



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2021-0093; Project Identifier MCAI-2020-01213-T; Amendment 39-21535; AD 2021-10-02]

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 all Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes. This AD was prompted by reports indicating that the left- and right-hand elevator torque tube bearings were contaminated with sand and corrosion, restricting free rotation. This AD requires repetitive general visual inspections of the left- and right-hand elevator torque tube bearings for any sand, dust, or corrosion; repetitive functional tests of the elevator control system; and replacement of the elevator torque tube bearings if necessary. 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, Inc., 200 Côte-Vertu Road West, Dorval, Québec H4S 2A3, Canada; North

America toll-free telephone 1-866-538-1247 or direct-dial telephone 1-514-855-2999; email [ac.yul@aero.bombardier.com](mailto:ac.yul@aero.bombardier.com); Internet <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 on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0093.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0093; 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, 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:** Siddeeq Bacchus, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7362; fax 516-794-5531; email [9-avs-nyaco-cos@faa.gov](mailto:9-avs-nyaco-cos@faa.gov).

### **SUPPLEMENTARY INFORMATION:**

#### **Background**

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued TCCA AD CF-2020-29, dated August 21, 2020 (referred to after this as the Mandatory Continuing Airworthiness Information, or the MCAI), to correct an unsafe condition for all Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11

airplanes. You may examine the MCAI in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0093.

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to all Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes. The NPRM published in the *Federal Register* on February 24, 2021 (86 FR 11180). The NPRM was prompted by reports indicating that the left- and right-hand elevator torque tube bearings were contaminated with sand and corrosion, restricting free rotation. The NPRM proposed to require repetitive general visual inspections of the left- and right-hand elevator torque tube bearings for any sand, dust, or corrosion; repetitive functional tests of the elevator control system; and replacement of the elevator torque tube bearings if necessary. The FAA is issuing this AD to address sand contamination and corrosion of the elevator torque tube bearings, which could lead to binding or seizure of the bearings, and potentially lead to a reduction in or loss of airplane pitch control. See the MCAI for additional background information.

### **Comments**

The FAA gave the public the opportunity to participate in developing this final rule. The FAA received no comments on the NPRM or on the determination of the cost to the public.

### **Conclusion**

The FAA reviewed the relevant data and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes. The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

## Related Service Information under 1 CFR Part 51

Bombardier has issued the following service information.

- Bombardier Service Bulletin 700-1A11-27-041, Revision 1, dated December 7, 2020.
- Bombardier Service Bulletin 700-27-083, Revision 1, dated December 7, 2020.
- Bombardier Service Bulletin 700-27-5012, Revision 1, dated December 7, 2020.
- Bombardier Service Bulletin 700-27-5503, Revision 1, dated December 7, 2020.
- Bombardier Service Bulletin 700-27-6012, Revision 1, dated December 7, 2020.
- Bombardier Service Bulletin 700-27-6503, Revision 1, dated December 7, 2020.

This service information describes procedures for repetitive general visual inspections of the left- and right-hand elevator torque tube bearings for any sand, dust, or corrosion; repetitive functional tests of the elevator control system; and corrective actions including replacement of the elevator torque tube bearings if necessary. These documents are distinct since they apply to different airplane models and serial numbers.

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 392 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
22 work-hours X \$85 per hour = \$1,870	Up to \$4 (for four cotter pins)**	Up to \$1,874	Up to \$734,608

\*Table does not include estimated costs for reporting.

\*\* Parts cost include replacement parts where necessary.

The FAA estimates that it would take about 1 work-hour per product to comply with the reporting requirement in this AD. The average labor rate is \$85 per hour. Based on these figures, the FAA estimates the cost of reporting the inspection results on U.S. operators to be \$33,320, or \$85 per product.

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

**Estimated costs of on-condition actions**

<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
5 work-hours X \$85 per hour = \$425	\$271 (for four bearings)	\$696

According to the manufacturer, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators. The FAA does not control warranty coverage for affected operators. As a result, the FAA has included all known costs in the cost estimate.

**Paperwork Reduction Act**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB control number. The control number for the collection of information required by this AD is 2120-0056. The paperwork cost associated with this AD has been detailed in the Costs of Compliance section of this document and includes time for reviewing instructions, as well as completing and reviewing the collection of information. Therefore, all reporting associated with this AD is mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to Information Collection

Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

### **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.

## **Adoption of 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:

**2021-10-02 Bombardier, Inc.:** Amendment 39-21535; Docket No. FAA-2021-0093; Project Identifier MCAI-2020-01213-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 all Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes, certificated in any category.

#### **(d) Subject**

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

#### **(e) Reason**

This AD was prompted by reports indicating that the left- and right-hand elevator torque tube bearings were contaminated with sand and corrosion, restricting free rotation. The FAA is issuing this AD to address sand contamination and corrosion of the elevator torque tube bearings, which could lead to binding or seizure of the bearings, and potentially lead to a reduction in or loss of airplane pitch control.

