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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2009-1227; Directorate Identifier 2009-NM-119-AD; Amendment 39-16347; AD 2010-14-02]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc. Model CL-600-2B16 (CL-604 Variant) 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:

Two cases of a crack on a "dry" ADG [air driven generator] (Hamilton Sundstrand part number in the 761339 series), in the aft area of the strut and generator housing assembly, have been reported on CL-600-2B19 aircraft. The same part number is also installed on CL-600-2B16 (CL-604) aircraft. Investigation determined that the crack was in an area of the strut where the wall thickness of the casting was below specification, due to a manufacturing anomaly in a specific batch of ADGs. Structural failure and departure of the ADG during deployment could possibly result in damage to the aircraft structure. If deployment were activated by a dual engine shutdown, ADG structural failure would also result in loss of hydraulics for the flight controls.

* * * * *

The unsafe condition is possible loss of control of the airplane. We are issuing this AD to require actions to correct the unsafe condition on these products.

DATES: This AD becomes effective August 5, 2010.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of August 5, 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: Craig Yates, 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) 228-7355; 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 January 4, 2010 (75 FR 91). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

Two cases of a crack on a "dry" ADG [air driven generator] (Hamilton Sundstrand part number in the 761339 series), in the aft area of the strut and generator housing assembly, have been reported on CL-600-2B19 aircraft. The same part number is also installed on CL-600-2B16 (CL-604) aircraft. Investigation determined that the crack was in an area of the strut where the wall thickness of the casting was below specification, due to a manufacturing anomaly in a specific batch of ADGs. Structural failure and departure of the ADG during deployment could possibly result in damage to the aircraft structure. If deployment were activated by a dual engine shutdown, ADG structural failure would also result in loss of hydraulics for the flight controls.

This directive gives instructions to check the part number of the installed ADG and, for ADGs with a part number in the 761339 series, the serial numbers of the ADG and the strut and generator housing assembly are also to be checked. If these serial numbers are within specified ranges * * *, initial and subsequent repeat fluorescent penetrant inspections of the ADG strut are required.

This directive also gives instructions to perform a fluorescent penetrant inspection after each unscheduled in-flight ADG deployment and a [general] visual inspection after each unscheduled on-ground ADG deployment. Instructions regarding re-identification (where applicable) and replacement parts are also included.

The unsafe condition is possible loss of control 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 Change Table 1

Bombardier Aerospace (Bombardier) asks that we change Table 1 of the NPRM to refer to Bombardier Alert Service Bulletin A604-24-017, Revision 01, dated January 15, 2007, instead of Bombardier Alert Service Bulletin A604-24-017, dated May 6, 2005. Bombardier states that Revision 01 is referenced throughout the NPRM.

We do not agree with the commenter. The service information identified in Table 1 of this AD is to give credit for inspections done before the effective date of the AD in accordance with previously issued service information. Revision 01 of Bombardier Alert Service Bulletin A604-24-017 is the appropriate source of service information for accomplishing the actions required after the effective date of this AD. We have made no change to the AD in this regard.

Request to Change Paragraph (f)(4)

Bombardier asks that the inspection type specified in paragraph (f)(4) of the NPRM be changed from a general visual inspection to a fluorescent penetrant inspection. Bombardier states that Bombardier Alert Service Bulletin A604-24-017, Revision 01, dated January 15, 2007, specifies a fluorescent penetrant inspection.

We agree with the commenter. Part III of the Transport Canada Civil Aviation (TCCA) AD, which equates to paragraph (f)(4) of this AD, requires merely "inspecting" the ADG strut; therefore, to further clarify the type of inspection, we inadvertently described a general visual inspection. However, Bombardier Alert Service Bulletin A604-24-017, Revision 01, dated January 15, 2007, specifies a fluorescent penetrant inspection of the ADG strut for cracks, which we subsequently determined is the correct inspection type. Therefore, we have changed paragraph (f)(4) of this AD to require a fluorescent penetrant inspection of the ADG strut for cracks.

