



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-7529; Directorate Identifier 2014-NM-207-AD; Amendment 39-18939; AD 2017-13-09]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc., Airplanes

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

ACTION: Final rule.

SUMMARY: We are superseding Airworthiness Directive (AD) 2014-16-02, which applied to certain Bombardier, Inc., Model CL-600-1A11 (CL-600) airplanes. AD 2014-16-02 required revising the airplane flight manual to prohibit thrust reverser operation, doing repetitive detailed inspections of both engine thrust reversers for cracks, and modifying the thrust reversers if necessary. The modification is also an interim (optional) terminating action for the repetitive inspections. This new AD adds a new terminating modification of the thrust reversers, which includes new inspections and repair, if necessary. This AD was prompted by a determination that it is necessary to add a requirement to repair or modify the thrust reversers, which would terminate the requirements of AD 2014-16-02. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain other publications listed in this AD as of August 12, 2014 (79 FR 46968, August 12, 2014).

ADDRESSES: For service information identified in this final rule, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; Widebody Customer Response Center North America; toll-free telephone number 1-866-538-1247 or direct-dial telephone number 1-514-855-2999; fax 514-855-7401; email ac.yul@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-2015-7529.

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-2015-7529; 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 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: Cesar Gomez, 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 516-228-7318; fax 516-794-5531.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 to supersede AD 2014-16-02, Amendment 39-17926 (79 FR 46968, August 12, 2014) (“AD 2014-16-02”). AD 2014-16-02 applied to certain Bombardier, Inc. Model CL-600-1A11 (CL-600) airplanes. The SNPRM published in the Federal Register on December 13, 2016 (81 FR 89881) (“the SNPRM”). We preceded the SNPRM with a notice of proposed rulemaking (NPRM) that published in the Federal Register on December 24, 2015 (80 FR 80293) (“the NPRM”). The NPRM was prompted by a determination that it is necessary to add a requirement to repair or modify the thrust reversers, which would terminate the requirements of AD 2014-16-02 after modification or repair. The NPRM proposed to continue to require the actions specified in AD 2014-16-02 until modification or repair of the thrust reversers. The SNPRM proposed to reduce the compliance time for modification of the thrust reversers, and add new modification

procedures. We are issuing this AD to detect and correct cracks of the translating sleeve at the thrust reverser actuator attachment points, which could result in deployment or dislodgement of an engine thrust reverser in flight and subsequent reduced control of the airplane.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2014-19R1, dated March 11, 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-600-1A11 (CL-600) airplanes. The MCAI states:

There have been two reported incidents of partial deployment of an engine thrust reverser in-flight, caused by a failure of the translating sleeve at the thrust reverser actuator attachment points. Inspection of the same area on some other thrust reversers revealed cracks emanating from the holes under the nut plates.

In both incidents, the affected aeroplane landed safely without any noticeable controllability issues, however structural failure of thrust reverser actuator attachment points resulting in thrust reverser deployment or dislodgment in flight is a safety hazard warranting an immediate mitigating action.

To help in mitigating any immediate safety hazard, Bombardier Inc. has revised the Aircraft Flight Manual (AFM) through Temporary Revisions (TR) 600/29, 600/30, 600-1/24 and 600-1/26, to prohibit the thrust reverser operation on affected aeroplanes. Additionally, as an interim corrective action, Bombardier Inc. has issued alert service bulletin (ASB) A600-0769 requiring an inspection and/or a mechanical lock out of the thrust reverser to prevent it from moving out of forward thrust mode.

Original [TCCA] Emergency AD CF-2014-19 [which corresponds to FAA AD 2014-16-02] was issued 20 June

2014 to mandate the incorporation of above mentioned revised AFM procedures and compliance with ASB A600-0769. This [TCCA] AD is now being revised to include the terminating action [modification of the thrust reversers] in accordance with Part C of the ASB A600-0769 Rev 02 dated 22 February 2016.

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-2015-7529.

Comments

We gave the public the opportunity to participate in developing this AD. We received no comments on the SNPRM or on the determination of the cost to the public.

Conclusion

We reviewed the available 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 SNPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the SNPRM.

Related Service Information under 1 CFR part 51

We reviewed Bombardier Alert Service Bulletin A600-0769, Revision 02, dated February 22, 2016. The service information describes procedures for a new permanent modification of the thrust reversers on both engines, which includes inspections for cracks and elongated holes.

We also reviewed the following TRs, which introduce procedures to prohibit thrust reverser operation. These documents are distinct since they apply to different airplane configurations.

- Canadair TR 600/29-2, dated January 18, 2016, to the Canadair CL-600-1A11 AFM.
- Canadair TR 600-1/24-2, dated January 18, 2016, to the Canadair CL-600-1A11 AFM (Winglets).

