



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2025-0344; Project Identifier MCAI-2024-00638-T]

RIN 2120-AA64

**Airworthiness Directives; Airbus Canada Limited Partnership (Type Certificate
Previously Held by C Series Aircraft Limited Partnership (CSALP); Bombardier,
Inc.) Airplanes**

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to supersede Airworthiness Directive (AD) 2022-25-51, which applies to all Airbus Canada Limited Partnership Model BD-500-1A10 and Model BD-500-1A11 airplanes. AD 2022-25-51 requires revising the Limitations section of the existing airplane flight manual (AFM) to include a new warning and a new limitation. Since the FAA issued AD 2022-25-51, updated primary flight control computer (PFCC) software has been developed to address the unsafe condition. This proposed AD would continue to require the actions in AD 2022-25-51, require installing the updated PFCC software, which terminates the AFM revision, and remove airplanes from the applicability, as specified in a Transport Canada AD, which is proposed for incorporation by reference (IBR). The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to [regulations.gov](https://www.regulations.gov). Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2025-0344; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above.

Material Incorporated by Reference:

- For Transport Canada material identified in this proposed AD, contact Transport Canada, Transport Canada National Aircraft Certification, 159 Cleopatra Drive, Nepean, Ontario K1A 0N5, Canada; telephone 888-663-3639; email TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca; website at tc.canada.ca/en/aviation. It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2025-0344.

- You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

FOR FURTHER INFORMATION CONTACT: Rochelle Montgomery, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 405-798-2043; email rochelle.montgomery@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2025-0344; Project Identifier MCAI-2024-00638-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this NPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to Rochelle Montgomery, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 405-798-2043; email rochelle.montgomery@faa.gov.

Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued AD 2022-25-51, Amendment 39-22282 (87 FR 75911, December 12, 2022) (AD 2022-25-51), for all Airbus Canada Limited Partnership Model BD-500-1A10 and Model BD-500-1A11 airplanes. AD 2022-25-51 was prompted by an MCAI originated by Transport Canada, which is the aviation authority for Canada. Transport Canada issued Transport Canada Emergency AD CF-2022-64, dated November 17, 2022 (Transport Canada Emergency AD CF-2022-64), to correct an unsafe condition.

AD 2022-25-51 requires revising the Limitations section of the existing AFM by revising the title of the existing autopilot AFM limitation, including a new warning prior to the existing autopilot engagement limitations, and a new limitation prohibiting selecting or reselecting autothrottle during takeoff after thrust levers are advanced to the takeoff setting after the existing autopilot engagement limitations. The FAA issued AD 2022-25-51 to address inadvertent engagement of the autopilot below 400 feet above ground level (AGL) when the flightcrew attempts to engage autothrottle. The unsafe condition, if not addressed, could result in premature rotation due to inadvertent autopilot engagement, possibly leading to tail-strike, inability to climb, and loss of control of the airplane.

Actions Since AD 2022-25-51 Was Issued

The preamble to AD 2022-25-51 explained that the FAA considered the requirements “interim action” and was considering further rulemaking. The FAA has now determined that further rulemaking is indeed necessary, and this proposed AD follows from that determination.

Since the FAA issued AD 2022-25-51, Transport Canada superseded Transport Canada Emergency AD CF-2022-64, dated November 17, 2022, and issued Transport Canada AD CF-2024-36, dated October 22, 2024 (Transport Canada AD CF-2024-36) (also referred to as the MCAI), to correct an unsafe condition for certain Airbus Canada Limited Partnership Model BD-500-1A10 and Model BD-500-1A11 airplanes. The MCAI states that there have been multiple in-service reports associated with PFCC software deficiencies leading to nuisance messages on the engine-indicating and crew-alerting system (EICAS) such as rudder fail, aileron fail, and spoiler fail, and flight control fault due to erroneous transmissions from the remote electronic unit (REU). Investigations also indicated design deficiencies in the PFCC software such as an incorrectly implemented built-in test, which is unable to detect a failed REU internal hold-up capacitor, or non-implemented self-tests and monitoring mechanisms to prevent erroneous computations to be transmitted to consumers. Other in-service events indicated a lack of software robustness, which may not prevent an un-announced deployment of ground spoilers or an inadvertent autopilot engagement during the take-off roll. These deficiencies and lack of PFCC software robustness, if not corrected, could lead to increased flightcrew workload as well as a large reduction of safety margins. Additionally, during specific flight phases or in combination with other failures, these conditions could lead to loss of control of the airplane.

The updated software installation required by this proposed AD addresses the unsafe condition identified in AD 2022-25-51 and terminates the AFM revision required by that AD.