Explanation of Additional Changes Made to This AD

We have changed this AD to identify the name of the manufacturer as published in the most recent type certificate data sheet for the affected airplane models.

Paragraph (f)(1)(ii)(C)(1) of this AD was changed to clarify that the sub-paragraphs identified within that paragraph as (f)(6), (f)(7), and (f)(8), should have been identified as paragraphs (f)(5), (f)(6), and (f)(7).

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.

Explanation of Change to Costs of Compliance

Since issuance of the NPRM, we have increased the labor rate used in the Costs of Compliance from \$80 per work-hour to \$85 per work-hour. The Costs of Compliance information, below, reflects this increase in the specified hourly labor rate.

Costs of Compliance

We estimate that this AD will affect 378 products of U.S. registry. We also estimate that it will take about 2 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 \$64,260, or \$170 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:



2010-14-02 Bombardier, Inc.: Amendment 39-16347. Docket No. FAA-2009-1227; Directorate Identifier 2009-NM-119-AD.

Effective Date

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

Affected ADs

- (b) None.

Applicability

(c) This AD applies to Bombardier, Inc. Model CL-600-2B16 (CL-604 Variant) airplanes; certificated in any category; serial numbers 5408 through 5665 inclusive.

Subject

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

Reason

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

Two cases of a crack on a "dry" ADG [air driven generator] (Hamilton Sundstrand part number in the 761339 series), in the aft area of the strut and generator housing assembly, have been reported on CL-600-2B19 aircraft. The same part number is also installed on CL-600-2B16 (CL-604) aircraft. Investigation determined that the crack was in an area of the strut where the wall thickness of the casting was below specification, due to a manufacturing anomaly in a specific batch of ADGs. Structural failure and departure of the ADG during deployment could possibly result in damage to the aircraft structure. If deployment were activated by a dual engine shutdown, ADG structural failure would also result in loss of hydraulics for the flight controls.

This directive gives instructions to check the part number of the installed ADG and, for ADGs with a part number in the 761339 series, the serial numbers of the ADG and the strut and generator housing assembly are also to be checked. If these serial numbers are within specified ranges * * *, initial and subsequent repeat fluorescent penetrant inspections of the ADG strut are required.

This directive also gives instructions to perform a fluorescent penetrant inspection after each unscheduled in-flight ADG deployment and a [general] visual inspection after each unscheduled on-ground ADG deployment. Instructions regarding re-identification (where applicable) and replacement parts are also included.

The unsafe condition is possible loss of control of the airplane.

Actions and Compliance

(f) Unless already done, do the following actions.

(1) Within 400 flight hours after the effective date of this AD, inspect to determine the part number of the installed ADG and accomplish the actions required by paragraph (f)(1)(i) or (f)(1)(ii) of this AD, as applicable. A review of airplane maintenance records is acceptable in lieu of this inspection if the part number of the ADG can be conclusively determined from that review.

(i) If the part number of the ADG is 604-90800-23 (Hamilton Sundstrand part number 1711405), the strut wall thickness is within specification and no further action is required by this paragraph.

(ii) If the part number of the ADG is 604-90800-1, -17 or -19 (Hamilton Sundstrand part number in the 761339 series), inspect to determine the ADG serial number and do the applicable action required by paragraph (f)(1)(ii)(A), (f)(1)(ii)(B), or (f)(1)(ii)(C) 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 determined from that review.

(A) If the serial number of the ADG is 2000 or higher, the strut wall thickness is within specification and only re-identification is required. Do the actions required by paragraph (f)(8) of this AD.

(B) If the serial number of the ADG is in the range 0101 through 1999 inclusive, and the symbol 24-3 is marked in the serial number block of the identification plate, the strut wall thickness is within specification and only re-identification is required. Do the actions required by paragraph (f)(8) of this AD.

