, which can function as intended when exposed to all possible combinations of temperature and altitude.

This AD is being issued at this time, as following the release of Bombardier SB 100-29-18, Bombardier undertook a voluntary campaign to retrofit the fleet. However, Bombardier was unable to complete the campaign in its entirety and a small number of aeroplanes remain in operation that have not installed the redesigned DCMP electric motor assembly.

Corrective Actions:

- A. Install the redesigned DCMP electric motor assembly, part number (P/N) 945202-3, in accordance with the Accomplishment Instructions of Bombardier SB 100-29-18, Revision 03, dated 18 December 2014 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

The accomplishment of previous revisions of Bombardier SB 100-29-18 also meet the intent of this paragraph.

- B. After incorporation of Bombardier SB 100-29-18, Revision 03, dated 18 December 2014, DCMP electric motor assembly, P/N MB74F-9/-7 is not eligible for installation on model BD-100-1A10 aeroplanes.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Rémy Knoerr
Chief, Continuing Airworthiness
Issued on 23 September 2020

Contact:

Philip Lynch, Continuing Airworthiness, Ottawa, telephone 888-663-3639, facsimile 613-996-9178 or e-mail AD-CN@tc.gc.ca or any Transport Canada Centre.