

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0375; Directorate Identifier 2010-NM-014-AD; Amendment 39-16443; AD 2010-20-09]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440) Airplanes; Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) Airplanes; Model CL-600-2D15 (Regional Jet Series 705) 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 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:

Following five reported cases of balance washer screw failure on similar ADGs [air-driven generators]/ram air turbines installed on other aircraft types, investigation by Hamilton Sundstrand determined that a specific batch of the screws had a metallographic non-conformity that increased their susceptibility to brittle fracture. * *

Failure of a balance washer screw can result in loss of the related balance washer, with consequent turbine imbalance. Such imbalance could potentially result in ADG structural failure (including blade failure), loss of ADG electrical power and structural damage to the aircraft and, if deployment was activated by a dual engine shutdown, could also result in loss of hydraulic power for the flight controls.

* * * * *

The unsafe condition is the reduced ability of the flightcrew to maintain the safe flight and landing 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 1, 2010.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of November 1, 2010.

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: Christopher Alfano, Aerospace Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7340; 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 April 8, 2010 (75 FR 17884). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

Following five reported cases of balance washer screw failure on similar ADGs [air-driven generators]/ram air turbines installed on other aircraft types, investigation by Hamilton Sundstrand determined that a specific batch of the screws had a metallographic non-conformity that increased their susceptibility to brittle fracture. Subsequently, it was established that 152 "dry" ADGs [Hamilton Sundstrand Part Numbers (P/Ns) in the 761339 series and 1711405; see Note] either had non-conforming screws installed during production or may possibly have had non-conforming screws installed during maintenance or repair at Hamilton Sundstrand repair stations.

Failure of a balance washer screw can result in loss of the related balance washer, with consequent turbine imbalance. Such imbalance could potentially result in ADG structural failure (including blade failure), loss of ADG electrical power and structural damage to the aircraft and, if deployment was activated by a dual engine shutdown, could also result in loss of hydraulic power for the flight controls [and consequent reduced ability of the flightcrew to maintain the safe flight and landing of the airplane].

This [Canadian] directive mandates checking the ADG and replacing the balance washer screws, if required. It also prohibits future installation of unmodified ADGs.

Note: ADGs with Hamilton Sundstrand P/Ns in the 761339 series and 1711405 are installed on the aircraft models listed in the Applicability section above in addition to Bombardier Inc. Model CL-600-2B16. The latter model is covered in a separate directive.

The unsafe condition is the reduced ability of the flightcrew to maintain the safe flight and landing of the airplane. You may obtain further information by examining the MCAI in the AD docket.

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

Request To Remove the Phrase "Before Further Flight" From Paragraph (i) of the AD

Comair requests that the phrase "before further flight" be changed from paragraph (i) of the AD. Comair suggests that the intent of paragraph (i) is that if the air-driven generator (ADG) is deployed to allow inspection of the data plate for the symbol "24-5," and it is discovered that there is no symbol "24-5," before further flight comply with the service bulletin. Comair suggests using the phrase "within the timeframe determined in (g) or (h)."

We agree with the request to change the wording in paragraph (i) of this AD. This change does not compromise safety or the intent of the AD; therefore, we have changed the wording to "within the applicable time in paragraph (g) or (h) of this AD."

Request To Eliminate "24-5" Marking on the ADG Identification Plate

Air Wisconsin requests that the "24-5" marking on the ADG identification plate be eliminated from the identification plate. Air Wisconsin states that it is the operator's record keeping system that is required to show compliance with the AD, and Air Wisconsin's record keeping system has been approved to sufficiently ensure AD compliance.

We disagree with the request to remove the "24-5" marking on the ADG identification plate. The "24-5" marking on the identification plate of the affected ADG identifies that the suspect balance washer screws have been replaced and are in compliance with the AD. No change has been made to the AD in this regard.

Request for Clarification Regarding Term "All Airplanes"

Air Wisconsin requests clarification regarding the term "all airplanes," which is used in Note 1 of the NPRM specifying that the inspection is to be done on all airplanes.

We agree that clarification is needed. The term "all airplanes" refers to the applicable airplane models listed in paragraph (c) of this AD. It is possible that an affected part could be rotated onto any of the airplanes listed in the applicability, and the affected part could be missed unless the inspection specified in paragraph (g) of this AD applies to all of the airplanes identified in paragraph (c) of this AD. No change has been made to the AD in this regard.

Request To Reclassify as Appliance AD

Air Wisconsin requests that this AD be classified as an appliance AD. Air Wisconsin requests that if we cannot reclassify it as an appliance AD, we include a statement ensuring compliance on all units in inventory so that affected units are not installed on airplanes.

We disagree with the request to reclassify the AD as an appliance AD. When the unsafe condition results from the installation of the appliance on an aircraft, the AD action is issued against the aircraft, not the appliance. We also disagree with the request to include a statement ensuring compliance on all units in inventory, because paragraph (j) of this AD already addresses the issue of installing a replacement or spare ADG on any airplane. No change has been made to the AD in this regard.

Clarification of Paragraph (g)

We have clarified the compliance times in paragraph (g) of this AD by requiring the inspection at the earliest of the times identified in paragraphs (g)(1), (g)(2), (g)(3), and (g)(4) 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 changes described previously. We determined that these changes 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 1,008 products of U.S. registry. We also estimate that it will take about 10 work-hours per product to comply with the 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 parts. 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 this AD to the U.S. operators to be \$856,800, or \$850 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 adding the following new AD:



2010-20-09 Bombardier, Inc.: Amendment 39-16443. Docket No. FAA-2010-0375; Directorate Identifier 2010-NM-014-AD.

Effective Date

- (a) This airworthiness directive (AD) becomes effective November 1, 2010.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to Bombardier, Inc. Model CL-600-2B19 (Regional Jet Series 100 & 440) airplanes, serial numbers 7305 through 7990 inclusive and 8000 and subsequent; Model CL-600-2C10 (Regional Jet Series 700, 701, & 702) airplanes, serial numbers 10003 and subsequent; Model CL-600-2D15 (Regional Jet Series 705) and Model CL-600-2D24 (Regional Jet Series 900) airplanes, serial numbers 15001 and subsequent; certificated in any category.

Subject

- (d) Air Transport Association (ATA) of America Code 24: Electrical power.

Reason

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

Following five reported cases of balance washer screw failure on similar ADGs [air-driven generators]/ram air turbines installed on other aircraft types, investigation by Hamilton Sundstrand determined that a specific batch of the screws had a metallographic non-conformity that increased their susceptibility to brittle fracture. Subsequently, it was established that 152 "dry" ADGs [Hamilton Sundstrand Part Numbers (P/Ns) in the 761339 series and 1711405; see Note] either had non-conforming screws installed during production or may possibly have had non-conforming screws installed during maintenance or repair at Hamilton Sundstrand repair stations.

Failure of a balance washer screw can result in loss of the related balance washer, with consequent turbine imbalance. Such imbalance could potentially result in ADG structural failure (including blade failure), loss of ADG electrical power and structural damage to the aircraft and, if deployment was activated by a dual engine shutdown, could also result in loss of hydraulic power for the flight controls.

This [Canadian] directive mandates checking the ADG and replacing the balance washer screws, if required. It also prohibits future installation of unmodified ADGs.

Note: ADGs with Hamilton Sundstrand P/Ns in the 761339 series and 1711405 are installed on the aircraft models listed in the Applicability section above in addition to Bombardier Inc. Model CL-600-2B16. The latter model is covered in a separate directive.

The unsafe condition is the reduced ability of the flightcrew to maintain the safe flight and landing 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.

Actions

(g) For Model CL-600-2C10, CL-600-2D15 and CL-600-2D24 airplanes: At the earliest of the times identified in paragraphs (g)(1), (g)(2), (g)(3), and (g)(4) of this AD, do an inspection to determine the serial number of the installed air-driven generator (ADG), in accordance with the Accomplishment Instructions of the applicable service bulletin listed in Table 1 of this AD. A review of airplane maintenance records is acceptable in lieu of this inspection if the serial number of the ADG can be conclusively identified from that review.

- (1) Within 4,000 flight hours or 18 months after the effective date of this AD, whichever occurs first; or
- (2) Prior to the next in-flight or on-ground functional check of the ADG, whichever occurs first after the effective date of this AD; or
- (3) Prior to the next in-flight or on-ground operational check of the ADG, whichever occurs first after the effective date of this AD; or
- (4) Before the next scheduled ADG in-flight deployment.

(h) For Model CL-600-2B19 airplanes: At the earliest of the times identified in paragraphs (h)(1), (h)(2), (h)(3), and (h)(4) of this AD, do an inspection to determine the serial number of the installed ADG, in accordance with the Accomplishment Instructions of the applicable service bulletin listed in Table 1 of this AD. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number of the ADG can be conclusively identified from that review.

- (1) Within 4,000 flight hours after the effective date of this AD; or
- (2) Prior to the next in-flight or on-ground functional check of the ADG, whichever occurs first after the effective date of this AD; or
- (3) Prior to the next in-flight or on-ground operational check of the ADG, whichever occurs first after the effective date of this AD; or
- (4) Before the next scheduled ADG in-flight deployment.

Table 1 – Service Bulletins

Model –	Bombardier Service Bulletin –	Revision –	Dated –
CL-600-2B19 airplanes	601R-24-127	A	February 25, 2010
CL-600-2C10, CL-600-2D15, and CL-600-2D24 airplanes	670BA-24-026	Original	October 23, 2009

(i) If the ADG serial number determined in paragraph (g) or (h) of this AD is identified in paragraph 1.A. of the applicable service bulletin listed in Table 1 of this AD, within the applicable time in paragraph (g) or (h) of this AD do an inspection to determine if the symbol "24-5" is marked on the ADG identification plate. A review of airplane maintenance records is acceptable in lieu of this inspection if the symbol "24-5" mark can be conclusively identified from that review.

(1) If the symbol "24-5" is marked on the ADG identification plate, the balance washer screws have already been replaced, and no further action is required by this paragraph.

(2) If the symbol "24-5" is not marked on the ADG identification plate, before further flight replace all balance washer screws with new balance washer screws, part number MS24667-14, and mark the ADG identification plate with symbol "24-5," in accordance with the Accomplishment Instructions of the applicable service bulletin listed in Table 1 of this AD.

(j) As of the effective date of this AD, no person may install on any airplane, a replacement or spare ADG, Hamilton Sundstrand part number in the 761339 or 1711405 series, having one of the serial numbers identified in paragraph 1.A. of the applicable service bulletin identified in Table 1 of this AD, unless the ADG is identified with the symbol "24-5" on the identification plate.

Actions Accomplished According to Previous Issue of Service Bulletin

(k) Inspections accomplished before the effective date of this AD according to Bombardier Service Bulletin 601R-24-127, dated October 23, 2009, are considered acceptable for compliance with the corresponding action specified in this AD.

FAA AD Differences

Note 1: This AD differs from the MCAI and/or service information as follows: The MCAI specifies to inspect only airplanes having certain serial numbers that are part of the MCAI applicability. Because the affected part could be rotated onto any of the airplanes listed in the applicability, this AD requires the inspection be done on all airplanes. We have coordinated this with the TCCA.

Other FAA AD Provisions

(l) 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

(m) Refer to MCAI Canadian Airworthiness Directive CF-2009-48, dated December 14, 2009; and Bombardier Service Bulletins 601R-24-127, Revision A, dated February 25, 2010, and 670BA-24-026, dated October 23, 2009; for related information.

Material Incorporated by Reference

(n) You must use Bombardier Service Bulletin 601R-24-127, Revision A, dated February 25, 2010; or Bombardier Service Bulletin 670BA-24-026, dated October 23, 2009; 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 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; 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.

(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.

Issued in Renton, Washington, on September 15, 2010.

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