

[Federal Register: May 17, 2010 (Volume 75, Number 94)]  
[Rules and Regulations]  
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[DOCID:fr17my10-4]

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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2010-0475; Directorate Identifier 2010-NM-083-AD; Amendment 39-16297; AD 2010-10-18]**

**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; request for comments.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for 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. This AD requires actions that are intended to address the unsafe condition described in the MCAI.

**DATES:** This AD becomes effective June 1, 2010.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of June 1, 2010.

We must receive comments on this AD by July 1, 2010.

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-40, 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

## **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 this AD, 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.

**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**

Transport Canada Civil Aviation, which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2010-06, dated February 24, 2010 (referred to after this as "the MCAI"), 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.

### **Relevant Service Information**

Bombardier has issued Service Bulletin A100-21-08, dated June 18, 2009; Service Bulletin 100-25-14, dated June 30, 2008; Service Bulletin 100-25-21, dated June 30, 2008; and 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. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

### **FAA's Determination and Requirements of This AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are issuing this AD because we evaluated all pertinent information and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design.

### **Differences Between the 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 FAA policies. Any such differences are highlighted in a NOTE within the AD.

### **FAA's Determination of the Effective Date**

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because if the safety valve cabin pressure-sensing ports are partially blocked in conjunction with a dormant failure or leakage of the safety valve manometric capsule could result in a loss of cabin pressurization. Therefore, we determined that notice and opportunity for public comment before issuing this AD are impracticable and that good cause exists for making this amendment effective in fewer than 30 days.

### **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety, and we did not precede it by notice and opportunity for public comment. We invite you to send any written relevant data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2010-0475; Directorate Identifier 2010-NM-083-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this AD.

### **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 the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

### **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 AD:



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**2010-10-18 Bombardier, Inc.:** Amendment 39-16297. Docket No. FAA-2010-0475; Directorate Identifier 2010-NM-083-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective June 1, 2010.

**Affected ADs**

- (b) None.

**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 and 25: Air conditioning and Equipment/Furnishings, respectively.

**Reason**

- (e) The mandatory continued 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.

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.

## **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.

## **Actions**

(g) For all airplanes: Within 30 days after the effective date of this AD, 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 the effective date of this AD. Thereafter, except as provided by paragraph (l)(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 the effective date of this AD, 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 the effective date of this AD, 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 the effective date of this AD, 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.

(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: Replacing 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-identifying 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, 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: This AD does not require the replacement of the safety valve cabin pressure-sensing port plugs and the re-identification of the safety valves required in Part V of MCAI Canadian Airworthiness Directive CF-2010-06, dated February 24, 2010. The planned compliance times for these actions would not allow enough time to provide notice and opportunity for prior public comment on the merits of those actions. Therefore, we are considering further rulemaking to address these issues.

## **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 ensure the product is airworthy before it is returned to service.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

### 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 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 approved the incorporation by reference of this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(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 May 3, 2010.

Ali Bahrami,  
Manager, Transport Airplane Directorate,  
Aircraft Certification Service.