The FAA is proposing this AD to address the unsafe condition on these products. You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2025-0344.

Material Incorporated by Reference Under 1 CFR Part 51

Transport Canada AD CF-2024-36 specifies procedures for revising the Limitations section of the existing AFM to include a new warning, installation of updated PFCC software part number 810-0337-009 on three the PFCCs, which terminates the AFM revision, and applicable concurrent software updates. This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA's Determination

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements in this NPRM

This proposed AD would retain all requirements of AD 2022-25-51. This proposed AD would remove airplanes from the applicability because the software installation, which terminates the AFM revision, was done in production on Model BD-500-1A10 airplanes having serial numbers (S/Ns) 50079 and subsequent and on Model BD-500-1A11 airplanes having S/Ns 55298 and subsequent; therefore, the unsafe condition has been addressed on those airplanes. This proposed AD would require accomplishing the actions specified in Transport Canada AD CF-2024-36 described previously, except for any differences identified as exceptions in the regulatory text of this proposed AD and except as discussed under "Differences Between This NPRM and the MCAI." The installation of updated PFCC software would terminate the AFM revision required by paragraph (g) of this proposed AD.

Explanation of Required Compliance Information

In the FAA's ongoing efforts to improve the efficiency of the AD process, the FAA developed a process to use some civil aviation authority (CAA) ADs as the primary source of information for compliance with requirements for corresponding FAA ADs. The FAA has been coordinating this process with manufacturers and CAAs. As a result, the FAA proposes to incorporate Transport Canada AD CF-2024-36 by reference in the FAA final rule. This proposed AD would, therefore, require compliance with Part II of Transport Canada AD CF-2024-36 through that incorporation, except for any differences identified as exceptions in the regulatory text of this proposed AD. Material required by Transport Canada AD CF-2024-36 for compliance will be available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2025-0344 after the FAA final rule is published.

Differences Between This NPRM and the MCAI

Transport Canada AD CF-2024-36 refers to the Accomplishment Instructions of Airbus Canada Limited Partnership (ACLP) Service Bulletin BD500-270022, Issue 001, dated July 25, 2024, for accomplishing the software installation. The "Concurrent Requirements" paragraph of ACLP Service Bulletin BD500-270022, Issue 001, dated July 25, 2024, refers to "ACLP Service Bulletin BD500-270020" as an additional requirement for certain airplanes; however, "ACLP Service Bulletin BD500-270020" is not included in the Accomplishment Instructions of ACLP Service Bulletin BD500-270022, Issue 001, dated July 25, 2024.

The FAA has determined the concurrent service bulletin must be done to address the unsafe condition. The FAA has issued AD 2023-12-09, Amendment 39-22467 (88 FR 42606, July 3, 2023) (AD 2023-12-09), which mandates Transport Canada AD CF-2022-65, dated November 23, 2022, and refers to ACLP Service Bulletin BD500-270020, Issue 001, dated September 28, 2022 (or later revisions), for software installation.

The FAA has added paragraph (i)(3) of the proposed AD to mandate the concurrent requirement and clarify applicable compliance times.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 133 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs for required actions

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Retained actions from AD 2022-25-51	1 work-hour X \$85 per hour = \$85	\$0	\$85	\$11,305
New proposed actions	Up to 5 work-hours X \$85 per hour = \$425	Up to \$10,000	Up to \$10,425	Up to \$1,386,525

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency’s authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(f), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:
 - a. Removing Airworthiness Directive (AD) 2022-25-51, Amendment 39-22282 (87 FR 75911, December 12, 2022); and
 - b. Adding the following new AD:

Airbus Canada Limited Partnership (Type Certificate Previously Held by C Series Aircraft Limited Partnership (CSALP); Bombardier, Inc.): Docket No. FAA-2025-0344; Project Identifier MCAI-2024-00638-T.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2022-25-51, Amendment 39-22282 (87 FR 75911, December 12, 2022) (AD 2022-25-51).

(c) Applicability

This AD applies to Airbus Canada Limited Partnership (type certificate previously held by C Series Aircraft Limited Partnership (CSALP); Bombardier, Inc.) Model BD-500-1A10 and Model BD-500-1A11 airplanes, certificated in any category, as identified in Transport Canada AD CF-2024-36, dated October 22, 2024 (Transport Canada AD CF-2024-36).

(d) Subject

Air Transport Association (ATA) of America Code 22, Autoflight.

