2010-05-12

BOMBARDIER, INC. (FORMERLY DE HAVILLAND, INC.)

Amendment 39-16222

Docket No. FAA-2009-0609; Directorate Identifier 2009-NM-037-AD

PREAMBLE

Effective Date

(a) This airworthiness directive (AD) becomes effective April 13, 2010.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Bombardier Model DHC-8-102, DHC-8-103, DHC-8-106, DHC-8-201, and DHC-8-202 series airplanes; certificated in any category; serial numbers 003 through 663 inclusive.

Subject

(d) Air Transport Association (ATA) of America Code 57: Wings.

Reason

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

During a puncture voltage test of the aluminum-loaded paint on an in-service DHC-8 aircraft, conducted to validate an SFAR 88 [Special Federal Aviation Regulation No. 88] related task, Bombardier Aerospace (BA) discovered that the top wing fuel tank skin between Yw171.20 and Yw261.00 was painted with a non-aluminized enamel coating due to a misinterpretation of the painting instructions in the Structural Repair Manual (SRM).

With this type of paint application, it is possible that, in the worst case scenario, a lightning strike could puncture the wing skin and create an ignition source in the fuel tank.

Ignition sources inside fuel tanks, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane. Required actions include performing a functional check of the dielectric properties of the fuel tank skin for aluminum-loaded primer and aluminum-loaded enamel coating. For airplanes on which the aluminum-loaded primer and aluminum-loaded enamel coating have been properly applied, the required actions include restoring the protective finish on the areas where the surface finish was removed. For airplanes on which the aluminum-loaded primer and aluminum-loaded enamel coating have not been applied or have not

been properly applied, the required actions include stripping the affected wing skin surfaces to bare metal and applying alodine coating to those areas, performing a detailed visual inspection of the stripped areas for any sign of corrosion or deterioration of the protective alodine coating and re-applying the protective alodine coating, and painting the affected wing skin surfaces with aluminum-loaded primer and aluminum-loaded enamel coating.

Actions and Compliance

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

(1) For airplanes on which Bombardier Modification 8/0024 has not been done: Within 18 months after the effective date of this AD, perform a functional check of the dielectric properties of the fuel tank skin between Yw171.20 and Yw261.00 of the upper and lower wing for aluminum-loaded primer and aluminum-loaded enamel coating, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-57-46, Revision A, dated February 6, 2009.

(2) For airplanes on which Bombardier Modification 8/0024 has been done: Within 18 months after the effective date of this AD, perform a functional check of the dielectric properties of the fuel tank skin between Yw171.20 and Yw261.00 of the upper wing for aluminum-loaded primer and aluminum-loaded enamel coating, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-57-46, Revision A, dated February 6, 2009.

(3) If the functional check required by paragraph (f)(1) or (f)(2) of this AD indicates that the aluminum-loaded primer and aluminum-loaded enamel coating have been properly applied, as defined in the Accomplishment Instructions of Bombardier Service Bulletin 8-57-46, Revision A, dated February 6, 2009: Before further flight, restore the protective finish on the areas where the surface finish was removed for the functional check, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-57-46, Revision A, dated February 6, 2009.

(4) If the functional check required by paragraph (f)(1) or (f)(2) of this AD indicates that the aluminum-loaded primer and aluminum-loaded enamel coating have not been applied or have not been properly applied, as defined in the Accomplishment Instructions of Bombardier Service Bulletin 8-57-46, Revision A, dated February 6, 2009: Perform the actions required by paragraphs (f)(4)(i), (f)(4)(ii), and (f)(4)(iii) of this AD, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 8-57-46, Revision A, dated February 6, 2009.

(i) Before further flight, strip the affected wing skin surfaces to bare metal and apply alodine coating to those areas, in accordance with Bombardier Service Bulletin 8-57-46, Revision A, dated February 6, 2009.

(ii) Within 90 flight hours after performing the actions required by paragraph (f)(4)(i) of this AD, and thereafter at intervals not to exceed 90 flight hours: Perform a detailed visual inspection of the stripped areas for any sign of corrosion or deterioration of the protective alodine coating, and re-apply the protective alodine coating, in accordance with Bombardier Service Bulletin 8-57-46, Revision A, dated February 6, 2009.