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 18 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
AFM revision; inspection [retained actions from AD 2014-16-02]	29 work-hours X \$85 per hour = \$2,465	N/A	\$2,465	\$44,370
New modification	100 work-hours X \$85 per hour = \$8,500	\$509	\$9,009	\$162,162

We estimate the following costs to do any necessary modifications that will be required based on the results of the inspection. We have no way of determining the number of aircraft that might need this modification:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Modification	36 work-hours X \$85 per hour = \$3,060	\$509	\$3,569

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions for the inspections that are part of the new modification specified in 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 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 removing Airworthiness Directive (AD) 2014-16-02, Amendment 39-17926 (79 FR 46968, August 12, 2014), and adding the following new AD:

2017-13-09 Bombardier, Inc.: Amendment 39-18939; Docket No. FAA-2015-7529; Directorate Identifier 2014-NM-207-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2014-16-02, Amendment 39-17926 (79 FR 46968, August 12, 2014) (“AD 2014-16-02”).

(c) Applicability

This AD applies to Bombardier, Inc., Model CL-600-1A11 (CL-600) airplanes, certificated in any category, serial numbers 1004 through 1085 inclusive.

(d) Subject

Air Transport Association (ATA) of America Code 78, Engine Exhaust.

(e) Reason

This AD was prompted by reports of partial deployment of an engine thrust reverser in flight caused by a failure of the translating sleeve at the thrust reverser attachment points. We are issuing this AD to detect and correct cracks of the translating sleeve at the thrust reverser actuator attachment points, which could result in deployment

or dislodgement of an engine thrust reverser in flight and subsequent reduced control of the airplane.

(f) Compliance

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

(g) Retained Airplane Flight Manual (AFM) Revision with Revised Service Information

This paragraph restates the requirements of paragraph (g) of AD 2014-16-02, with revised service information. Within 1 calendar day after August 12, 2014 (the effective date of AD 2014-16-02): Revise the applicable sections of the AFM to include the information specified in the temporary revisions (TRs) identified in paragraphs (g)(1) and (g)(2) of this AD, as applicable. These TRs introduce procedures to prohibit thrust reverser operation. Operate the airplane according to the limitations and procedures in the TRs identified in paragraphs (g)(1) and (g)(2) of this AD, as applicable. The revision required by paragraph (g) of this AD may be done by inserting copies of the applicable TRs identified in paragraphs (g)(1) and (g)(2) of this AD into the AFM. When these TRs have been included in the 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 the applicable TRs, and the TRs may be removed.

(1) Canadair TR 600/29, dated June 20, 2014, to the Canadair CL-600-1A11 AFM; or Canadair TR 600/29-2, dated January 18, 2016, to the Canadair CL-600-1A11 AFM. As of the effective date of this AD, use only Canadair TR 600/29-2, dated January 18, 2016, to the Canadair CL-600-1A11 AFM.

(2) Canadair TR 600-1/24, dated June 20, 2014, to the Canadair CL-600-1A11 AFM (Winglets), including Erratum, Publication No. PSP 600-1AFM (US), TR No. 600-1/24, June 20, 2014; or Canadair TR 600-1/24-2, dated January 18, 2016, to the Canadair CL-600-1A11 AFM (Winglets). As of the effective date of this AD, use only Canadair TR 600-1/24-2, dated January 18, 2016, to the Canadair CL-600-1A11 AFM (Winglets).

(h) Retained Repetitive Inspections and Modifications, with Revised Service Information

This paragraph restates the requirements of paragraph (h) of AD 2014-16-02, with revised service information. Within 25 flight cycles or 90 days, whichever occurs first, after August 12, 2014 (the effective date of AD 2014-16-02), do detailed inspections (including a borescope inspection) of both engine thrust reversers for cracks, in accordance with the Accomplishment Instructions of Bombardier Alert Service Bulletin A600-0769, Revision 01, dated June 26, 2014; or Bombardier Alert Service Bulletin A600-0769, Revision 02, dated February 22, 2016. As of the effective date of this AD, use only Bombardier Alert Service Bulletin A600-0769, Revision 02, dated February 22, 2016.

(1) If no cracking is found during any inspection required by paragraph (h) of this AD, repeat the inspection required by paragraph (h) of this AD thereafter at intervals not to exceed 100 flight cycles until the repair or modification specified in paragraph (i) or (k) of this AD is done.

(2) If any cracking is found during any inspection required by paragraph (h) of this AD, before further flight, modify the thrust reversers on both engines, in accordance

with Part B of the Accomplishment Instructions of Bombardier Alert Service Bulletin A600-0769, Revision 01, dated June 26, 2014; or Bombardier Alert Service Bulletin A600-0769, Revision 02, dated February 22, 2016. As of the effective date of this AD, use only Bombardier Alert Service Bulletin A600-0769, Revision 02, dated February 22, 2016.

