



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2024-2023; Project Identifier MCAI-2023-01246-T; Amendment 39-22934; AD 2025-02-01]

RIN 2120-AA64

#### Airworthiness Directives; Bombardier, Inc., Airplanes

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** The FAA is adopting a new airworthiness directive (AD) for certain Bombardier, Inc., Model BD-100-1A10 airplanes. This AD was prompted by uncommanded horizontal stabilizer motion during several in-service events caused by a problem with the trim switch wiring. This AD requires installing the pitch/roll trim switch relays. 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-2024-2023; 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 Bombardier material identified in this AD, contact Bombardier Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; phone 514-855-2999; email [ac.yul@aero.bombardier.com](mailto:ac.yul@aero.bombardier.com); website [bombardier.com](http://bombardier.com).

- 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. It is also available at [regulations.gov](http://regulations.gov) under Docket No. FAA-2024-2023.

**FOR FURTHER INFORMATION CONTACT:** Steven Dzierzynski, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Background**

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Bombardier, Inc., Model BD-100-1A10 airplanes. The NPRM published in the *Federal Register* on August 21, 2024 (89 FR 67577). The NPRM was prompted by AD CF-2023-77, dated December 7, 2023, issued by Transport Canada, which is the aviation authority for Canada (Transport Canada AD CF-2023-77) (referred to after this as the MCAI). The MCAI states that during several in-service events, following a STAB TRIM FAULT advisory message and an autopilot disconnect, both pilot and co-pilot commands to trim the horizontal stabilizer nose-up resulted in a nose-down movement of the horizontal stabilizer. In some events, the

horizontal stabilizer reached the full travel nose-down position before the crew recognized the nature of the problem, and quickly recovered control of the airplane for safe landing. An issue with the trim switch wiring installation was identified as the main cause of the in-service unintended horizontal stabilizer motion events. The current wiring of the system is such that, if trim is enabled via the copilot-side trim switch, and the pilot-side trim switch malfunctions, it is possible for trim to move uncommanded or opposite to the intended direction.

In the NPRM, the FAA proposed to require installing the pitch/roll trim switch relays. The FAA is issuing this AD to address the problem with the trim switch wiring, which is the main cause of the uncommanded horizontal stabilizer motion. The unsafe condition, if not addressed, could result in increased crew workload and reduced safety margins, and if the flightcrew is unable to regain control of the horizontal stabilizer, would result in loss of control of the airplane and high control forces.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2024-2023.

## **Discussion of Final Airworthiness Directive**

### **Comments**

The FAA received a comment from an individual. The following presents the comment received on the NPRM and the FAA's response to that comment.

### **Request to Develop a Preventive Maintenance Program to Assess Affected Airplanes**

The commenter suggested that Bombardier should develop a preventive maintenance program to assess if the proposed AD would apply to the same airplanes of different serial numbers. The commenter referenced another AD (PA-28 wing spar), pointing out that operators were only required to repair the affected part if damage or failure was detected. The commenter noted that a preventive replacement of the affected part was not required, and that is something that Bombardier should consider researching.

The commenter further asserted that this would only be considered if engineers and researchers can show with evidence that periodic inspections outweigh the cost of a preventive repair.

The FAA does not agree. The NPRM specifically stated that “The FAA is issuing this NPRM after determining that the unsafe condition described previously is likely to exist or develop on other products of the same type design.” Bombardier has confirmed that airplanes having serial number 20937 and subsequent, also subject to the unsafe condition addressed in this AD, were modified in production. Further, this AD bypasses any type of preventive maintenance inspection prior to modifying the trim switches because Bombardier has determined that the trim switches have a problem with the wiring installation, which is why all affected trim switches must be rewired (not simply inspected and repaired only if damage or failure is found). No change has been made to this AD in this regard.

### **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, considered the comment received, 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.

### **Material Incorporated by Reference under 1 CFR Part 51**

The FAA reviewed Bombardier Service Bulletin 100-27-22 and Bombardier Service Bulletin 350-27-012, both dated December 29, 2022. This material specifies procedures to install the pitch/roll trim switch relays. The installation includes reworking

the plate assembly; installing relay bracket assemblies, relays, ground return stacks on the relay bracket assemblies, wires for the relays, and line replaceable units and trays on the left-side and right-side avionics racks; and performing operational testing. These documents are distinct since they apply to different airplane serial numbers. 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.

**Costs of Compliance**

The FAA estimates that this AD affects 359 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

**Estimated costs for required actions**

<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Up to 45 work-hours X \$85 per hour = Up to \$3,825	\$3,582	Up to \$7,407	Up to \$2,659,113

**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**

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 adding the following new airworthiness directive:

**2025-02-01 Bombardier, Inc.:** Amendment 39-22934; Docket No. FAA-2024-2023; Project Identifier MCAI-2023-01246-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**

None.

**(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 20936 inclusive.

**(d) Subject**

Air Transport Association (ATA) of America Code 27, Flight controls.

**(e) Unsafe Condition**

This AD was prompted by uncommanded horizontal stabilizer motion during several in-service events caused by a problem with the trim switch wiring. The FAA is issuing this AD to address the problem with the trim switch wiring. The unsafe condition, if not addressed, could result in increased crew workload and reduced safety margins, and if the flightcrew is unable to regain control of the horizontal stabilizer, would result in loss of control of the airplane and high control forces.

**(f) Compliance**

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

**(g) Installation of Pitch/Roll Trim Switch Relays and Tests**

Within 3,000 flight hours or 5 years, whichever occurs first, from the effective date of this AD, install the pitch/roll trim switch relays, in accordance with sections 2.B. and 2.C. of the Accomplishment Instructions of the applicable material specified in paragraph (g)(1) or (2) of this AD.

(1) Bombardier Service Bulletin 100-27-22, dated December 29, 2022 (for airplane serial numbers 20003 through 20500 inclusive).

(2) Bombardier Service Bulletin 350-27-012, dated December 29, 2022 (for airplane serial numbers 20501 through 20936 inclusive).

## **(h) Additional AD Provisions**

The following provisions also apply to this AD:

(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 the address identified in paragraph (i) of this AD. Information may be emailed to: AMOC@faa.gov. 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**

For more information about this AD, contact Steven Dzierzynski, Aviation Safety Engineer, FAA, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; 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 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) Bombardier Service Bulletin 100-27-22, dated December 29, 2022.

(ii) Bombardier Service Bulletin 350-27-012, dated December 29, 2022.

(3) For Bombardier material identified in this AD, contact Bombardier Business Aircraft Customer Response Center, 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; phone 514-855-2999; email [ac.yul@aero.bombardier.com](mailto:ac.yul@aero.bombardier.com); website [bombardier.com](http://bombardier.com).

(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](http://www.archives.gov/federal-register/cfr/ibr-locations) or email [fr.inspection@nara.gov](mailto:fr.inspection@nara.gov).

Issued on January 16, 2025.

Victor Wicklund,  
Deputy Director, Compliance & Airworthiness Division,  
Aircraft Certification Service.  
[FR Doc. 2025-02397 Filed: 2/7/2025 8:45 am; Publication Date: 2/10/2025]