(C) If the serial number of the ADG is in the range 0101 through 1999 inclusive, and the symbol 24-3 is not marked in the serial number block of the identification plate, inspect to determine the serial number of the strut and generator housing assembly and do the applicable action required by paragraph (f)(1)(ii)(C)(1) or (f)(1)(ii)(C)(2) of this AD, as applicable.

Note 1: Guidance on serial number location can be found in Figure 1, Sheet 1, of Hamilton Sundstrand Service Bulletin ERPS10AG-24-3, Revision 3, dated March 12, 2009.

(1) If the serial number of the strut and generator housing assembly is in the range 0001 through 2503 inclusive, the fluorescent penetrant inspection specified in paragraph (f)(2) of this AD is required. For airplanes on which an unscheduled in-flight or on-ground ADG deployment has occurred after accomplishing the actions required by this paragraph, do the actions required by paragraph (f)(5), (f)(6), or (f)(7) of this AD, as applicable.

(2) If the serial number of the strut and generator housing assembly is 2504 or higher, the strut wall thickness is within specification and only re-identification is required. Do the actions required by paragraph (f)(8) of this AD.

(2) For airplanes having a strut and generator housing assembly identified in paragraph (f)(1)(ii)(C)(1) of this AD, except for airplanes with serial numbers 5611 through 5665 on which Bombardier conducted the initial fluorescent penetrant inspection prior to aircraft delivery and on which the ADG has not been replaced since aircraft delivery: Within 400 flight hours after the effective date of this AD, do a fluorescent penetrant inspection of the ADG strut, and replace the ADG, as applicable, in accordance with paragraphs 2.A., 2.C., and 2.D. of the Accomplishment Instructions in Bombardier Alert Service Bulletin A604-24-017, Revision 01, dated January 15, 2007. If the ADG is replaced by an ADG with part number 604-90800-23 (Hamilton Sundstrand part number 1711405), no further action is required by this paragraph. Accomplishing the requirements in paragraph (f)(4) of this AD is required for airplanes on which each ADG has been inspected in accordance with this paragraph.

(3) Accomplishment of the fluorescent penetrant inspection before the effective date of this AD in accordance with the applicable service information identified in Table 1 of this AD is acceptable for compliance with the requirements of paragraph (f)(2) of this AD.

Table 1 - Acceptable Service Information

Document	Revision	Date
Bombardier Alert Service Bulletin A604-24-017	Original	May 6, 2005
Hamilton Sundstrand Service Bulletin ERPS10AG-24-3	Original	April 14, 2005
Hamilton Sundstrand Service Bulletin ERPS10AG-24-3	Revision 1	April 19, 2005
Hamilton Sundstrand Service Bulletin ERPS10AG-24-3	Revision 2	November 14, 2006
Hamilton Sundstrand Service Bulletin ERPS10AG-24-3	Revision 3	March 12, 2009

Note 2: In Hamilton Sundstrand Service Bulletin ERPS10AG-24-3, the fluorescent penetrant inspection is referred to as a "penetrant check."

(4) As of the effective date of this AD, for airplanes on which the inspection required by paragraph (f)(2) of this AD has been done and on which a scheduled ADG operational test is performed: Before further flight after each test, do a fluorescent penetrant inspection of the ADG strut for cracks, and replace the ADG if any crack is found, in accordance with paragraphs 2.A., 2.C., and 2.D. of the Accomplishment Instructions in Bombardier Alert Service Bulletin A604-24-017, Revision 01, dated January 15, 2007. If the ADG is replaced by an ADG with part number 604-90800-23 (Hamilton Sundstrand part number 1711405), no further action is required by this paragraph.

(5) As of the effective date of this AD, for airplanes identified in paragraph (f)(1)(ii)(C)(1) of this AD on which an unscheduled in-flight ADG deployment occurs: Before further flight after each deployment, do a general visual inspection of the ADG strut for cracks, and replace the ADG if any crack is found, in accordance with paragraphs 2.A., 2.B., and 2.D. of the Accomplishment Instructions in Bombardier Alert Service Bulletin A604-24-017, Revision 01, dated January 15, 2007. [If the ADG is replaced by an ADG with part number 604-90800-23 (Hamilton Sundstrand part number 1711405), no further action is required by this paragraph.] The general visual inspection required by this paragraph is not required if the fluorescent penetrant inspection required by paragraph (f)(6) of this AD is performed before further flight.

