



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2023-0662; Project Identifier MCAI-2022-00745-T; Amendment 39-22464; AD 2023-12-06]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc., Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2020-07-13, which applied to certain Bombardier, Inc., Model BD-100-1A10 airplanes. AD 2020-07-13 required revising the existing airplane flight manual (AFM) to provide the flightcrew with new warnings for “Autoflight” and “Engine Failure in Climb During ALTS CAP.” This AD requires revising the existing AFM to provide the flightcrew with new warnings for “Autoflight” and “Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP.” This AD was prompted by a revision to the procedures to ensure that all applicable altitude capture modes utilized and annunciated in the affected fleet are included and to more clearly denote these altitude capture modes. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES:

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-0662; 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 final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

Material Incorporated by Reference:

- For service information identified in this final rule, contact Bombardier Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-2999; email ac.yul@aero.bombardier.com; website [bombardier.com](https://www.bombardier.com).

- You may view this service information 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. It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-0662.

FOR FURTHER INFORMATION CONTACT: Steven Dzierzynski, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7367; email 9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:**Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2020-07-13, Amendment 39-19892 (85 FR 20394, April 13, 2020) (AD 2020-07-13). AD 2020-07-13 applied to certain Bombardier, Inc., Model BD-100-1A10 airplanes. AD 2020-07-13 required revising the existing AFM to provide

the flightcrew with new warnings for “Autoflight” and “Engine Failure in Climb During ALTS CAP.” The FAA issued AD 2020-07-13 to address the occurrence of an engine failure during or before a climb while in ALTS CAP or (V) ALTS CAP mode, as it could cause the airspeed to drop significantly below the safe operating speed and may require prompt flightcrew intervention to maintain a safe operating speed.

The NPRM published in the *Federal Register* on April 10, 2023 (88 FR 21123). The NPRM was prompted by AD CF-2019-12R1, dated June 9, 2022, issued by Transport Canada, which is the aviation authority for Canada (referred to after this as the MCAI). The MCAI states that during altitude capture flight, the flight guidance/autopilot does not account for engine failure while capturing an altitude. The MCAI states that Transport Canada AD CF-2019-12, dated April 3, 2019, referenced specific altitude capture modes but did not consider all possible available annunciated altitude capture modes used in the affected airplanes. Therefore, the MCAI mandates further updates to the Limitation and Emergency Procedures sections of the AFM to ensure that all applicable altitude capture modes utilized and annunciated in the affected fleet are included and more clearly denotes these altitude capture modes in these new procedures.

In the NPRM, the FAA proposed to require revising the existing AFM to provide the flightcrew with new warnings for “Autoflight” and “Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP.” The FAA is issuing this AD to address the occurrence of an engine failure during or before a climb while in altitude capture flight. The unsafe condition, if not addressed, could cause the airspeed to drop significantly below the safe operating speed and may require prompt flightcrew intervention to maintain a safe operating speed.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-0662.

Discussion of Final Airworthiness Directive

Comments

The FAA received no comments on the NPRM or on the determination of the cost to the public.

Conclusion

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 reviewed the relevant data and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on this product. Except for minor editorial changes, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Related Service Information under 1 CFR Part 51

The FAA reviewed the following service information, which provides new warnings for the "Autoflight" procedure in Section 02-04, "Systems Limitations," of the LIMITATIONS section; and "Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP," procedure in Section 03-32, "Powerplant," of the EMERGENCY PROCEDURES section; of the applicable AFMs.

- Bombardier Challenger 300 Airplane Flight Manual (Imperial Version), Publication No. CSP 100-1, Revision 69, dated July 4, 2022. (For obtaining the procedures for Bombardier Challenger 300 AFM (Imperial Version), Publication No. CSP 100-1, use Document Identification No. CH 300 AFM-I.)
- Bombardier Challenger 350 Airplane Flight Manual, Publication No. CH 350 AFM, Revision 34, dated June 14, 2022. (For obtaining the procedures for Bombardier

Challenger 350 AFM, Publication No. CH 350 AFM, use Document Identification No. CH 350 AFM.)

These documents are distinct since they apply to different airplane models in different configurations. This service information 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.

Costs of Compliance

The FAA estimates that this AD will affect 244 airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

Estimated costs for required actions

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
1 work-hour X \$85 per hour = \$85	\$0	\$85	\$20,740

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 AD will not have federalism implications under Executive Order 13132. This AD will 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 that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will 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 Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 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(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

- a. Removing Airworthiness Directive (AD) 2020-07-13, Amendment 39-19892 (85 FR 20394, April 13, 2020); and

- b. Adding the following new AD:

2023-12-06 Bombardier, Inc.: Amendment 39-22464; Docket No. FAA-2023-0662;

Project Identifier MCAI-2022-00745-T.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2020-07-13, Amendment 39-19892 (85 FR 20394, April 13, 2020) (AD 2020-07-13).

