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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2014-0653; Directorate Identifier 2014-NM-057-AD; Amendment 39-18113; AD 2015-05-03]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Bombardier, Inc. 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 certain Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440) airplanes. This AD was prompted by reports of cracking on the skin panels and skin splice joints and angles at certain stringers at various locations between certain fuselage stations. This AD requires revising the maintenance or inspection program, as applicable, to incorporate new or revised maintenance requirements and airworthiness limitations, and incorporating structural repairs and modifications to preclude widespread fatigue damage (WFD). We are issuing this AD to detect and correct WFD, which could adversely affect the structural integrity of the airplane.

**DATES:** This AD becomes effective April 21, 2015.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of April 21, 2015.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2014-0653> or in person at the 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.

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](mailto:thd.crj@aero.bombardier.com); Internet <http://www.bombardier.com>. 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-2014-0653.

**FOR FURTHER INFORMATION CONTACT:** Aziz Ahmed, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone: 516-228-7329; fax: 516-794-5531; email: aziz.ahmed@faa.gov.

## **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) airplanes. The NPRM published in the Federal Register on October 1, 2014 (79 FR 59157). The NPRM was prompted by reports of cracking on the skin panels and skin splice joints and angles at certain stringers at various locations between certain fuselage stations. The NPRM proposed to require revising the maintenance or inspection program, as applicable, to incorporate new or revised maintenance requirements and airworthiness limitations, and incorporating structural repairs and modifications to preclude WFD. We are issuing this AD to detect and correct WFD, which could adversely affect the structural integrity of the airplane.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2014-07, dated January 31, 2014 (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) airplanes. The MCAI states:

Complete aeroplane fatigue testing on a CL-600-2B19 aeroplane by the aeroplane manufacturer revealed the onset of simultaneous cracking on the skin panels and skin splice joints and angles at stringers number 6 and 20 at various locations between fuselage stations (FS) 409.00 to FS 589.00.

Cracks at multiple locations may reduce the residual strength of the joint below the required levels if the cracks are not detectable under the existing maintenance program established at the time of certification. This multiple site damage (MSD) behavior, if not corrected, could lead to widespread fatigue damage (WFD) and adversely affect the structural integrity of the aeroplane and/or could result in rapid decompression of the aeroplane.

A Temporary Revision (TR) has been made to the Maintenance Requirements Manual (MRM) to revise existing Airworthiness Limitations (AWL) tasks and introduce new inspection tasks for the detection of MSD. The aeroplane manufacturer is also developing a structural modification to preclude WFD from occurring in the fleet at these locations.

This [Canadian] AD mandates the incorporation of the new and revised AWL tasks [into the maintenance program], and a structural modification to preclude WFD.

You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2014-0653-0003>.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no valid comments on the NPRM (79 FR 59157, October 1, 2014) or on the determination of the cost to the public.

### **Conclusion**

We reviewed the relevant data and determined that air safety and the public interest require adopting this AD as proposed except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 59157, October 1, 2014) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 59157, October 1, 2014).

### **Related Service Information Under 1 CFR Part 51**

We reviewed the following service information.

- Airworthiness Limitations (AWL) Task 53-41-109, Longitudinal Str. 6 splice at STR 6 and 20, of Appendix B, Airworthiness Limitations, of Part 2, Airworthiness Requirements, Revision 9, dated June 10, 2013, of the Bombardier CL-600-2B19 Maintenance Requirements Manual, CSP A-053. This service information describes procedures for inspecting the longitudinal stringer 6 splice at stringers 6 and 20.
- AWL Task 53-41-110, Longitudinal Str. 6 splice butt strap at Str. 6, FS409.0 to FS617.0, of Appendix B, Airworthiness Limitations, of Part 2, Airworthiness Requirements, Revision 9, dated June 10, 2013, of the Bombardier CL-600-2B19 Maintenance Requirements Manual, CSP A-053. This service information describes procedures for inspecting the longitudinal stringer 6 splice butt at stringer 6 at fuselage station 409.0 to fuselage station 617.0.
- AWL Task 53-41-204, Frame splice angles at STR 6 and 20, of Appendix B, Airworthiness Limitations, of Part 2, Airworthiness Requirements, Revision 9, dated June 10, 2013, of the Bombardier CL-600-2B19 Maintenance Requirements Manual, CSP A-053. This service information describes procedures for inspecting the frame splice angles at stringers 6 and 20.
- AWL Task 53-41-205, Longitudinal skin splice at STR 6 and 20, of Appendix B, Airworthiness Limitations, of Part 2, Airworthiness Requirements, Revision 9, dated June 10, 2013, of the Bombardier CL-600-2B19 Maintenance Requirements Manual, CSP A-053. This service information describes procedures for inspecting the longitudinal skin splice at stringers 6 and 20.