(6) For airplanes identified in paragraph (f)(1)(ii)(C)(1) of this AD on which an unscheduled in-flight ADG deployment occurs: Within 3 days or 10 hours time-in-service, whichever comes first, after each deployment, perform a fluorescent penetrant inspection of the ADG strut, and replace the ADG, as applicable, in accordance with paragraphs 2.A., 2.C., and 2.D. of the Accomplishment Instructions in Bombardier Alert Service Bulletin A604-24-017, Revision 01, dated January 15, 2007. If the ADG is replaced by an ADG with part number 604-90800-23 (Hamilton Sundstrand part number 1711405), no further action is required by this paragraph.

(7) For airplanes identified in paragraph (f)(1)(ii)(C)(1) of this AD on which an unscheduled on-ground ADG deployment task is done: Before further flight after each deployment, do a general visual inspection of the ADG strut for cracks, and replace the ADG if any crack is found, in accordance with paragraphs 2.A., 2.B., and 2.D. of the Accomplishment Instructions in Bombardier Alert Service Bulletin A604-24-017, Revision 01, dated January 15, 2007. If the ADG is replaced by an ADG with part number 604-90800-23 (Hamilton Sundstrand part number 1711405), no further action is required by this paragraph.

(8) For airplanes identified in paragraphs (f)(1)(ii)(A), (f)(1)(ii)(B), and (f)(1)(ii)(C)(2) of this AD: Within 400 flight hours after the effective date of this AD, re-identify the ADG, in accordance

with the Accomplishment Instructions in Bombardier Service Bulletin 604-24-019, dated October 1, 2007. Following re-identification, no further action is required by this paragraph.

Note 3: Paragraph (f)(8) of this AD is applicable only if required by paragraph (f)(1)(ii)(A), (f)(1)(ii)(B), or (f)(1)(ii)(C)(2) of this AD. The strut wall thickness of the ADGs specified in these paragraphs is not below specification.

(9) As of the effective date of this AD, no person may install an ADG having part number 604-90800-1, -17, or -19 (Hamilton Sundstrand part number in the 761339 series) on any airplane if the serial number of the ADG is in the range 0101 through 1999 strut and the serial number of the generator housing assembly is in the range 0001 through 2503.

Note 4: The Bombardier CL-604 Illustrated Parts Catalog specifies that, for an ADG with a Hamilton Sundstrand part number in the 761339 series, future procurement is to be an ADG with Hamilton Sundstrand part number 1711405.

(10) Although Bombardier Alert Service Bulletin A604-24-017, Revision 01, dated January 15, 2007; and Service Bulletin 604-24-019, dated October 1, 2007; specify submitting certain information to the manufacturer, this AD does not require that submission.

FAA AD Differences

Note 5: This AD differs from the MCAI and/or service information as follows: Although the MCAI or service information tells you to submit information to the manufacturer, paragraph (f)(10) of this AD specifies that such submittal is not required.

Other FAA AD Provisions

(g) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York Aircraft Certification Office (ACO), 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, Continued 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.

Related Information

(h) Refer to MCAI Canadian Airworthiness Directive CF-2009-24, dated May 19, 2009; Bombardier Alert Service Bulletin A604-24-017, Revision 01, dated January 15, 2007; and Bombardier Service Bulletin 604-24-019, dated October 1, 2007; for related information.

Material Incorporated by Reference

(i) You must use Bombardier Alert Service Bulletin A604-24-017, Revision 01, dated January 15, 2007; and Bombardier Service Bulletin 604-24-019, dated October 1, 2007; 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 June 17, 2010.

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