(e) Unsafe Condition

This AD was prompted by multiple in-service reports associated with primary flight control computer (PFCC) software deficiencies leading to nuisance messages on the engine-indicating and crew-alerting system (EICAS) due to erroneous transmissions from the remote electronic unit (REU). Investigations also indicated design deficiencies in the PFCC software and a lack of software robustness, which may not prevent an unannounced deployment of ground spoilers or an inadvertent autopilot engagement during the take-off roll. The FAA is issuing this AD to address the PFCC software

deficiencies leading to nuisance messages and the lack of PFCC software robustness. The unsafe condition, if not addressed, could lead to increased flightcrew workload as well as a large reduction of safety margins. Additionally, during specific flight phases or in combination with other failures, these conditions could lead to loss of control of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Retained Revision of Existing AFM, with No Changes

This paragraph restates the requirements of paragraph (g) of AD 2022-25-51, with no changes. Within 7 days after December 27, 2022 (the effective date of AD 2022-25-51), revise the Limitations section of the existing airplane flight manual (AFM) to include the information specified in figure 1 to paragraph (g) of this AD. This may be accomplished by inserting a copy of figure 1 to paragraph (g) of this AD into the existing AFM. Using an AFM revision that includes information identical to that in figure 1 to paragraph (g) of this AD is acceptable for compliance with the requirement of this paragraph.

Figure 1 to paragraph (g) - Autopilot and Autothrottle Engagement Limitation

<p>AUTOPILOT and AUTOTHROTTLE ENGAGEMENT</p> <p>WARNING</p> <p>Autopilot engagement during takeoff roll can result in premature rotation, possibly leading to tail-strike, inability to climb or loss of control. Immediate crew intervention is required.</p> <p>The minimum height for engagement of autopilot is 400 feet AGL.</p> <p>The minimum height for use of autopilot is 80 feet AGL.</p> <p>To avoid inadvertent engagement of autopilot, during takeoff, the autothrottle must not be selected or re-selected after the thrust levers are advanced to the takeoff setting until the aircraft is at or above 400 feet AGL.</p>
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(h) New Requirements of this AD

Except as specified in paragraph (i) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, Transport Canada AD

CF-2024-36. Accomplishing the software installation required by paragraph A. of Part II of Transport Canada AD CF-2024-36 terminates the AFM revision required by paragraph (g) of this AD.

(i) Exceptions to Transport Canada AD CF-2024-36

(1) This AD does not adopt the requirements of Part I of Transport Canada AD CF-2024-36.

(2) Where Transport Canada AD CF-2024-36 refers to its effective date, this AD requires using the effective date of this AD.

(3) For the airplanes identified in the “Concurrent requirements” paragraph of the material referenced in Transport Canada AD CF-2024-36: At the applicable time specified in paragraph (i)(3)(i) or (ii), accomplish the concurrent PFCC software update specified in the material referenced in Transport Canada AD CF-2024-36.

(i) For airplanes identified in AD 2023-12-09 Amendment 39-22467 (88 FR 42606, July 3, 2023) (AD 2023-12-09): Prior to or concurrently with the installation specified in paragraph A. of Part II of Transport Canada AD CF-2024-36 but no later than the compliance time specified in AD 2023-12-09.

(ii) For airplanes not identified in AD 2023-12-09: Prior to or concurrently with the installation specified in paragraph A. of Part II of Transport Canada AD CF-2024-36.

(j) Additional AD Provisions

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, AIR-520, Continued Operational Safety Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the Continued

Operational Safety Branch, send it to the attention of the person identified in paragraph (k) of this AD and email to: AMOC@faa.gov.

(i) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, AIR-520, Continued Operational Safety Branch, FAA; or Transport Canada; or Airbus Canada Limited Partnership's Transport Canada Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(k) Additional Information

For more information about this AD, contact Rochelle Montgomery, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 405-798-2043; email rochelle.montgomery@faa.gov.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the material listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this material as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Transport Canada AD CF-2024-36, dated October 22, 2024.

(ii) [Reserved]

(3) For Transport Canada material identified in this AD, contact Transport Canada, Transport Canada National Aircraft Certification, 159 Cleopatra Drive, Nepean, Ontario K1A 0N5, Canada; telephone 888-663-3639; email TC.AirworthinessDirectives-Consignesdenavigabilite.TC@tc.gc.ca; website tc.canada.ca/en/aviation.

(4) You may view this material at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this material at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, visit www.archives.gov/federal-register/cfr/ibr-locations or email fr.inspection@nara.gov.

Issued on March 7, 2025.

Victor Wicklund,
Deputy Director, Integrated Certificate Management Division,
Aircraft Certification Service.
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