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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-5590; Directorate Identifier 2016-NM-018-AD; Amendment 39-18588; AD 2016-14-07

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc. Airplanes

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

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440), Model CL-600-2C10 (Regional Jet Series 700, 701, & 702), Model CL-600-2D15 (Regional Jet Series 705), Model CL-600-2D24 (Regional Jet Series 900), and Model CL-600-2E25 (Regional Jet Series 1000) airplanes. This AD was prompted by reports of undesirable changes in the Reference Airspeed (RAS) Bug, occurring during flight without pilot input. This AD requires replacing the flight control computer (FCC). We are issuing this AD to prevent uncommanded pitch changes, which could result in deviation from a safe flight path.

DATES: This AD is effective August 16, 2016.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of August 16, 2016.

ADDRESSES: For service information identified in this final rule, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email thd.crj@aero.bombardier.com; Internet. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5590.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5590; or in person at the Docket Management Facility 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 Office (telephone 800-647-5527) is Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Assata Dessaline, Aerospace Engineer, Avionics and Services Branch, ANE-172, FAA, New York Aircraft Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7301; fax 516-794-5531.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440), Model CL-600-2C10 (Regional Jet Series 700, 701, & 702), Model CL-600-2D15 (Regional Jet Series 705), Model CL-600-2D24 (Regional Jet Series 900), and Model CL-600-2E25 (Regional Jet Series 1000) airplanes. The NPRM published in the Federal Register on April 14, 2016 (81 FR 22037) ("the NPRM"). The NPRM was prompted by reports of undesirable changes in the RAS Bug, occurring during flight without pilot input. The NPRM proposed to require replacing the FCC. We are issuing this AD to prevent uncommanded pitch changes, which could result in deviation from a safe flight path.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2016-02, dated January 20, 2016 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for certain Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440), Model CL-600-2C10 (Regional Jet Series 700, 701, & 702), Model CL-600-2D15 (Regional Jet Series 705), Model CL-600-2D24 (Regional Jet Series 900), and Model CL-600-2E25 (Regional Jet Series 1000) airplanes. The MCAI states:

There have been numerous reports of uncommanded changes in the Reference Airspeed (RAS) Bug during flight. When the Auto Flight Control System (AFCS) is in a speed mode (CLB, DES, IAS or MACH), the flight director will show vertical guidance to achieve or maintain the reference airspeed. If the autopilot is engaged, the aeroplane will automatically follow that vertical guidance and cause the aeroplane to pitch up or pitch down. Investigation revealed that this uncommanded reference airspeed changes were caused by the FCC that did not correctly read the input data from the Input/Output Concentrator. If not corrected, these uncommanded pitch changes could create hazard for continued safe flight. This [Canadian] AD mandates installation of a new filter to the Input/Output Circuit Card in the FCC.

Uncommanded pitch changes, if not corrected, could result in deviation from a safe flight path. Corrective actions include replacing the FCC. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5590.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comment received. The commenter supported the NPRM.

Conclusion

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting this AD as proposed.

Related Service Information Under 1 CFR Part 51

We reviewed Bombardier Service Bulletin 601R-22-018, Revision A, dated November 3, 2015; and Service Bulletin 670BA-22-009, dated August 17, 2015. The service information describes procedures for replacing the FCCs. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

We estimate that this AD affects 1,008 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Replace FCC	3 work-hours × \$85 per hour = \$255 per airplane	\$2,800	\$3,055	\$3,079,440

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 that 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);
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.

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 airworthiness directive (AD):



2016-14-07 Bombardier, Inc. Amendment 39-18588. Docket No. FAA-2016-5590; Directorate Identifier 2016-NM-018-AD.

(a) Effective Date

This AD is effective August 16, 2016.

(b) Affected ADs

None.

(c) Applicability

This AD applies to Bombardier, Inc., airplanes, certificated in any category, identified in paragraphs (c)(1) through (c)(5) of this AD, all serial numbers, that are equipped with a flight control computer (FCC) with a part number and serial number listed in paragraph 1A., "Effectivity", of Bombardier Service Bulletin 601R-22-018, Revision A, dated November 3, 2015; or Service Bulletin 670BA-22-009, dated August 17, 2015; as applicable.

- (1) Model CL-600-2B19 (Regional Jet Series 100 & 440) airplanes.
- (2) Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes.
- (3) Model CL-600-2D15 (Regional Jet Series 705) airplanes.
- (4) Model CL-600-2D24 (Regional Jet Series 900) airplanes.
- (5) Model CL-600-2E25 (Regional Jet Series 1000) airplanes.

(d) Subject

Air Transport Association (ATA) of America Code 22, Auto Flight.

(e) Reason

This AD was prompted by reports of undesirable changes in the Reference Airspeed (RAS) Bug, occurring during flight without pilot input. We are issuing this AD to prevent uncommanded pitch changes, which could result in deviation from a safe flight path.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Replace the FCC for Certain Airplanes

Within 33 months after the effective date of this AD: Remove the FCC from the integrated avionic processor system (IAPS) and replace the FCC, in accordance with the Accomplishment Instructions of the applicable service information specified in paragraph (g)(1) or (g)(2) of this AD.

- (1) Bombardier Service Bulletin 601R-22-018, Revision A, dated November 3, 2015; or
- (2) Bombardier Service Bulletin 670BA-22-009, dated August 17, 2015.

(h) Parts Installation Limitation

As of 12 months after the effective date of this AD, no person may install any FCC having a part or serial number identified in Bombardier Service Bulletin 601R-22-018, Revision A, dated November 3, 2015; or Bombardier Service Bulletin 670BA-22-009, dated August 17, 2015; unless "SB 50" is marked on the FCC modification chart (MOD chart).

(i) Credit for Previous Actions

This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 601R-22-018, dated August 17, 2015, as applicable. This service information is not incorporated by reference in this AD.

(j) Other FAA AD Provisions

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. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the New York ACO, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO, ANE-170, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(k) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2016-02, dated January 20, 2016, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-5590.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (l)(3) and (l)(4) of this AD.

(l) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Bombardier Service Bulletin 601R-22-018, Revision A, dated November 3, 2015.

(ii) Bombardier Service Bulletin 670BA-22-009, dated August 17, 2015.

(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; email thd.crj@aero.bombardier.com; Internet <http://www.bombardier.com>.

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

(5) You may view this 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/cfr/ibr-locations.html>.

Issued in Renton, Washington, on June 28, 2016.

John P. Piccola, Jr.,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.