(c) Applicability

This AD applies to Bombardier, Inc., Model BD-100-1A10 airplanes, certificated in any category, serial numbers 20003 through 20500 inclusive, and 20501 through 20867 inclusive.

(d) Subject

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

(e) Reason

This AD was prompted by a report that during altitude capture flight, the flight guidance/autopilot does not account for engine failure while capturing an altitude. The FAA is issuing this AD to address the occurrence of an engine failure during or before a climb while in altitude capture flight. The unsafe condition, if not addressed, could cause the airspeed to drop significantly below the safe operating speed and may require prompt flightcrew intervention to maintain a safe operating speed.

(f) Compliance

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

(g) Revision of Existing Airplane Flight Manual (AFM)

Within 30 days after the effective date of this AD, revise the existing AFM to include the information specified in “Autoflight” procedure in Section 02-04, “System Limitations,” of the LIMITATIONS section, and “Engine Failure in Climb During (V) ALTS CAP or (V) ALTV CAP,” procedure in Section 03-32, “Powerplant,” of the

EMERGENCY PROCEDURES section; of the Bombardier Challenger 300 Airplane Flight Manual (Imperial Version), Publication No. CSP 100-1, Revision 69, dated July 4, 2022 (for airplanes having serial numbers 20003 through 20500 inclusive); or the Bombardier Challenger 350 Airplane Flight Manual, Publication No. CH 350 AFM, Revision 34, dated June 14, 2022 (for airplanes having serial numbers 20501 through 20867 inclusive); as applicable.

Note 1 to paragraph (g): For obtaining the procedures for Bombardier Challenger 300 AFM (Imperial Version), Publication No. CSP 100-1, use Document Identification No. CH 300 AFM-I.

Note 2 to paragraph (g): For obtaining the procedures for Bombardier Challenger 350 AFM, Publication No. CH 350 AFM, use Document Identification No. CH 350 AFM.

(h) Additional AD Provisions

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, International Validation 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 International Validation Branch, mail it to ATTN: Program Manager, Continuing Operational Safety, at the address identified in paragraph (i)(2) of this AD or email to: 9-avs-nyaco-cos@faa.gov. If mailing information, also submit information by email. 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, International Validation Branch, FAA; or Transport Canada;

or Bombardier, Inc.'s Transport Canada Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(i) Additional Information

(1) Refer to Transport Canada AD CF-2019-12R1, dated June 9, 2022, for related information. This Transport Canada AD may be found in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2023-0662.

(2) For more information about this AD, contact Steven Dzierzynski, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7367; email 9-avs-nyaco-cos@faa.gov.

(j) Material Incorporated by Reference

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

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

(i) Section 02-04, "Systems Limitations," of the LIMITATIONS section, of the Bombardier Challenger 300 Airplane Flight Manual (Imperial Version), Publication No. CSP 100-1, Revision 69, dated July 4, 2022.

Note 1 to paragraph (j)(2)(i) of this AD: This note applies to paragraphs (j)(2)(i) and (ii). For obtaining the procedures for Bombardier Challenger 300 AFM (Imperial Version), Publication No. CSP 100-1, use Document Identification No. CH 300 AFM-I.

(ii) Section 03-32, "Powerplant," of the EMERGENCY PROCEDURES section, of the Bombardier Challenger 300 Airplane Flight Manual (Imperial Version), Publication No. CSP 100-1, Revision 69, dated July 4, 2022.

(iii) Section 02-04, “Systems Limitations,” of the LIMITATIONS section, of the Bombardier Challenger 350 Airplane Flight Manual, Publication No. CH 350 AFM, Revision 34, dated June 14, 2022.

Note 2 to paragraph (j)(2)(iii): This note applies to paragraphs (j)(2)(iii) and (iv) of this AD. For obtaining the procedures for Bombardier Challenger 350 AFM, Publication No. CH 350 AFM, use Document Identification No. CH 350 AFM.

(iv) Section 03-32, “Powerplant,” of the EMERGENCY PROCEDURES section, of the Bombardier Challenger 350 Airplane Flight Manual, Publication No. CH 350 AFM, Revision 34, dated June 14, 2022.

(3) For service information identified in this AD, contact Bombardier Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-2999; email ac.yul@aero.bombardier.com; website bombardier.com.

(4) You may view this service information 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 service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on June 13, 2023.

Michael Linegang, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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