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-2025-20

Effective Date:

29 April 2025

ATA:

36

Type Certificate:

A-236

Subject:

Pneumatic – Engine Bleed Pressure Regulating Shutoff Valve (PRSOV) Failure

Applicability:

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

Model BD-500-1A10, serial numbers 50001 through 50072,

Model BD-500-1A11, serial numbers 55001 through 55271.

Compliance:

As indicated below, unless already accomplished.

Background:

There have been multiple in-service failures of PRSOV. The PRSOV allow isolation of the bleed air system in the event of a bleed air leak detection. In case of failure, the inability to isolate a bleed air source combined with a bleed air leak on the same engine side could cause damage to surrounding structures and systems that can prevent continued safe flight and landing.

To address this unsafe condition, this AD requires the incorporation of an Airplane Flight Manual (AFM) revision to the BLEED LEAK (Caution) procedures which instruct pilots to reduce the thrust lever or shutdown the engine when the BLEED LEAK caution message is persistent.

The PRSOV provides bleed air source from the engines to pneumatic systems. Current Master Minimum Equipment List (MMEL) items allow aeroplane dispatch with one inoperative PRSOV. In the event of dispatching the aeroplane with one or both engines bleed ON, the high failure rate of the PRSOV could lead to a total loss of bleed air systems, thus reducing safety margin and increasing pilots' workload.

To mitigate this unsafe condition, this AD imposes an operational restriction to prevent operation in known or forecasted icing condition for specific MMEL items permitting dispatch with an inoperative PRSOV. This AD also requires the replacement of the right and left engine PRSOV with a re-designed part to address the high failure rate.

Corrective Actions:

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

Master AFM Issue 012:

- ACLP's BD-500-1A10 Master AFM (publication BD500-3AB48-22200-00), Issue 012, dated 22 July 2019, or
- ACLP's BD-500-1A11 Master AFM (publication BD500-3AB48-32200-00), Issue 012, dated 22 July 2019.

ACLP SB: Airbus Canada Service Bulletin (SB) BD500-361001 Issue 002 dated 13 November 2024, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Group A aeroplanes: Model BD-500-1A10, serial numbers 50001 through 50045, and model BD-500-1A11, serial numbers 55001 through 55059.

Group B aeroplanes: Model BD-500-1A10, serial numbers 50001 through 50072, and model BD-500-1A11, serial numbers 55001 through 55271 equipped with PRSOV Part Number (P/N) 70115B010001.

Part I – AFM – Applicable to Group A Aeroplanes

Within 60 days from the effective date of this AD, accomplish the following:

A. Amend the applicable AFM by incorporating the procedures “L BLEED LEAK (Caution)” and “R BLEED LEAK (Caution)” introduced by the Master AFM Issue 012 or included in later Master AFM revision approved by Transport Canada.
B. Inform all flight crews of these changes in the AFM procedures and thereafter operate the aeroplane accordingly.

Part II – MMEL Restrictions – Applicable to Group B Aeroplanes

As of the effective date of this AD, aeroplane dispatch under the Minimum Equipment List (MEL) items corresponding with the following MMEL items, where the functional PRSOV P/N is 70115B010001 i.e. pre-SB BD500-361001, is required to follow the additional operational restriction, “Airplane is not operated in known or forecast icing conditions”:

A. Item 36-12-01, PNEUMATIC, Engine Bleed Pressure Regulating Shutoff Valve (PRSOV), 1) Associated engine bleed air off and flight conducted at or below FL 310.
B. Item 36-12-01, PNEUMATIC, Engine Bleed Pressure Regulating Shutoff Valve (PRSOV), 2) Associated engine bleed air and pack off.

Part III – Introduction of Re-Designed Part – Applicable to Group B Aeroplanes

Within 9350 total hours air time from the effective date of this AD, replace the right and left engines PRSOV P/N 70115B010001 with the re-designed PRSOV in accordance with the following:

A. For the left engine, remove and install the PRSOV in accordance with Part A, section 3 Procedure of the Accomplishment Instructions of ACLP SB.
B. For the right engine, remove and install the PRSOV in accordance with Part B, section 3 Procedure of the Accomplishment Instructions of ACLP SB.

Replacement of the right and left engines PRSOV P/N 70115B010001 in accordance with ACLP SB BD500-361001 Issue 001, dated 18 December 2023, prior to the effective date of this AD, also meets the requirements of Part III of this AD.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Jenny Young
Chief, Continuing Airworthiness
Issued on 15 April 2025

Contact:

Isabelle Hallé, Continuing Airworthiness, Ottawa, telephone 888-663-3639, facsimile 613-996-9178 or e-mail TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca or any Transport Canada Centre.