[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2019-0726; Product Identifier 2019-NM-102-AD]

RIN 2120-AA64

Airworthiness Directives; De Havilland Aircraft of Canada Limited (Type Certificate previously held by Bombardier, Inc.) Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: The FAA proposes to adopt a new airworthiness directive (AD) for certain De Havilland Aircraft of Canada Limited Model DHC-8-400 series airplanes. This proposed AD was prompted by reports of wear on fuel couplings, bonding springs, and sleeves as well as fuel tube end ferrules and fuel component end ferrules. This proposed AD would require repetitive inspections of certain parts for discrepancies that meet specified criteria, and replacement as necessary; repetitive inspections of certain parts for damage and wear, and rework of parts; and electrical bonding checks of certain couplings. This proposed AD would also require revising the existing maintenance or inspection program, as applicable, to incorporate new or more restrictive airworthiness limitations. For certain airplanes, this proposed AD would allow a modification that would terminate the repetitive inspections. The FAA is proposing this AD to address the unsafe condition on these products.

DATES: The FAA must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

• Federal eRulemaking Portal: Go to http://www.regulations.gov. Follow the instructions for submitting comments.

• Fax: 202-493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this NPRM, contact De Havilland Aircraft of Canada Ltd., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email thd@dehavilland.com; Internet https://dehavilland.com. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

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-2019-0726; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

The AD docket contains this NPRM, the regulatory evaluation, any comments received, and other information. The street address for Docket Operations is listed above. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Joseph Catanzaro, Aerospace Engineer, Airframe and Propulsion Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7366; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2019-0726; Product Identifier 2019-NM-102-AD" at the beginning of your comments. The FAA specifically invites comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. The FAA will consider all comments received by the closing date and may amend this NPRM because of those comments.

The FAA will post all comments received, without change, to http://www.regulations.gov, including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about this NPRM.

Discussion

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian AD CF-2017-04R2, dated September 25, 2018 (referred to after this as the Mandatory Continuing Airworthiness Information, or "the MCAI"), to correct an unsafe condition for certain De Havilland Aircraft of Canada Limited Model DHC-8-400 series airplanes.

The FAA has received reports of wear on fuel couplings, bonding springs, and sleeves as well as fuel tube end ferrules and fuel component end ferrules. The FAA is proposing this AD to address such wear, which could reduce the integrity of the electrical bonding paths through the fuel line and components, and ultimately lead to fuel tank ignition in the event of a lightning strike. See the MCAI for more information.

The FAA issued a related NPRM that proposed to amend 14 CFR part 39 by adding an AD that would apply to certain Bombardier, Inc., Model DHC-8-400 series airplanes. The related NPRM published in the Federal Register on July 6, 2018 (83 FR 31488). The related NPRM was also prompted by reports of wear on fuel couplings, bonding springs, and sleeves as well as fuel tube end ferrules and fuel component end ferrules. Since the related NPRM was issued, Bombardier developed a new optional terminating modification for certain Model DHC-8-400 series airplanes and issued associated service information. In addition, Bombardier developed new airworthiness limitations related to the identified unsafe condition. In light of these changes, the FAA has withdrawn the related NPRM as of August 28, 2018 (84 FR 45119), and is now issuing this new NPRM for public comment.

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-2019-0726.

Related Service Information under 1 CFR part 51

Bombardier has issued Service Bulletin 84-28-20, Revision D, dated November 23, 2018. This service information describes procedures for repetitive detailed inspections of the clamshell coupling bonding wires, fuel couplings, and associated sleeves for discrepancies (wear and damage, including discoloration, worn coating, scuffing and grooves) that meet specified criteria, and replacement. This service information also describes procedures for repetitive detailed inspections for damage and wear of the fuel tube end ferrules, fuel component end ferrules, and ferrule O-ring flanges, and rework of parts.

Bombardier has also issued Service Bulletin 84-28-21, Revision C, dated July 13, 2018. This service information describes procedures for a detailed inspection for damage and wear of the fuel tube end ferrules, fuel component end ferrules, and ferrule O-ring flanges; rework (repair, replacement, or blending, as applicable) of parts; and a retrofit (structural rework) of the fuel couplings, isolators, and structural provisions.