(i) Retained Optional Terminating Modification, with Revised Service Information

This paragraph restates the optional terminating action specified in paragraph (i) of AD 2014-16-02, with revised service information. Modifying the thrust reversers on both engines, in accordance with Part B of the Accomplishment Instructions of Bombardier Alert Service Bulletin A600-0769, Revision 01, dated June 26, 2014; or Bombardier Alert Service Bulletin A600-0769, Revision 02, dated February 22, 2016; terminates the inspections required by paragraph (h) of this AD. As of the effective date of this AD, use only Bombardier Alert Service Bulletin A600-0769, Revision 02, dated February 22, 2016.

(j) Retained Credit for Previous Actions, with No Changes

This paragraph restates the credit provided in paragraph (j) of AD 2014-16-02, with no changes. This paragraph provides credit for actions required by paragraphs (h) and (i) of this AD, if those actions were performed before August 12, 2014 (the effective date of AD 2014-16-02), using Bombardier Alert Service Bulletin A600-0769, dated June 19, 2014.

(k) New Requirement of this AD: Permanent Modification and Inspections

Within 24 months after the accomplishing the modification specified in paragraph (h)(2) of this AD, or within 48 months after accomplishing the initial inspection required by paragraph (h) of this AD, whichever occurs later: Modify the thrust reversers on both engines, including doing the inspections specified in paragraphs (k)(1) through (k)(6) of this AD, in accordance with Part C of the Accomplishment Instructions of Bombardier Alert Service Bulletin A600-0769, Revision 02, dated February 22, 2016, except as required by paragraphs (m)(1) and (m)(2) of this AD. Modification of all thrust reversers terminates the requirements of paragraphs (g), (h), and (i) of this AD.

(1) Do general visual inspections of the flipper doors for cracks.

(2) Do a general visual inspection of the thrust reverser skin, frames, joints, splices, and fasteners for cracks.

(3) Do a general visual inspection of the thrust reverser for cracks.

(4) Do liquid penetrant or eddy current inspections, as applicable, of the frames for cracks.

(5) Do a detailed visual inspection of the frames for cracks and elongated holes, and do a liquid penetrant inspection of the frames for cracks.

(6) Do a liquid penetrant or an eddy current inspection of the translating sleeve skin for cracks.

(l) New Requirement of this AD: Repair

If, during any inspection required by paragraph (k) of this AD, any cracking or elongated hole is found, before further flight, repair using a method approved by the Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO).

(m) New Exceptions to Service Information

(1) If it is not possible to follow all instructions specified in Bombardier Alert Service Bulletin A600-0769, Revision 02, dated February 22, 2016, during accomplishment of the actions required by paragraph (k) of this AD, before further flight, repair using a method approved by the Manager, New York ACO, ANE-170, FAA; or TCCA; or Bombardier, Inc.'s TCCA DAO.

(2) Where Bombardier Alert Service Bulletin A600-0769, Revision 02, dated February 22, 2016, specifies to contact Bombardier if shim thickness is over the applicable thicknesses identified in Bombardier Alert Service Bulletin A600-0769, Revision 02, dated February 22, 2016, before further flight, repair using a method approved by the Manager, New York ACO, ANE-170, FAA; or TCCA; or Bombardier, Inc.'s TCCA DAO.

(n) 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 manager of 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.

(2) Contacting the Manufacturer: As of the effective date of this AD, 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 TCCA; or Bombardier, Inc.'s TCCA DAO. If approved by the DAO, the approval must include the DAO-authorized signature.

(o) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2014-19R1, dated March 11, 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-2015-7529.

(2) For more information about this AD, contact Cesar Gomez, 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 516-228-7318; fax 516-794-5531.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (p)(5) and (p)(6) of this AD.

(p) 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.

(3) The following service information was approved for IBR on [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(i) Bombardier Alert Service Bulletin A600-0769, Revision 02, dated February 22, 2016.

(ii) Canadair Temporary Revision 600/29-2, dated January 18, 2016, to the Canadair CL-600-1A11 Airplane Flight Manual.

(iii) Canadair Temporary Revision 600-1/24-2, dated January 18, 2016, to the Canadair CL-600-1A11 Airplane Flight Manual (Winglets).

(4) The following service information was approved for IBR on August 12, 2014 (79 FR 46968, August 12, 2014).

(i) Bombardier Alert Service Bulletin A600-0769, Revision 01, dated June 26, 2014.

(ii) Canadair TR 600/29, dated June 20, 2014, to the Canadair CL-600-1A11 Airplane Flight Manual.

(iii) Canadair TR 600-1/24, dated June 20, 2014, to the Canadair CL-600-1A11 AFM (Winglets), including Erratum, Publication No. PSP 600-1AFM (US), TR No. 600-1/24, June 20, 2014.

(5) For service information identified in this AD, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; Widebody Customer Response Center North America; toll-free telephone number 1-866-538-1247 or direct-dial telephone number 1-514-855-2999; fax 514-855-7401; email ac.yul@aero.bombardier.com; Internet <http://www.bombardier.com>.

(6) 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.

(7) 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 16, 2017.

Michael Kaszycki,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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