This service information is reasonably available; see ADDRESSES for ways to access this service information.

### **Costs of Compliance**

We estimate that this AD affects 526 airplanes of U.S. registry.

We also estimate that it would take about 1 work-hour per product to comply with the basic requirements of this AD. We have received no definitive data that would enable us to provide cost estimates for the repairs and modifications specified in this AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$44,710, 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 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.

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2014-0653>; 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 Operations office (telephone 800-647-5527) is in the ADDRESSES section.

## **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):



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**2015-05-03 Bombardier, Inc.:** Amendment 39-18113. Docket No. FAA-2014-0653; Directorate Identifier 2014-NM-057-AD.

**(a) Effective Date**

This AD becomes effective April 21, 2015.

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440) airplanes, certificated in any category, serial numbers 7003 and subsequent.

**(d) Subject**

Air Transport Association (ATA) of America Code 05, Periodic Inspections.

**(e) Reason**

This AD was prompted by reports of cracking on the skin panels and skin splice joints and angles at certain stringers at various locations between certain fuselage stations. We are issuing this AD to detect and correct widespread fatigue damage, which could adversely affect the structural integrity of the airplane.

**(f) Compliance**

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

**(g) Revision of Maintenance or Inspection Program**

Within 60 days after the effective date of this AD: Revise the maintenance or inspection program, as applicable, by incorporating the airworthiness limitations (AWL) tasks specified in paragraphs (g)(1) through (g)(4) of this AD. The initial compliance times for the tasks start from the applicable threshold times specified in Part 2 Airworthiness Requirements, Revision 9, dated June 10, 2013, of Appendix B, Airworthiness Limitations, of Bombardier CL-600-2B19, Maintenance Requirements Manual, CSP A-053; except that, for airplanes that have accumulated more than 38,000 total flight cycles as of the effective date of this AD, the initial compliance time for the AWL tasks is before the accumulation of 2,000 flight cycles after the effective date of this AD.

(1) AWL Task 53-41-109, Longitudinal Str. 6 splice at STR 6 and 20, of Appendix B, Airworthiness Limitations, of Part 2, Airworthiness Requirements, Revision 9, dated June 10, 2013, of the Bombardier CL-600-2B19, Maintenance Requirements Manual, CSP A-053.

(2) AWL Task 53-41-110, Longitudinal Str. 6 splice butt strap at Str. 6, FS409.0 to FS617.0, of Appendix B, Airworthiness Limitations, of Part 2, Airworthiness Requirements, Revision 9, dated June 10, 2013, of the Bombardier CL-600-2B19, Maintenance Requirements Manual, CSP A-053.

(3) AWL Task 53-41-204, Frame splice angles at STR 6 and 20, of Appendix B, Airworthiness Limitations, of Part 2, Airworthiness Requirements, Revision 9, dated June 10, 2013, of the Bombardier CL-600-2B19, Maintenance Requirements Manual, CSP A-053.

(4) AWL Task 53-41-205, Longitudinal skin splice at STR 6 and 20., of Appendix B, Airworthiness Limitations, of Part 2, Airworthiness Requirements, Revision 9, dated June 10, 2013, of the Bombardier CL-600-2B19, Maintenance Requirements Manual, CSP A-053.

#### **(h) No Alternative Actions or Intervals**

After the maintenance or inspection program has been revised as required by paragraph (g) of this AD, no alternative actions (e.g., inspections) or intervals may be used unless the actions or intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (j)(1) of this AD.

#### **(i) Repairs and Modifications**

Before the accumulation of 60,000 total flight cycles: Install repairs and modifications to preclude widespread fatigue damage at locations specified in the tasks identified in paragraphs (g)(1) through (g)(4) of this AD, 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.

#### **(j) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York 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 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**

Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2014-07, dated January 31, 2014, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2014-0653-0003>.

## **(I) 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) Appendix B, Airworthiness Limitations, of Part 2, Airworthiness Requirements, Revision 9, dated June 10, 2013, of the Bombardier CL-600-2B19 Maintenance Requirements Manual, CSP A-053:

(A) Airworthiness Limitations (AWL) Task 53-41-109, Longitudinal Str. 6 splice at STR 6 and 20;

(B) AWL Task 53-41-110, Longitudinal Str. 6 splice butt strap at Str. 6, FS409.0 to FS617.0;

(C) AWL Task 53-41-204, Frame splice angles at STR 6 and 20; and

(D) AWL Task 53-41-205, Longitudinal skin splice at STR 6 and 20.

(ii) Reserved.

(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](mailto: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 March 2, 2015.

Jeffrey E. Duven,  
Manager, Transport Airplane Directorate,  
Aircraft Certification Service.