Bombardier has also issued Service Bulletin 84-28-26, Revision A, dated November 29, 2018. This service information describes procedures for electrical bonding checks of all threaded couplings on the inboard vent lines in the left and right wings.

Bombardier has also issued Q400 Dash 8 (Bombardier) Temporary Revision ALI-00AS, dated April 24, 2018; and Q400 Dash 8 (Bombardier) Temporary Revision ALI-00AT, dated April 24, 2018. This service information describes airworthiness

limitations for fuel tank systems. These documents are distinct since they describe different airworthiness limitations.

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.

FAA's Determination

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to a bilateral agreement with the State of Design Authority, the FAA has been notified of the unsafe condition described in the MCAI and service information referenced above. The FAA is proposing this AD because the agency evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop on other products of the same type design.

Proposed Requirements of this NPRM

This proposed AD would require repetitive inspections of the clamshell coupling bonding wires, fuel couplings, and associated sleeves for discrepancies that meet specified criteria, and replacement as necessary; repetitive inspections of the fuel tube end ferrules, fuel component end ferrules, and ferrule O-ring flanges for damage and wear, and rework of parts; and electrical bonding checks of all threaded couplings on the inboard vent lines in the left and right wings. This proposed AD would also require revising the existing maintenance or inspection program, as applicable, to incorporate new or more restrictive airworthiness limitations.

This proposed AD would require revisions to certain operator maintenance documents to include new actions (e.g., inspections) and Critical Design Configuration Control Limitations (CDCCLs). Compliance with these actions and CDCCLs is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by this proposed AD, the operator may not be able to accomplish the actions described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance according to paragraph (p)(1) of this proposed AD.

Costs of Compliance

The FAA estimates that this proposed AD affects 52 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs for required actions*

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
268 work-hours X $85 per hour = $22,780	$0	$22,780	$1,184,560

*Table does not include estimated costs for revising the maintenance or inspection program.

The FAA has determined that revising the maintenance or inspection program takes an average of 90 work-hours per operator, although this number may vary from operator to operator. In the past, the FAA has estimated that this action takes 1 work-hour per airplane. Since operators incorporate maintenance or inspection program changes for their affected fleet(s), the FAA has determined that a per-operator estimate is more accurate than a per-airplane estimate. Therefore, the FAA estimates the total cost per operator to be $7,650 (90 work-hours x $85 per work-hour).

Estimated costs for optional actions

Labor cost	Parts cost	Cost per product
525 work-hours X $85 per hour = $44,625	$20,906	$65,531

The FAA estimates the following costs to do any necessary on-condition actions that would be required based on the results of any required or optional actions. The FAA has no way of determining the number of aircraft that might need these on-condition actions:

Estimated costs of on-condition actions

Labor cost	Parts cost	Cost per product
174 work-hours X $85 per hour = $14,790	$16,767	$31,557

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.

The FAA is 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.

This proposed AD is issued in accordance with authority delegated by the Executive Director, Aircraft Certification Service, as authorized by FAA Order 8000.51C. In accordance with that order, issuance of ADs is normally a function of the Compliance and Airworthiness Division, but during this transition period, the Executive Director has delegated the authority to issue ADs applicable to transport category airplanes and associated appliances to the Director of the System Oversight Division.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, 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.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

De Havilland Aircraft of Canada Limited (Type Certificate previously held by Bombardier, Inc.): Docket No. FAA-2019-0726; Product Identifier 2019-NM-102-AD.

(a) Comments Due Date

The FAA must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to De Havilland Aircraft of Canada Limited Model DHC-8-400, -401 and -402 airplanes, certificated in any category, manufacturer serial numbers 4001, 4003, and subsequent.

(d) Subject

Air Transport Association (ATA) of America Code 28, Fuel.

(e) Reason

This AD was prompted by reports of wear on fuel couplings, bonding springs, and sleeves as well as fuel tube end ferrules and fuel component end ferrules. The FAA is

proposing this AD to address such wear, which could reduce the integrity of the electrical bonding paths through the fuel line and components, and ultimately lead to fuel tank ignition in the event of a lightning strike.

(f) Compliance

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

(g) Initial Inspection Compliance Times

For airplanes having serial numbers 4001 and 4003 through 4575 inclusive that, as of the effective date of this AD, have not done the actions specified in Bombardier Service Bulletin 84-28-21: At the applicable times specified in paragraph (g)(1) or (2) of this AD, do the actions specified in paragraphs (h)(1) and (2) of this AD.

(1) For all airplanes except those identified in paragraph (g)(2) of this AD: Within 6,000 flight hours or 36 months, whichever occurs first after the effective date of this AD.

(2) For airplanes with an original airworthiness certificate or original export certificate of airworthiness issued on or after the effective date of this AD: Within 6,000 flight hours or 36 months, whichever occurs first after the date of issuance of the original airworthiness certificate or the date of issuance of the original export certificate of airworthiness.

(h) Repetitive Inspections and Corrective Actions

At the applicable times specified in paragraph (g)(1) or (2) of this AD, do the actions specified in paragraphs (h)(1) and (2) of this AD. Repeat the actions thereafter at intervals not to exceed 6,000 flight hours or 36 months, whichever occurs first.

(1) Do a detailed inspection of the clamshell coupling bonding wires, fuel couplings, and associated sleeves for discrepancies that meet specified criteria, as identified in, and in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-28-20, Revision D, dated November 23, 2018. If any conditions are found meeting the criteria specified in Bombardier Service Bulletin 84-28-20, Revision D, dated November 23, 2018, before further flight, replace affected parts with new couplings and sleeves of the same part number, in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-28-20, Revision D, dated November 23, 2018.

(2) Do a detailed inspection of the fuel tube end ferrules, fuel component end ferrules, and ferrule O-ring flanges for damage and wear, and rework (repair, replace, or blend, as applicable) the parts, in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-28-20, Revision D, dated November 23, 2018.

(i) Optional Terminating Action for Repetitive Inspections

For airplanes having serial numbers 4001 and 4003 through 4575 inclusive: Doing a detailed inspection of the fuel tube end ferrules, fuel component end ferrules, and ferrule O-ring flanges for damage and wear, and reworking (repair, replace, or blend, as applicable) the parts; and doing a retrofit (structural rework) of the fuel couplings, isolators, and structural provisions, in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-28-21, Revision C,

dated July 13, 2018, terminates the inspections specified in paragraphs (h)(1) and (2) of this AD.

(j) Electrical Bonding Checks

For airplanes having serial numbers 4001, 4003 through 4489 inclusive, and 4491 through 4575 inclusive that, as of the effective date of this AD, have done the actions specified in Bombardier Service Bulletin 84-28-21, Revision A, dated September 29, 2017; and airplanes having serial numbers 4576 through 4581 inclusive: Within 6,000 flight hours or 36 months after the effective date of this AD, whichever occurs first, do the actions specified in paragraph (j)(1) or (2) of this AD.

(1) Accomplish electrical bonding checks of all threaded couplings on the inboard vent lines in the left and right wings, in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-28-26, Revision A, dated November 29, 2018.

(2) Do a detailed inspection of the fuel tube end ferrules, fuel component end ferrules, and ferrule O-ring flanges for damage and wear, and rework (repair, replace, or blend, as applicable) the parts; and a retrofit (structural rework) of the fuel couplings, isolators, and structural provisions in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-28-21, Revision C, dated July 13, 2018.

(k) Maintenance or Inspection Program Revision

Within 30 days after the effective date of this AD, revise the existing maintenance or inspection program, as applicable, to incorporate the information specified in Q400

Dash 8 (Bombardier) Temporary Revision ALI-00AS, dated April 24, 2018; and Q400 Dash 8 (Bombardier) Temporary Revision ALI-00AT, dated April 24, 2018. Except as specified in paragraph (l) of this AD, the initial compliance time for doing the tasks in Q400 Dash 8 (Bombardier) Temporary Revision ALI-00AS, dated April 24, 2018, is at the time specified in Q400 Dash 8 (Bombardier) Temporary Revision ALI-00AS, dated April 24, 2018, or within 30 days after the effective date of this AD, whichever occurs later.

(l) Initial Compliance Time for Task 284000-419

The initial compliance time for task 284000-419 is at the time specified in paragraph (l)(1) or (2) of this AD, as applicable, or within 30 days after the effective date of this AD, whichever occurs later.

(1) For airplanes having serial numbers 4001 and 4003 through 4575, inclusive: Within 18,000 flight hours or 108 months, whichever occurs first, after the earliest date of embodiment of Bombardier Service Bulletin 84-28-21 on the airplane.

