



EMERGENCY 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-2024-29

Effective Date:

25 August 2024

ATA:

24

Type Certificate:

A-236

Subject:

Electrical Power – Variable Frequency Generator (VFG) Power-Feeder Harness Chafing

Applicability:

Airbus Canada Limited Partnership (formerly C Series Aircraft Limited Partnership (CSALP), Bombardier Inc.) aeroplanes:

Model BD-500-1A10, serial numbers 50010 through 50047;

Model BD-500-1A11, serial numbers 55003 through 55070.

Compliance:

As indicated below, unless already accomplished.

Background:

Damage to a VFG harness has been reported, which has resulted in the loss of the associated VFG and the posting of the L GEN FAIL (Caution) message. An investigation has determined that the in-service event occurred a few flight cycles after the incorporation of Part C of ACLP Service Bulletin (SB) BD500-534101 Issue 007, which introduced a new bracket on both sides of the aeroplane to move the VFG power-feeder harnesses (CPYTH2041-XXX AND CPWTH2034-XXX) away from the wheel bins to prevent chafing. Transport Canada Civil Aviation (TCCA) AD CF-2023-24 required the actions specified in Part C of the above-mentioned ACLP SB to be performed to modify the VFG power-feeder harness routing to mitigate the risks associated with VFG power-feeder harness/wheel bin chafing. Federal Aviation Administration (FAA) AD 2024-04-11 similarly mandates Part C of the above-mentioned ACLP SB.

Since then, it has been discovered that the implementation of ACLP SB BD500-534101 Part C (Issue 005 to Issue 008) may potentially cause an unsupported VFG power-feeder harness length in a different location on both sides of the aeroplane, which may potentially lead to VFG power-feeder harness chafing, kinks, and damage in these locations. Currently, aeroplanes that had an equivalent modification incorporated before delivery are not considered to be affected by this new risk. VFG power-feeder harness chafing may lead to the loss of both normal generators and loss of critical aircraft systems if alternate generators are also lost. Dispatching with certain items inoperative under the Master Minimum Equipment List (MMEL) may exacerbate this risk. ACLP has issued A220-OIT-20-10-001 Rev NC to raise awareness of this risk and to recommend certain MMEL dispatch restrictions.

At this stage, this AD does not affect the requirements of TCCA AD CF-2023-24. To mitigate the exacerbated risk due to dispatching with certain items inoperative, this AD prohibits dispatching under certain MMEL items. This AD is considered interim action and further AD action may follow.

Corrective Actions:

For the purpose of this AD, the following definitions apply:

Affected Aeroplanes are model BD-500-1A10 aeroplanes, having serial numbers 50010 through 50047, and model BD-500-1A11 aeroplanes, having serial numbers 55003 through 55070, which have incorporated Part C of the Accomplishment Instructions of Airbus Canada Limited Partnership (ACLP) SB BD500-534101 at Issue 005 dated 12 June 2020, Issue 006 dated 14 August 2020, Issue 007 dated 2 October 2020, or Issue 008 dated 13 March 2024.

Applicable MMEL Items: refers to the following MMEL items corresponding with the Master Minimum Equipment List (MMEL) items:

- A. Section 1 Line Replaceable Unit (LRU) / Component Oriented MMEL Relief:
 - 1. 24-11-02 – Variable Frequency Generator (VFG) Systems [each system includes Variable Frequency Generator (VFG), Generator Control Unit (GCU), Overvoltage Protection Unit (OPU), Generator Line Contactor (GLC), Line Current Transformer (LCT), Generator Control Switch (PBA)]
 - 2. 24-12-01-3 – Variable Frequency Generator (VFG) Oil System/Oil Low Pressure or High Temperature
 - 3. 24-22-01 – Auxiliary Power Unit Generator (AGEN) System [includes APU Generator (AGEN), APU Generator Control Unit (AGCU), APU Overvoltage Protection Unit (OPU3), APU Line Contactor (ALC), Line Current Transformer (LCT3)]
 - 4. 49-00-03 – Auxiliary Power Unit (APU) System
 - 5. 49-14-19-1 – APU Inlet Door Actuator/APU Inlet Door Closed
 - 6. 49-14-19-3 – APU Inlet Door Actuator/APU Inlet Door Secured Open and APU Not in Use
 - 7. 49-62-05-1-B – External Service Panel/Switch Inoperative Closed
 - 8. 49-62-05-2-B – APU Compartment/Switch Inoperative Closed
- B. Section 2 Crew Alerting System (CAS) Message Oriented MMEL Relief:
 - 1. 24-00-009-01 – APU GEN FAIL(CAUTION)
 - 2. 24-00-105-01 – L GEN FAIL(CAUTION)
 - 3. 24-00-119-01 – R GEN FAIL(CAUTION)
 - 4. 49-00-007-01 – APU FAULT(ADVISORY) // APU INOP
 - 5. 49-00-011-01 – APU OIL LO QTY(ADVISORY)
 - 6. 49-00-013-01 – APU SHUTDOWN(ADVISORY)

As of the effective date of this AD, it is prohibited to dispatch affected aeroplanes under the applicable MMEL items defined in this AD.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Jenny Young
Chief, Continuing Airworthiness
Issued on 22 August 2024

Contact:

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