(iii) Within 3 months after performing the actions required by paragraph (f)(1) or (f)(2) of this AD, as applicable: Paint the affected wing skin surfaces with aluminum-loaded primer and

aluminum-loaded enamel coating, in accordance with Bombardier Service Bulletin 8-57-46, Revision A, dated February 6, 2009.

(5) Accomplishment of the actions required by paragraph (f)(1) or (f)(2) of this AD, as applicable, before the effective date of this AD, in accordance with Bombardier Service Bulletin 8-57-46, dated September 29, 2008, is acceptable for compliance with the corresponding requirements of this AD.

(6) Accomplishment of the actions required by paragraph (f)(1) or (f)(2) of this AD, as applicable, in accordance with AD 2008-13-09, Amendment 39-15572, is acceptable for compliance with the corresponding requirements of this AD, provided the actions are done within the applicable compliance times specified in this AD.

FAA AD Differences

NOTE 1

This AD differs from the MCAI and/or service information as follows: No differences.

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, 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

(h) Refer to Canadian Airworthiness Directive CF-2009-05, dated January 29, 2009; and Bombardier Service Bulletin 8-57-46, Revision A, dated February 6, 2009; for related information.

Material Incorporated by Reference

(i) You must use Bombardier Service Bulletin 8-57-46, Revision A, dated February 6, 2009, 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.qseries@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 or 425-227-1152.

(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.

FOR FURTHER INFORMATION CONTACT: Kyle Williams, Aerospace Engineer, Avionics and Flight Test Branch, ANE-172, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7347; fax (516) 794-5531.

Issued in Renton, Washington, on February 24, 2010.

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

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[Rules and Regulations]
[Page 10664-10666]
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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2009-0609; Directorate Identifier 2009-NM-037-AD; Amendment 39-16222; AD 2010-05-12]

RIN 2120-AA64

Airworthiness Directives; Bombardier Model DHC-8-102, DHC-8-103, DHC-8-106, DHC-8-201, and DHC-8-202 Series 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:

> During a puncture voltage test of the aluminum-loaded paint on an in-service DHC-8 aircraft, conducted to validate an SFAR 88 [Special Federal Aviation Regulation No. 88] related task, Bombardier Aerospace (BA) discovered that the top wing fuel tank skin between Yw171.20 and Yw261.00 was painted with a non-aluminized enamel coating * * *.
>
> With this type of paint application, it is possible that, in the worst case scenario, a lightning strike could puncture the wing skin and create an ignition source in the fuel tank.

Ignition sources inside fuel tanks, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane. We are issuing this AD to require actions to correct the unsafe condition on these products.

DATES: This AD becomes effective April 13, 2010.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of April 13, 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: Kyle Williams, Aerospace Engineer, Avionics and Flight Test Branch, ANE-172, FAA, New York Aircraft Certification Office, 1600 Stewart Avenue, Suite 410, Westbury, New York 11590; telephone (516) 228-7347; 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 July 6, 2009 (74 FR 31891). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

> During a puncture voltage test of the aluminum-loaded paint on an in-service DHC-8 aircraft, conducted to validate an SFAR 88 [Special Federal Aviation Regulation No. 88] related task, Bombardier Aerospace (BA) discovered that the top wing fuel tank skin between Yw171.20 and Yw261.00 was painted with a non-aluminized enamel coating due to a misinterpretation of the painting instructions in the Structural Repair Manual (SRM).
>
> With this type of paint application, it is possible that, in the worst case scenario, a lightning strike could puncture the wing skin and create an ignition source in the fuel tank.

