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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2009-1214; Directorate Identifier 2009-NM-091-AD; Amendment 39-16251; AD 2010-07-06]**

**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 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:

There has been an incident during a production flight test where the proximity-sensor electronic unit (PSEU) failed. This resulted in unannounced loss of:

- Wheel brakes below 10 knots;
- Thrust reverser;
- Nose wheel steering; and
- Auto-deployment of the multi-function spoilers.

A similar condition, if not corrected, may result in reduced controllability of the aircraft upon landing and possible overrun of the runway.

\* \* \* \* \*

We are issuing this AD to require actions to correct the unsafe condition on these products.

**DATES:** This AD becomes effective May 7, 2010.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of May 7, 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:** Bruce Valentine, Aerospace Engineer, Avionics and Flight Test Branch, ANE-172, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7328; 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 29, 2009 (74 FR 68741). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

There has been an incident during a production flight test where the proximity-sensor electronic unit (PSEU) failed. This resulted in unannounced loss of:

- Wheel brakes below 10 knots;
- Thrust reverser;
- Nose wheel steering; and
- Auto-deployment of the multi-function spoilers.

A similar condition, if not corrected, may result in reduced controllability of the aircraft upon landing and possible overrun of the runway.

The original issue of this [Canadian] directive mandated the introduction of non-normal procedures to the airplane flight manual (AFM) as an interim corrective action to address PSEU failures.

Revision 1 of this directive amends the aircraft applicability and introduces a note providing terminating action, for use at operator discretion, if the aircraft has incorporated a PSEU with software version 12 in accordance with Bombardier Service Bulletin (SB) 100-32-12.

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.

### **Explanation of Change Made to This AD**

We have revised this AD to identify the legal name of the manufacturer as published in the most recent type certificate data sheet for the affected airplane models.

## **Conclusion**

We reviewed the available data and determined that air safety and the public interest require adopting the AD with the change described previously. We determined that this change will not increase the economic burden on any operator or increase the scope of the AD.

## **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.

## **Explanation of Change to Costs of Compliance**

Since issuance of the NPRM, we have increased the labor rate used in the Costs of Compliance from \$80 per work-hour to \$85 per work-hour. The Costs of Compliance information, below, reflects this increase in the specified hourly labor rate.

## **Costs of Compliance**

We estimate that this AD will affect 162 products of U.S. registry. We also estimate that it will take about 1 work-hour per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$13,770, 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 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.

### **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 adding the following new AD:



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**2010-07-06 Bombardier, Inc.:** Amendment 39-16251. Docket No. FAA-2009-1214; Directorate Identifier 2009-NM-091-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective May 7, 2010.

**Affected ADs**

- (b) None.

**Applicability**

(c) This AD applies to Bombardier, Inc. Model BD-100-1A10 (Challenger 300) airplanes, certificated in any category, serial numbers 20002 through 20153 inclusive.

**Subject**

- (d) Air Transport Association (ATA) of America Code 32: Landing gear.

**Reason**

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

There has been an incident during a production flight test where the proximity-sensor electronic unit (PSEU) failed. This resulted in unannounced loss of:

- Wheel brakes below 10 knots;
- Thrust reverser;
- Nose wheel steering; and
- Auto-deployment of the multi-function spoilers.

A similar condition, if not corrected, may result in reduced controllability of the aircraft upon landing and possible overrun of the runway.

The original issue of this directive mandated the introduction of non-normal procedures to the airplane flight manual (AFM) as an interim corrective action to address PSEU failures.

Revision 1 of this directive amends the aircraft applicability and introduces a note providing terminating action, for use at operator discretion, if the aircraft has incorporated a PSEU with software version 12 in accordance with Bombardier Service Bulletin (SB) 100-32-12.

## **Actions and Compliance**

(f) Unless already done, within 14 days after the effective date of this AD: Revise the Limitations Section of the Bombardier Challenger 300 AFM, CSP 100-1, to include the information in Bombardier Temporary Revision TR-39, dated March 2, 2005, as specified in the temporary revision. This temporary revision introduces a procedure for "PROX SYS FAULT (A)" and modifies the "WOW FAIL (C)" and "GEAR SYS FAIL (C)" procedures.

Note 1: This may be done by inserting a copy of Bombardier Temporary Revision TR-39, dated March 2, 2005, in the AFM. When this temporary revision has been included in general revisions of the AFM, the general revisions may be inserted in the AFM, provided the relevant information in the general revision is identical to that in Bombardier Temporary Revision TR-39, dated March 2, 2005.

Note 2: If the aircraft has incorporated a PSEU, part number (P/N) 30227-0401, 30227-0402, or 30227-0403, with software version 12, installed in accordance with Bombardier Service Bulletin 100-32-12, dated June 4, 2007, it is permissible to follow the revised AFM procedures included in Bombardier Temporary Revision TR-46, dated March 27, 2008, in lieu of using Bombardier Temporary Revision TR-39, dated March 2, 2005, specified in paragraph (f) of this AD.

## **FAA AD Differences**

Note 3: This AD differs from the MCAI and/or service information as follows: No differences.

## **Other FAA AD Provisions**

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

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York Aircraft Certification Office (ACO), 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.

(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**

(h) Refer to MCAI Transport Canada Civil Aviation Airworthiness Directive CF-2005-12R1, dated December 23, 2008; and Bombardier Temporary Revision TR-39, dated March 2, 2005; for related information.

## **Material Incorporated by Reference**

(i) You must use Bombardier Temporary Revision TR-39, dated March 2, 2005, to the Bombardier Challenger 300 Airplane Flight Manual, CSP 100-1, to do the actions required by this AD, unless the AD specifies otherwise.

(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 March 19, 2010.

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