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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2010-1200; Directorate Identifier 2010-NM-136-AD; Amendment 39-16647; AD 2011-07-10]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier, Inc. Model BD-100-1A10 (Challenger 300) Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are superseding an existing airworthiness directive (AD) that applies to the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

Investigation of a recent high altitude loss of cabin pressurization on a BD-100-1A10 aircraft determined that it was caused by a partial blockage of a safety valve cabin pressure-sensing port, in conjunction with a dormant failure/leakage of the safety valve manometric capsule. The blockage, caused by accumulation of lint/dust on the grid of the port plug, did not allow sufficient airflow through the cabin pressure-sensing port to compensate for the rate of leakage from the manometric capsule, resulting in the opening of the safety valve. It was also determined that failure of the manometric capsule alone would not result in the opening of the safety valve.

\* \* \* \* \*

The unsafe condition is possible loss of cabin pressure caused by the opening of the safety valve. We are issuing this AD to require actions to correct the unsafe condition on these products.

**DATES:** This AD becomes effective May 5, 2011.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of June 1, 2010 (75 FR 27406, May 17, 2010).

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Cesar Gomez, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7318; fax (516) 794-5531.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the Federal Register on December 21, 2010 (75 FR 79984), and proposed to supersede AD 2010-10-18, Amendment 39-16297 (75 FR 27406, May 17, 2010). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

Investigation of a recent high altitude loss of cabin pressurization on a BD-100-1A10 aircraft determined that it was caused by a partial blockage of a safety valve cabin pressure-sensing port, in conjunction with a dormant failure/leakage of the safety valve manometric capsule. The blockage, caused by accumulation of lint/dust on the grid of the port plug, did not allow sufficient airflow through the cabin pressure-sensing port to compensate for the rate of leakage from the manometric capsule, resulting in the opening of the safety valve. It was also determined that failure of the manometric capsule alone would not result in the opening of the safety valve.

This directive mandates a revision of the maintenance schedule, the [repetitive] cleaning of the safety valves, the removal of material from the area surrounding the safety valves and the modification of the safety valves with a gridless cabin pressure-sensing port plug.

The unsafe condition is possible loss of cabin pressure caused by the opening of the safety valve. The required actions also include a detailed visual inspection of the safety valves and surrounding areas for discrepant material (e.g., foreign material surrounding the safety valves, room temperature vulcanizing (RTV) sealant on safety valves, RTV excess on the bulkhead, tape near the safety valve opening, and, on certain airplanes, insulation near the safety valve opening, and foam in the area surrounding the safety valves), and for contamination found in the safety valve pressure ports. If contamination is found on the safety valve pressure ports, a detailed visual inspection for the presence of RTV on the outside and inside diameter of the pressure sensing port conduit is required. If discrepant materials are found, removing discrepant material, cleaning the surfaces of the valves, and securing insulation are required, as applicable. If the presence of RTV is detected, cleaning the surfaces of the valves and installing a new safety valve are required, as applicable. You may obtain further information by examining the MCAI in the AD docket.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM or on the determination of the cost to the public.

## **Conclusion**

We reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed.

## **Differences Between This AD and the MCAI or Service Information**

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow our FAA policies. Any such differences are highlighted in a NOTE within the AD.

## **Costs of Compliance**

We estimate that this AD will affect about 67 products of U.S. registry.

The actions that are required by AD 2010-10-18 and retained in this AD take about 9 work-hours per product, at an average labor rate of \$85 per work-hour. Required parts cost about \$0 per product. Based on these figures, the estimated cost of the currently required actions is \$765 per product.

We estimate that it will take about 1 work-hour per product to comply with the new basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts will cost about \$0 per product. Where the service information lists required parts costs that are covered under warranty, we have assumed that there will be no charge for these costs. As we do not control warranty coverage for affected parties, some parties may incur costs higher than estimated here. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$5,695, or \$85 per product.

## **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.

We are 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**

We 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 this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and

(4) 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.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

### **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 removing Amendment 39-16297 (75 FR 27406, May 17, 2010) and adding the following new AD:



**2011-07-10 Bombardier, Inc.:** Amendment 39-16647. Docket No. FAA-2010-1200; Directorate Identifier 2010-NM-136-AD.

**Effective Date**

(a) This airworthiness directive (AD) becomes effective May 5, 2011.

**Affected ADs**

(b) This AD supersedes AD 2010-10-18, Amendment 39-16297.

**Applicability**

(c) This AD applies to Bombardier, Inc. Model BD-100-1A10 (Challenger 300) airplanes, having serial numbers (S/Ns) 20001 through 20274 inclusive, certificated in any category.