Ignition sources inside fuel tanks, in combination with flammable fuel vapors, could result in fuel tank explosions and consequent loss of the airplane. Required actions include performing a functional check of the dielectric properties of the fuel tank skin for aluminum-loaded primer and aluminum-loaded enamel coating. For airplanes on which the aluminum-loaded primer and aluminum-loaded enamel coating have been properly applied, the required actions include restoring the protective finish on the areas where the surface finish was removed. For airplanes on which the aluminum-loaded primer and aluminum-loaded enamel coating have not been applied or have not been properly applied, the required actions include stripping the affected wing skin surfaces to bare metal and applying alodine coating to those areas, performing a detailed visual inspection of the stripped areas for any sign of corrosion or deterioration of the protective alodine coating and re-applying the protective alodine coating, and painting the affected wing skin surfaces with aluminum-loaded primer and aluminum-loaded enamel coating. 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 comment received.

Request To Extend Compliance Time

Mesa Airlines asks that the compliance time in the NPRM be extended to correspond with certain compliance times specified in related AD 2008-13-09, Amendment 39-15572 (73 FR 47029,

August 13, 2008), which requires revising the Airworthiness Limitations Section (ALS) of the Instructions for Continued Airworthiness to incorporate certain fuel system limitations.

Mesa Airlines states that the compliance time for fuel systems limitations (FSL) Task FSL-07 (a functional check of the aluminum loaded primer and enamel on the wing skin) is 18,000 flight hours or 108 months, with a repetitive interval not to exceed 18,000 flight hours. Mesa Airlines notes that AD 2008-13-09 set the initial inspections for that task at 6,000 flight hours or 36 months, with a repetitive interval not to exceed 18,000 flight hours, which corresponds with its heavy maintenance checks. Mesa Airlines adds that the NPRM makes no mention of the related AD or compliance times in that AD, and the compliance time specified in the NPRM is within 18 months after the effective date of the AD.

Mesa Airlines states that the proposed compliance time constraint will require it to do massive rescheduling to move its current inspections forward approximately 254 days, and adds that this will cause an undue burden. Mesa Airlines adds that the NPRM is to be accomplished in accordance with Bombardier Service Bulletin 8-57-46, Revision A, dated February 6, 2009, which states that it contains a procedure that is a fuel tank safety-critical item and is classified as a Critical Design Configuration Control Limitations (CDCCL); that CDCCL is FSL-07, which was added by AD 2008-13-09.

We do not agree that the compliance time should be extended. AD 2008-13-09 was issued to mandate the FSL tasks identified as part of the fuel system safety assessment. Task FSL-07 was identified as necessary to ensure that the aluminum-loaded primer and enamel is protecting the fuel tank skin from burn-through during lightning strikes. Since no in-service deterioration or non-compliance of the coating was identified at that time, an appropriate compliance time and phase-in schedule was mandated to align the FSL task with major maintenance checks. Further investigation revealed that unclear instructions and misinterpretation of the structural repair manual led to a newly painted airplane having coating that was lacking in aluminum powder and thus failed to meet the requirement of Task FSL-07. In light of this, Transport Canada Civil Aviation (TCCA) determined that the compliance time for correcting this unsafe condition should be reduced and issued Canadian AD CF-2009-05 (referred to in the 'Related Information' section of the NPRM) as a result. In addition, comparison of the calendar-based compliance time in AD 2008-13-09 and the NPRM show that higher-time airplanes will need to perform the functional test of the dielectric properties five-and-a-half months earlier versus the 254 days asserted by Mesa Airlines. Therefore, this AD requires accomplishing Task FSL-07 at an earlier compliance time than the compliance time required by AD 2008-13-09. We have made no change to the AD in this regard.

We have added a new paragraph (f)(6) to this AD to give credit for accomplishing the corresponding actions in AD 2008-13-09, which meets the compliance requirements specified in this AD.

Explanation of Change Made to This AD

We have revised the "Alternative Methods of Compliance (AMOCs)" paragraph in this AD to clarify the point of contact as the Program Manager, Continuing Operational Safety, New York Aircraft Certification Office.

Conclusion

We reviewed the relevant data, considered the comment received, and determined that air safety and the public interest require adopting the AD with the change described previously. We also determined that this change 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 22 products of U.S. registry. We also estimate that it will take about 24 work-hours per product to comply with the basic requirements of this AD. The average labor rate is $80 per work-hour. Based on these figures, we estimate the cost of this AD to the U.S. operators to be $42,240, or $1,920 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: