



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0603; Project Identifier MCAI-2021-01093-T; Amendment 39-22189; AD 2022-20-05]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc., Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain Bombardier, Inc., Model CL-600-1A11 (600), CL-600-2A12 (601), and CL-600-2B16 (601-3A, 601-3R, and 604 Variants) airplanes. This AD was prompted by a report that some rudder power control unit (PCU) load limiters were found in service with the crimping missing from the end cap; therefore, the pilot command from the load limiter might not transmit correctly. This AD requires a one-time inspection of the rudder PCU load limiters for correct crimping of the end cap, and replacing any defective rudder PCU load limiter. For certain airplanes, this AD would also require repetitive testing of the rudder PCU load limiter for correct functioning, and applicable corrective actions. 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: 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. 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 under Docket No. FAA-2022-0603.

Examining the AD Docket

You may examine the AD docket at regulations.gov under Docket No. FAA-2022-0603; 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.

FOR FURTHER INFORMATION CONTACT: Elizabeth Dowling, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; 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 by adding an AD that would apply to certain Bombardier, Inc., Model CL-600-1A11 (600), CL-600-2A12 (601), and CL-600-2B16 (601-3A, 601-3R, and 604 Variants) airplanes. The NPRM published in the *Federal Register* on June 9, 2022 (87 FR 35125).

The NPRM was prompted by TCCA AD CF-2021-33, dated October 6, 2021, issued by Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, (referred to after this as the MCAI).

In the NPRM, the FAA proposed to require a one-time inspection of the rudder PCU load limiters for correct crimping of the end cap, and replacing any defective rudder PCU load limiter. For certain airplanes, the FAA also proposed to require repetitive testing of the rudder PCU load limiter for correct functioning, and applicable corrective actions. The FAA is issuing this AD to address defective rudder PCU load limiters, which could result in incorrect transmission of the pilot command, and loss of control of the rudder.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0603.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from NetJets and one individual. The commenters noted the following typographical errors in the proposed AD:

- For serial numbers 5701 through 5988, the service bulletin reference should be “605-27-010” instead of “650-27-010.”

- For serial numbers 6050 through 6158, the service bulletin reference should be “650-27-003” instead of “605-27-003.”

The FAA has corrected these errors in the Related Service Information section and in figure 1 to paragraph (g) of this AD.

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

Bombardier has issued the following service information.

- Bombardier Service Bulletin 604-27-039, Revision 01, dated April 6, 2021.
- Bombardier Service Bulletin 600-0776, dated December 7, 2020.
- Bombardier Service Bulletin 601-0648, dated December 7, 2020.

This service information describes procedures for a one-time inspection of the rudder PCU load limiters for correct crimping of the end cap, and replacing any defective PCU load limiter. These documents are distinct because they apply to different airplane configurations.

Bombardier has also released the following service information.

- Bombardier Service Bulletin 605-27-010, dated December 7, 2020.
- Bombardier Service Bulletin 650-27-003, dated December 7, 2020.

This service information describes procedures for repetitive testing of certain PCU load limiters for proper functioning and applicable corrective actions (performing the one-time inspection of the rudder PCU load limiters for correct crimping of the end cap, and replacing any defective PCU load limiter). This service information also describes procedures for a one-time inspection of the rudder PCU load limiters for correct crimping of the end cap, and replacing any defective PCU load limiter, which terminates the repetitive tests. These documents are distinct because they apply to different airplane 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 affects 379 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
Up to 2 work-hours X \$85 per hour = Up to \$170	\$0	Up to \$170	Up to \$64,430

The FAA estimates the following costs to do any necessary on-condition replacement required based on the results of any required inspection. The FAA has no way of determining the number of aircraft that might need this on-condition action:

Estimated costs of on-condition actions

Labor cost	Parts cost	Cost per product
10 work-hours X \$85 per hour = \$850 (per rudder PCU load limiter)	\$50	\$900

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:

2022-20-05 Bombardier, Inc.: Amendment 39-22189; Docket No. FAA-2022-0603;

Project Identifier MCAI-2021-01093-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., airplanes certificated in any category, identified in paragraphs (c)(1) through (3) of this AD.

(1) Model CL-600-1A11 (600) airplanes having serial numbers (S/Ns) 1004 through 1085 inclusive.

(2) Model CL-600-2A12 (601) airplanes having S/Ns 3001 through 3066 inclusive.

(3) Model CL-600-2B16 (601-3A, 601-3R, and 604 Variants) airplanes having S/Ns 5001 through 5194 inclusive, 5301 through 5665 inclusive, 5701 through 5988 inclusive, 6050 through 6158 inclusive, and 6160 through 6162 inclusive.