Note 1: This AD requires revisions to certain operator maintenance documents to include new inspections. Compliance with these inspections is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by these inspections, the operator may not be able to accomplish the inspections described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance according to paragraph (l) of this AD. The request should include a description of changes to the required inspections that will ensure the continued operational safety of the airplane.

**Subject**

(d) Air Transport Association (ATA) of America Code 21: Air conditioning.

**Reason**

(e) The mandatory continuing airworthiness information (MCAI) states:

Investigation of a recent high altitude loss of cabin pressurization on a BD-100-1A10 aircraft determined that it was caused by a partial blockage of a safety valve cabin pressure-sensing port, in conjunction with a dormant failure/leakage of the safety valve manometric capsule. The blockage, caused by accumulation of lint/dust on the grid of the port plug, did not allow sufficient airflow through the cabin pressure-sensing port to compensate for the rate of leakage from the manometric capsule, resulting in the opening of the safety valve. It was also determined that failure of the manometric capsule alone would not result in the opening of the safety valve.

\* \* \* \* \*

The unsafe condition is possible loss of cabin pressure caused by the opening of the safety valve.

## Compliance

(f) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

### Restatement of Requirements of AD 2010-10-18, With No New Service Information

#### Actions

(g) For all airplanes: Within 30 days after June 1, 2010 (the effective date of AD 2010-10-18, Amendment 39-16297) revise the Airworthiness Limitations section of the Instructions for Continued Airworthiness by incorporating Tasks 21-31-09-101 and 21-31-09-102 in the Bombardier Temporary Revision (TR) 5-2-53, dated October 1, 2009, to Section 5-10-40, "Certification Maintenance Requirements," in Part 2 of Chapter 5 of Bombardier Challenger 300 BD-100 Time Limits/Maintenance Checks.

(1) For the new tasks identified in Bombardier TR 5-2-53, dated October 1, 2009: For airplanes identified in the "Phase-in" section of Bombardier TR 5-2-53, dated October 1, 2009, the initial compliance with the new tasks must be carried out in accordance with the phase-in schedule detailed in Bombardier TR 5-2-53, dated October 1, 2009, except where that TR specifies a compliance time from the date of the TR, this AD requires compliance within the specified time after June 1, 2010. Thereafter, except as provided by paragraph (1)(1) of this AD, no alternative to the task intervals may be used.

(2) When information in Bombardier TR 5-2-53, dated October 1, 2009, has been included in the general revisions of the applicable Airworthiness Limitations section, that TR may be removed from that Airworthiness Limitations section of the Instructions for Continued Airworthiness.

(h) For airplanes having S/Ns 20003 through 20173 inclusive, 20176, and 20177: Within 50 flight hours after June 1, 2010, do a detailed visual inspection of the safety valves and surrounding areas for discrepant material (e.g., foreign material surrounding the safety valves, room temperature vulcanizing (RTV) sealant on safety valves, RTV excess on the bulkhead, tape near the safety valve opening, and, on certain airplanes, insulation near the safety valve opening, and foam in the area surrounding the safety valves) and a detailed visual inspection for contamination (e.g., RTV, dust, or lint) in the safety valve pressure ports, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 100-25-14, dated June 30, 2008 (for airplanes having S/Ns 20124, 20125, 20128, 20134, 20139, 20143, 20146, 20148 to 20173 inclusive, 20176, and 20177); or Bombardier Service Bulletin 100-25-21, dated June 30, 2008 (for airplanes having S/Ns 20003 through 20123 inclusive, 20126, 20127, 20129 to 20133 inclusive, 20135 to 20138 inclusive, 20140 to 20142 inclusive, 20144, 20145, and 20147).

(1) If any discrepant material is found during the detailed visual inspection, before further flight, remove the discrepant material, clean the surfaces of the valves, and secure the insulation, as applicable, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 100-25-14, dated June 30, 2008 (for airplanes having S/Ns 20124, 20125, 20128, 20134, 20139, 20143, 20146, 20148 to 20173 inclusive, 20176, and 20177); or Bombardier Service Bulletin 100-25-21, dated June 30, 2008 (for airplanes having S/Ns 20003 through 20123 inclusive, 20126, 20127, 20129 to 20133 inclusive, 20135 to 20138 inclusive, 20140 to 20142 inclusive, 20144, 20145, and 20147).

(2) If contamination (e.g., RTV, dust, or lint) is found on the safety valve pressure sensing ports, before further flight, do a detailed visual inspection of the outside and inside diameters of the pressure sensing port conduit for the presence of RTV; and do the actions specified in paragraph (h)(2)(i) and (h)(2)(ii) of this AD, as applicable; in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 100-25-14, dated June 30, 2008 (for airplanes having S/Ns 20124, 20125, 20128, 20134, 20139, 20143, 20146, 20148 to 20173 inclusive, 20176, and 20177); or Bombardier Service Bulletin 100-25-21, dated June 30, 2008 (for airplanes having S/Ns 20003

through 20123 inclusive, 20126, 20127, 20129 to 20133 inclusive, 20135 to 20138 inclusive, 20140 to 20142 inclusive, 20144, 20145, and 20147).

(i) If no RTV is found, clean the plug of the sensing port.

(ii) If any RTV is found, install a new safety valve.

(i) For airplanes having S/Ns 20174, 20175, 20178 through 20189 inclusive, 20191 through 20228 inclusive, 20230 through 20232 inclusive, 20235, 20237, 20238, 20241, 20244, 20247, 20249 through 20251 inclusive, 20254, 20256 and 20259: Within 50 flight hours after June 1, 2010, clean the cabin pressure-sensing port plug in both safety valves, in accordance with Paragraph 2.B., "Part A–Modification–Cleaning," of the Accomplishment Instructions of Bombardier Service Bulletin A100-21-08, dated June 18, 2009.

(j) For airplanes having S/Ns 20003 through 20189 inclusive, 20191 through 20228 inclusive, 20230 through 20232 inclusive, 20235, 20237, 20238, 20241, 20244, 20247, 20249 through 20251 inclusive, 20254, 20256, and 20259: Within 50 flight hours after June 1, 2010, clean the cabin pressure-sensing port plug in both safety valves, in accordance with Paragraph 2.B., "Part A–Modification–Cleaning," of the Accomplishment Instructions of Bombardier Service Bulletin A100-21-08, dated June 18, 2009. Repeat the cleaning thereafter at intervals not to exceed 50 flight hours until the actions specified by paragraph (k) of this AD are completed.

### **New Requirements of This AD**

(k) For airplanes, having S/Ns 20003 through 20189 inclusive, 20191 through 20228 inclusive, 20230 through 20232 inclusive, 20235, 20237, 20238, 20241, 20244, 20247, 20249 through 20251 inclusive, 20254, 20256, and 20259: Within 12 months after the effective date of this AD, replace the cabin pressure-sensing port plug having part number (P/N) 2844-060 in both safety valves with a new gridless plug having P/N 2844-19 and re-identify the safety valves, in accordance with Paragraph 2.C., "Part B–Modification–Replacement," of the Accomplishment Instructions of Bombardier Service Bulletin A100-21-08, dated June 18, 2009. Doing the actions in paragraph (k) of this AD terminates the repetitive cleanings required by paragraph (j) of this AD.

### **FAA AD Differences**

Note 2: This AD differs from the MCAI and/or service information as follows: No differences.

### **Other FAA AD Provisions**

(l) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York Aircraft Certification Office, ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to Attn: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC on any airplane to which the AMOC applies, notify your principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office. The AMOC approval letter must specifically reference this AD.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

## Related Information

(m) Refer to MCAI Canadian Airworthiness Directive CF-2010-06, dated February 24, 2010; and the service information specified in table 1 of this AD; as applicable; for related information.

**Table 1–Service Information**

<b>Document</b>	<b>Date</b>
Bombardier Service Bulletin A100-21-08	June 18, 2009
Bombardier Service Bulletin 100-25-14	June 30, 2008
Bombardier Service Bulletin 100-25-21	June 30, 2008
Bombardier Temporary Revision 5-2-53, dated October 1, 2009, to Section 5-10-40, “Certification Maintenance Requirements,” in Part 2 of Chapter 5 of Bombardier Challenger 300 BD-100 Time Limits/Maintenance Checks	October 1, 2009

## Material Incorporated by Reference

(n) You must use the applicable service information contained in table 2 of this AD to do the actions required by this AD, unless the AD specifies otherwise.

**Table 2–Material Incorporated by Reference**

<b>Document</b>	<b>Date</b>
Bombardier Service Bulletin A100-21-08	June 18, 2009
Bombardier Service Bulletin 100-25-14	June 30, 2008
Bombardier Service Bulletin 100-25-21	June 30, 2008
Bombardier Temporary Revision 5-2-53, dated October 1, 2009, to Section 5-10-40, “Certification Maintenance Requirements,” in Part 2 of Chapter 5 of Bombardier Challenger 300 BD-100 Time Limits/Maintenance Checks	October 1, 2009

(1) The Director of the Federal Register previously approved the incorporation by reference of this service information on June 1, 2010 (75 FR 27406, May 17, 2010).

(2) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; e-mail [thd.crj@aero.bombardier.com](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>.

(3) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221.

(4) You may also review copies of the 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, call 202-741-6030, or go to: [http://www.archives.gov/federal\\_register/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Renton, Washington, on March 21, 2011.  
Kalene C. Yanamura,  
Acting Manager, Transport Airplane Directorate,  
Aircraft Certification Service.