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**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2009-0998; Directorate Identifier 2009-NM-198-AD; Amendment 39-16065; AD 2009-22-12]**

**RIN 2120-AA64**

**Airworthiness Directives; Bombardier Model CL-600-2C10 (Regional Jet Series 700, 701 & 702) Airplanes, Model CL-600-2D15 (Regional Jet Series 705) Airplanes, and Model CL-600-2D24 (Regional Jet Series 900) 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:

The heating capability of several [angle of attack] AOA transducer heating elements removed from in-service aircraft has been found to be below the minimum requirement. Also, it was discovered that a large number of AOA transducers repaired in an approved maintenance facility were not calibrated accurately.

Inaccurate calibration of the AOA transducer and/or degraded AOA transducer heating elements can result in early or late activation of the stall warning, stick shaker and stick pusher by the Stall Protection Computer (SPC).

\* \* \* \* \*

Inaccurate calibration of the AOA transducers and/or degraded AOA transducer heating elements could result in ineffective response to aerodynamic stall and reduced controllability of the airplane. This AD requires actions that are intended to address the unsafe condition described in the MCAI.

**DATES:** This AD becomes effective November 13, 2009.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of November 13, 2009.

We must receive comments on this AD by December 14, 2009.

**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:** Wing Chan, 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) 228-7311; fax (516) 794-5531.

### **SUPPLEMENTARY INFORMATION:**

#### **Discussion**

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2009-35, dated August 31, 2009 (referred to after this as "the MCAI"), to correct an unsafe condition for the specified products. The MCAI states:

The heating capability of several [angle of attack] AOA transducer heating elements removed from in-service aircraft has been found to be below the minimum requirement. Also, it was discovered that a large number of AOA transducers repaired in an approved maintenance facility were not calibrated accurately.

Inaccurate calibration of the AOA transducer and/or degraded AOA transducer heating elements can result in early or late activation of the stall warning, stick shaker and stick pusher by the Stall Protection Computer (SPC).

This [Canadian] directive mandates a periodic inspection of the inrush current to verify the AOA heating capability and replacement of the inaccurately calibrated AOA transducers.

Inaccurate calibration of the AOA transducers and/or degraded AOA transducer heating elements could result in ineffective response to aerodynamic stall and reduced controllability of the airplane. You may obtain further information by examining the MCAI in the AD docket.

#### **Relevant Service Information**

Bombardier has issued Service Bulletin 670BA-27-051, dated May 14, 2009. 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 the risk of having a degraded transducer is higher with units that have more than 7,500 total flight hours accumulated. Degraded AOA transducers can result in inaccurate activation of the stall warning, stick shaker, or stick pusher, which could result in ineffective response to aerodynamic stall and reduced controllability of the airplane. 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-2009-0998; Directorate Identifier 2009-NM-198-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:



**2009-22-12 Bombardier, Inc. (Formerly Canadair):** Amendment 39-16065. Docket No. FAA-2009-0998; Directorate Identifier 2009-NM-198-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective November 13, 2009.

**Affected ADs**

- (b) None.

**Applicability**

(c) This AD applies to Bombardier Model CL-600-2C10 (Regional Jet Series 700, 701 & 702) airplanes, Model CL-600-2D15 (Regional Jet Series 705) airplanes, and Model CL-600-2D24 (Regional Jet Series 900) airplanes; certificated in any category, that are equipped with Thales angle of attack (AOA) transducers having part number C16258AA.

**Subject**

- (d) Air Transport Association (ATA) of America Code 27: Flight Controls.

**Reason**

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

The heating capability of several [angle of attack] AOA transducer heating elements removed from in-service aircraft has been found to be below the minimum requirement. Also, it was discovered that a large number of AOA transducers repaired in an approved maintenance facility were not calibrated accurately.

Inaccurate calibration of the AOA transducer and/or degraded AOA transducer heating elements can result in early or late activation of the stall warning, stick shaker and stick pusher by the Stall Protection Computer (SPC).

This [Canadian] directive mandates a periodic inspection of the inrush current to verify the AOA heating capability and replacement of the inaccurately calibrated AOA transducers.

Inaccurate calibration of the AOA transducers and/or degraded AOA transducer heating elements could result in ineffective response to aerodynamic stall and reduced controllability of the airplane.

## Actions and Compliance

(f) Unless already done, do the following actions.

(1) Within the applicable compliance times specified in Table 1 of this AD: Measure the inrush current of both AOA transducers, in accordance with Part A of the Accomplishment Instructions of Bombardier Service Bulletin 670BA-27-051, dated May 14, 2009.

**Table 1 - Initial Measurement**

<b>For any AOA Transducer that, as of the Effective Date of This AD, has Accumulated –</b>	<b>Do the Initial Inrush Current Measurement –</b>
Less than 6,500 total flight hours	Before the AOA transducer has accumulated 7,500 total flight hours.
More than or equal to 6,500 total flight hours but less than 7,500 total flight hours	Within 500 flight hours after the effective date of this AD but before the AOA transducer has accumulated 8,000 total flight hours.
More than or equal to 7,500 total flight hours	Within 250 flight hours after the effective date of this AD.

(2) If, during any measurement required by paragraph (f)(1) of this AD, an AOA transducer is found to have an inrush current less than 1.60 amps ("degraded" transducer), before further flight replace the transducer with a new or serviceable transducer, in accordance with Part C of the Accomplishment Instructions of Bombardier Service Bulletin 670BA-27-051, dated May 14, 2009. Do the measurement specified in paragraph (f)(1) of this AD for that replacement transducer at the times specified in (f)(2)(i) or (f)(2)(ii) of this AD.

(i) At the applicable time specified in Table 2 of this AD if the degraded transducer was replaced with a serviceable transducer that is not new; or

(ii) Within 2,000 flight hours after replacement if the degraded transducer was replaced with a new one.

(3) If, during any measurement required by paragraph (f)(1) of this AD, an AOA transducer is found to have an inrush current more than or equal to 1.60 amps, repeat the measurement specified in paragraph (f)(1) of this AD thereafter at intervals not to exceed the applicable interval specified in Table 2 of this AD.

**Table 2- Repetitive Measurement Intervals**

<b>If the Last Inrush Current Measurement of the Serviceable AOA transducer is -</b>	<b>Then Repeat the Measurement -</b>
More than or equal to 1.90 amps	Within 2,000 flight hours after the last measurement.
More than or equal to 1.80 amps but less than 1.90 amps	Within 1,500 flight hours after the last measurement.
More than or equal to 1.70 amps but less than 1.80 amps	Within 1,000 flight hours after the last measurement.
More than or equal to 1.60 amps but less than 1.70 amps	Within 500 flight hours after the last measurement.

## **FAA AD Differences**

Note: This AD differs from the MCAI and/or service information as follows: This AD does not require the one-time inspection for serial numbers and on-condition replacement in Paragraph 1. of the MCAI. The planned compliance times for this action would 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 this issue.

## **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), 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: Wing Chan, Aerospace Engineer, Avionics and Flight Test Branch, ANE-172, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7311; 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 Canadian Airworthiness Directive CF-2009-35, dated August 31, 2009; and Bombardier Service Bulletin 670BA-27-051, dated May 14, 2009; for related information.

## **Material Incorporated by Reference**

(i) You must use Bombardier Service Bulletin 670BA-27-051, dated May 14, 2009, 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 or 425-227-1152.

(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 October 16, 2009.  
Ali Bahrami,  
Manager, Transport Airplane Directorate,  
Aircraft Certification Service.