**(f) Compliance**

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

**(g) Inspection and Corrective Actions**

Within 36 months from the effective date of this AD or within 63 months from the date of airplane manufacture, as identified on the identification plate of the airplane, whichever occurs later: Do a general visual inspection of the left- and right-hand elevator torque tube bearings for any sand, dust, or corrosion; perform a functional test of the elevator control system; and do all applicable corrective actions; in accordance with the Accomplishment Instructions of paragraphs 2.B., 2.C., and 2.D. of the applicable service information specified in figure 1 to paragraph (g) of this AD. Applicable corrective actions must be done before further flight. Repeat the general visual inspection and functional test thereafter at intervals not to exceed 63 months.

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

<b>For Model–</b>	<b>Having Serial numbers–</b>	<b>Use Bombardier Service Bulletin–</b>
BD-700-1A10 airplanes	9002 to 9312 inclusive, 9314 to 9380 inclusive, and 9384 to 9429 inclusive	700-27-083, Revision 1, dated December 7, 2020
BD-700-1A10 airplanes	9313, 9381, 9432 to 9860 inclusive, 9863 to 9871 inclusive, 9873 to 9997 inclusive, and 60005 to 61999 <sup>1</sup> inclusive	700-27-6012, Revision 1, dated December 7, 2020
BD-700-1A10 airplanes	9861, 9872, and 60001 to 61999 <sup>1</sup> inclusive	700-27-6503, Revision 1, dated December 7, 2020
BD-700-1A11 airplanes	9127 to 9383 inclusive, 9389 to 9400 inclusive, 9404 to 9431 inclusive, and 9998	700-1A11-27-041, Revision 1, dated December 7, 2020
BD-700-1A11 airplanes	9386, 9401, 9445 to 9862 inclusive, and 9868 to 9997 inclusive	700-27-5012, Revision 1, dated December 7, 2020
BD-700-1A11 airplanes	60007 to 61999 inclusive	700-27-5503, Revision 1, dated December 7, 2020

<sup>1</sup> Certain serial numbers are identified by the “Global 6000 and Global 6500” marketing designations for Model BD-700-1A10 airplanes. Paragraph 1.M., “Equivalent Service Bulletins,” of the applicable service information identifies related service information using these marketing designations.



## **(h) Reporting Requirement**

At the applicable time specified in paragraph (h)(1) or (2) of this AD, submit a report of all findings, positive and negative, of each of the first three inspections required by paragraph (g) of this AD. Submit the report to Bombardier, in accordance with the details specified in the applicable service information specified in figure 1 to paragraph (g) of this AD.

(1) If the inspection was done on or after the effective date of this AD: Submit the report within 30 days after the inspection.

(2) If the inspection was done before the effective date of this AD: Submit the report within 30 days after the effective date of this AD.

## **(i) Credit for Previous Actions**

This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using the applicable service information in paragraphs (i)(1) through (6) of this AD.

(1) Bombardier Service Bulletin 700-1A11-27-041, dated July 23, 2020.

(2) Bombardier Service Bulletin 700-27-083, dated July 23, 2020.

(3) Bombardier Service Bulletin 700-27-5012, dated July 23, 2020.

(4) Bombardier Service Bulletin 700-27-5503, dated July 23, 2020.

(5) Bombardier Service Bulletin 700-27-6012, dated July 23, 2020.

(6) Bombardier Service Bulletin 700-27-6503, dated July 23, 2020.

## **(j) 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; fax 516-794-5531. 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.

(3) *Reporting Requirements:* A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. All responses to this collection of information are mandatory as required by this AD. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Information Collection Clearance Officer, Federal Aviation Administration, 10101 Hillwood Parkway, Fort Worth, TX 76177-1524.

**(k) Related Information**

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) TCCA

AD CF-2020-29, dated August 21, 2020, for related information. This MCAI may be found in the AD docket on the Internet at <https://www.regulations.gov> by searching for and locating Docket No. FAA-2021-0093.

(2) For more information about this AD, contact Siddeeq Bacchus, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7362; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (1)(3) and (4) of this AD.

**(I) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) 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 700-1A11-27-041, Revision 1, dated December 7, 2020.

(ii) Bombardier Service Bulletin 700-27-083, Revision 1, dated December 7, 2020.

(iii) Bombardier Service Bulletin 700-27-5012, Revision 1, dated December 7, 2020.

(iv) Bombardier Service Bulletin 700-27-5503, Revision 1, dated December 7, 2020.

(v) Bombardier Service Bulletin 700-27-6012, Revision 1, dated December 7, 2020.

(vi) Bombardier Service Bulletin 700-27-6503, Revision 1, dated December 7, 2020.

(3) For service information identified in this AD, contact Bombardier, Inc., 200 Côte-Vertu Road West, Dorval, Québec H4S 2A3, Canada; North America toll-free telephone 1-866-538-1247 or direct-dial telephone 1-514-855-2999; email [ac.yul@aero.bombardier.com](mailto:ac.yul@aero.bombardier.com); Internet <https://www.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 [fedreg.legal@nara.gov](mailto:fedreg.legal@nara.gov), or go to: <https://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued on April 27, 2021.

Gaetano A. Sciortino, Deputy Director for Strategic Initiatives,  
Compliance & Airworthiness Division,  
Aircraft Certification Service.

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