(2) For airplanes having serial numbers 4576 and subsequent: Within 18,000 flight hours or 108 months, whichever occurs first, from the date of issuance of the original airworthiness certificate or original export certificate of airworthiness.

(m) No Alternative Actions, Intervals, or Critical Design Configuration Control Limitations (CDCCLs)

After the existing maintenance or inspection program has been revised as required by paragraph (k) of this AD, no alternative actions (e.g., inspections), intervals, or CDCCLs may be used unless the actions, intervals, and CDCCLs are approved as an

alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (p)(1) of this AD.

(n) No Reporting Requirement

Although Bombardier Service Bulletin 84-28-20, Revision D, dated November 23, 2018, specifies to submit certain information to the manufacturer, this AD does not include that requirement.

(o) Credit for Previous Actions

(1) This paragraph provides credit for the actions required by paragraphs (h)(1) and (2) of this AD, if those actions were performed before the effective date of this AD using the service information specified in paragraph (o)(1)(i), (ii), or (iii) of this AD.

(i) Bombardier Service Bulletin 84-28-20, Revision A, dated December 14, 2016.

(ii) Bombardier Service Bulletin 84-28-20, Revision B, dated February 13, 2017.

(iii) Bombardier Service Bulletin 84-28-20, Revision C, dated April 28, 2017.

(2) For the airplane having serial number 4164, this paragraph provides credit for the initial inspections required by paragraphs (h)(1) and (2) of this AD, if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 84-28-20, dated September 30, 2016.

(3) This paragraph provides credit for the actions specified in paragraph (i) of this AD if those actions were performed before the effective date of this AD using the service information specified in paragraph (o)(3)(i), (ii), or (iii) of this AD.

(i) Bombardier Service Bulletin 84-28-21, dated August 31, 2017.

(ii) Bombardier Service Bulletin 84-28-21, Revision A, dated September 29,

2017.

(iii) Bombardier Service Bulletin 84-28-21, Revision B, dated June 8, 2018.

(4) This paragraph provides credit for the actions required by paragraph (j)(1) of this AD if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 84-28-26, dated August 14, 2018.

(5) This paragraph provides credit for the actions required by paragraph (j)(2) of this AD if those actions were performed before the effective date of this AD using Bombardier Service Bulletin 84-28-21, Revision B, dated June 8, 2018.

(6) For airplanes having serial numbers 4001, 4003 through 4489 inclusive, and 4491 through 4575 inclusive, and that are post Bombardier Service Bulletin 84-28-21, Revision A, dated September 29, 2017: This paragraph provides credit for the actions required by paragraph (j) of this AD if those actions were performed prior to the effective date of this AD using the service information specified in paragraph (o)(6)(i) or (ii) of this AD.

(i) Bombardier Modification Summary Package (ModSum) IS4Q2800032, dated February 1, 2018.

(ii) Any airworthiness limitation change request (ACR) specified in figure 1 to paragraph (o)(6)(ii) of this AD.

Figure 1 to paragraph (o)(6)(ii) – *ACRs*

ACR Number	Dated
400-072	January 24, 2018
400-073	January 23, 2018

ACR Number	Dated
400-074	January 24, 2018
400-077	February 27, 2018
400-078	March 21, 2018
400-079	April 18, 2018
400-080	April 30, 2018
400-081	May 4, 2018
400-082	May 4, 2018
400-083	June 4, 2018
400-084	May 18, 2018

(p) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs):* The Manager, New York ACO Branch, 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 certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 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:* 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 Branch, FAA; or Transport Canada Civil Aviation (TCCA); or De Havilland Aircraft of Canada Limited's TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(q) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian AD CF-2017-04R2, dated September 25, 2018, 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-2019-0726.

(2) For more information about this AD, contact Joseph Catanzaro, Aerospace Engineer, Airframe and Propulsion Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7366; fax 516-794-5531; email 9-avs-nyaco-cos@faa.gov.

(3) For service information identified in this AD, contact De Havilland Aircraft of Canada Ltd., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email thd@dehavilland.com; Internet https://dehavilland.com. You may view this service information at the FAA, Transport Standards Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

Issued in Des Moines, Washington, on October 23, 2019.

Dionne Palermo,
Acting Director,
System Oversight Division,
Aircraft Certification Service.

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