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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0438; Directorate Identifier 2009-NM-265-AD; Amendment 39-16450; AD 2010-20-15]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc. 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.

SUMMARY: We are superseding an existing 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 AOA [angle of attack] 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 an ineffective response to an aerodynamic stall and reduced controllability of the airplane. We are issuing this AD to require actions to correct the unsafe condition on these products.

DATES: This AD becomes effective November 5, 2010.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of November 5, 2010.

On November 13, 2009 (74 FR 55767, October 29, 2009), the Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD.

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: 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

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 May 10, 2010 (75 FR 25791), and proposed to supersede AD 2009-22-12, Amendment 39-16065 (74 FR 55767, October 29, 2009). That NPRM proposed to correct an unsafe condition for the specified products.

When we issued AD 2009-22-12, we stated that we did not include certain actions (the inspection to determine if certain transducers are installed and replaced if necessary in paragraph (h) of this AD) because the planned compliance time was not enough to give notice as AD 2009-22-12 was issued as an immediately adopted rule. We now have determined that further rulemaking is indeed necessary, and this AD follows from that determination. You may obtain further information by examining the MCAI in the AD docket.

Since we issued the NPRM we have reviewed Bombardier Service Bulletin 670BA-27-053, Revision B, dated January 12, 2010. We referred to Bombardier Service Bulletin 670BA-27-053, Revision A, dated July 7, 2009, as the appropriate source of service information for doing certain actions specified in the NPRM. Bombardier Service Bulletin 670BA-27-053, Revision B, dated January 12, 2010, contains minor editorial changes that do not have an effect on the technical content in this AD. We have revised paragraphs (h) and (i) of this AD to refer to Bombardier Service Bulletin 670BA-27-053, Revision B, dated January 12, 2010. We have also added Bombardier Service Bulletin 670BA-27-053, Revision A, dated July 7, 2009, to paragraph (j) of this AD for credit for inspections and replacements accomplished before the effective date of this AD.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comments received. One commenter, Air Line Pilots Association, International, supports the NPRM.

Request to Reference the Correct Service Bulletin

Comair, Inc. states that the intended reference for paragraph (j) of the NPRM should be Bombardier Service Bulletin 670BA-27-053, dated May 14, 2009, for inspections and replacements accomplished before the effective date of this AD.

We agree with Comair, Inc. that Bombardier Service Bulletin 670BA-27-053, dated May 14, 2009, is considered acceptable for compliance with the corresponding actions specified in this AD. We have added this service bulletin to paragraph (j) of this AD.

Conclusion

We reviewed the available data, including the comments received, 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.

Costs of Compliance

We estimate that this AD will affect about 368 products of U.S. registry.

The actions that are required by AD 2009-22-12 and retained in this AD take about 1 work-hour per product, at an average labor rate of \$85 per work-hour. Based on these figures, the estimated cost of the currently required actions is \$85 per product.

We estimate that it will take about 5 work-hours 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 the AD on U.S. operators to be \$156,400, or \$425 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 removing Amendment 39-16065 (74 FR 55767, October 29, 2009) and adding the following new AD:



2010-20-15 Bombardier, Inc.: Amendment 39-16450. Docket No. FAA-2010-0438; Directorate Identifier 2009-NM-265-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective November 5, 2010.

Affected ADs

- (b) This AD supersedes AD 2009-22-12, Amendment 39-16065.

Applicability

(c) This AD applies to Bombardier, Inc. 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 (P/N) C16258AA.

Subject

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

Reason

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

The heating capability of several AOA [angle of attack] 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 an ineffective response to an aerodynamic stall and reduced controllability of the airplane.

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 2009-22-12

(g) 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

For any AOA Transducer that, as of November 13, 2009 (the Effective Date of AD 2009-22-12), has Accumulated –	Do the Initial Inrush Current Measurement –
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 November 13, 2009, 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 November 13, 2009.

(2) If, during any measurement required by paragraph (g)(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 (g)(1) of this AD for that replacement transducer at the times specified in paragraph (g)(2)(i) or (g)(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 (g)(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 (g)(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

If the Last Inrush Current Measurement of the Serviceable AOA Transducer is -	Then Repeat the Measurement -
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.

New Requirements of This AD

(h) Within 6,000 flight hours after the effective date of this AD: Do an inspection to determine the serial number of the AOA transducer having P/N C16258AA, and to determine if the serial number has suffix "A," in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 670BA-27-053, Revision B, dated January 12, 2010.

(1) If the serial number is not specified in paragraph 1.A.(1) of Bombardier Service Bulletin 670BA-27-053, Revision B, dated January 12, 2010, no further action is required by this paragraph.

(2) If the serial number is specified in paragraph 1.A.(1) of Bombardier Service Bulletin 670BA-27-053, Revision B, dated January 12, 2010, and the serial number has a suffix "A," no further action is required by this paragraph.

(3) If the serial number is specified in paragraph 1.A.(1) of Bombardier Service Bulletin 670BA-27-053, Revision B, dated January 12, 2010, and the serial number does not have suffix "A," before further flight, replace the AOA transducer with a serviceable transducer, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 670BA-27-053, Revision B, dated January 12, 2010.

(i) As of the effective date of this AD, no person may install, on any airplane, an AOA transducer having P/N C16258AA with any serial number specified in paragraph 1.A.(1) of Bombardier Service Bulletin 670BA-27-053, Revision B, dated January 12, 2010, unless the serial number has a suffix "A."

(j) Inspections and replacements accomplished before the effective date of this AD, according to the service information specified in Table 3 of this AD, are considered acceptable for compliance with the corresponding actions specified in this AD.

Table 3 – Credit Service Bulletins

Service Bulletin –	Revision –	Date –
Bombardier Service Bulletin 670BA-27-053	Original	May 14, 2009
Bombardier Service Bulletin 670BA-27-053	A	July 7, 2009

FAA AD Differences

Note 1: This AD differs from the MCAI and/or service information as follows: No differences.

Other FAA AD Provisions

(k) 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

(1) Refer to MCAI Canadian Airworthiness Directive CF-2009-35, dated August 31, 2009; Bombardier Service Bulletin 670BA-27-051, dated May 14, 2009; and Bombardier Service Bulletin 670BA-27-053, Revision B, dated January 12, 2010; for related information.

Material Incorporated by Reference

(m) You must use Bombardier Service Bulletin 670BA-27-051, dated May 14, 2009; and Bombardier Service Bulletin 670BA-27-053, Revision B, dated January 12, 2010; as applicable; 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 Bombardier Service Bulletin 670BA-27-053, Revision B, dated January 12, 2010, under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) The Director of the Federal Register previously approved the incorporation by reference of Bombardier Service Bulletin 670BA-27-051, dated May 14, 2009, on November 13, 2009 (74 FR 55767, October 29, 2009).

(3) 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; Internet <http://www.bombardier.com>.

(4) 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.

(5) 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.

Issued in Renton, Washington on September 16, 2010.

Robert D. Breneman,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.