(d) Subject

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

(e) Unsafe Condition

This AD was prompted by a report that some rudder power control unit (PCU) load limiters were found in service with the crimping missing from the end cap; therefore, the pilot command from the load limiter might not transmit correctly. The FAA is issuing this AD to address defective rudder PCU load limiters, which could result in incorrect transmission of the pilot command, and loss of control of the rudder.

(f) Compliance

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

(g) Inspection and Replacement for Certain Airplanes

At the applicable time specified in paragraph (g)(1) or (2) of this AD, inspect each rudder PCU load limiter having part number (P/N) 600–91302–43 or P/N 600–91302–53 for correct crimping of the end cap, in accordance with paragraph 2.B., Part A, of the Accomplishment Instructions of the applicable service information specified in figure 1 to paragraph (g) of this AD. If the crimping is missing from any end cap, before further flight, replace the defective rudder PCU load limiter, in accordance with paragraph 2.C., Part B, of the Accomplishment Instructions of the applicable service information specified in figure 1 to paragraph (g) of this AD.

(1) For Model CL-600-1A11 airplanes having S/Ns 1004 through 1085 inclusive; Model CL-600-2A12 airplanes having S/Ns 3001 through 3066 inclusive; and Model CL-600-2B16 airplanes having S/Ns 5001 through 5194 inclusive: Inspect within 800 flight hours after the effective date of this AD.

(2) For Model CL-600-2B16 airplanes having S/Ns 5301 through 5665 inclusive: Inspect within 2,200 flight hours after the effective date of this AD.

Figure 1 to paragraph (g) – *Service Information References*

Airplane Model	Serial Number	Service Information
CL-600-1A11	1004 through 1085 inclusive	Bombardier Service Bulletin 600-0776, dated December 7, 2020
CL-600-2A12	3001 through 3066 inclusive	Bombardier Service Bulletin 601-0648, dated December 7, 2020
CL-600-2B16	5001 through 5194 inclusive	Bombardier Service Bulletin 601-0648, dated December 7, 2020
CL-600-2B16	5301 through 5665 inclusive	Bombardier Service Bulletin 604-27-039, Revision 01, dated April 6, 2021
CL-600-2B16	5701 through 5988 inclusive	Bombardier Service Bulletin 605-27-010, dated December 7, 2020

Airplane Model	Serial Number	Service Information
CL-600-2B16	6050 through 6158 inclusive, and 6160 through 6162 inclusive	Bombardier Service Bulletin 650-27-003, dated December 7, 2020

(h) Repetitive Testing, Inspection, and Replacement for Certain Airplanes

For Model CL-600-2B16 airplanes having S/Ns 5701 through 5988 inclusive, 6050 through 6158 inclusive, and 6160 through 6162 inclusive, do the actions specified in paragraphs (h)(1) and (2) of this AD.

(1) Within 1,000 flight hours after the effective date of this AD, test each rudder PCU load limiter for correct functioning, in accordance with paragraph 2.B., Part A, of the Accomplishment Instructions of the applicable service information specified in figure 1 to paragraph (g) of this AD. Repeat the test thereafter at intervals not to exceed 800 flight hours until the inspection required by paragraph (h)(2) of this AD has been accomplished. If any rudder PCU load limiter fails any test, before further flight, do the inspection specified in paragraph (h)(2) of this AD.

(2) Within 3,400 flight hours after the effective date of this AD, inspect each rudder PCU load limiter having P/N 600-91302-43 or P/N 600-91302-53 for correct crimping of the end cap, in accordance with paragraph 2.C., Part B, of the Accomplishment Instructions of the applicable service information specified in figure 1 to paragraph (g) of this AD. If the crimping is missing from any end cap, before further flight, replace the defective rudder PCU load limiter, in accordance with paragraph 2.D., Part C, of the Accomplishment Instructions of the applicable service information specified in figure 1 to paragraph (g) of this AD. Accomplishment of this inspection terminates the repetitive testing required by paragraph (h)(1) of this AD.

(i) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, New York ACO 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 certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300. 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, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(j) Additional Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) TCCA AD CF-2021-33, dated October 6, 2021, for related information. This MCAI may be found in the AD docket at regulations.gov under Docket No. FAA-2022-0603.

(2) For more information about this AD, contact Elizabeth Dowling, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email 9-avs-nyaco-cos@faa.gov.

(k) 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) Bombardier Service Bulletin 604-27-039, Revision 01, dated April 6, 2021.

(ii) Bombardier Service Bulletin 600-0776, dated December 7, 2020.

(iii) Bombardier Service Bulletin 601-0648, dated December 7, 2020.

(iv) Bombardier Service Bulletin 605-27-010, dated December 7, 2020.

(v) Bombardier Service Bulletin 650-27-003, dated December 7, 2020.

(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 September 15, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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