Department of Transportation

Federal Aviation Administration

14 CFR Part 39


RIN 2120–AA64

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

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

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain De Havilland Aircraft of Canada Limited Model DHC–8–400, –401, and –402 airplanes. This AD was prompted by a report of main landing gear (MLG) rejections after striking an obstacle or severe wheel imbalance after a tire failure. This AD requires inspections for correct height of the lock link over-center stop pin and for correct gaps of the left-hand and right-hand MLG downlock proximity sensors, replacement of the shim if necessary, corrective actions, and installation of a new, improved proximity sensor electronic unit (PSEU) with software changes. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective July 9, 2021.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of July 9, 2021.

ADDRESSES: For service information identified in this final rule, contact De Havilland Aircraft of Canada Limited, Q-Series Technical Help Desk, 123 Gairatt 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, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206–231–3195. It is also available on the internet at https://www.regulations.gov by searching for and locating Docket No. FAA–2020–0975.

Examining the AD Docket

You may examine the AD docket on the internet at https://www.regulations.gov by searching for and locating Docket No. FAA–2020–0975; 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 final rule, any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M–30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue SE, Washington, DC 20590. For further information contact: Darren Gassetto, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516–228–7323; fax 516–794–5531; email thd@dehavilland.com; internet https://dehavilland.com; Q-Series Technical Help Desk, 123 Gairatt 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, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206–231–3195. It is also available on the internet at https://www.regulations.gov by searching for and locating Docket No. FAA–2020–0975.

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the Accomplishment Instructions from this AD's requirements. The Job Set-up sections of the required service bulletins include specific procedures for the electrical power and proper configurations of the nose landing gear (NLG) and MLG, which are necessary for accomplishing the applicable corrective actions on the PSEUs and proximity detectors and to prevent possible damage to that equipment. Requiring the Job Set-up instructions should not, in general, restrict the ability to schedule other maintenance actions in conjunction with the required actions. The FAA has not changed this AD in this regard.

**Request To Allow Use of Alternative Service Information When Installing a Certain Part**

Horizon Air requested that paragraph (i) of the proposed AD be revised to also allow installation of PSEU part number (P/N) 30145–0602 in accordance with Bombardier Service Bulletin 84–32–143, Revision B, dated November 16, 2016. Horizon Air pointed out that both documents stated that operators may receive a PSEU with P/N 30145–0601 or 30145–0602. Further, Horizon Air noted that PSEU P/N 30145–0602 is “two-way interchangeable” with P/N 30145–0601, and that the installation instructions are the same in both service bulletins. The FAA disagrees with the request to revise paragraph (i) of this AD. The FAA agrees that the service information does state a two-way interchangeability of PSEU P/N 30145–0601 with PSEU P/N 30145–0602 and that operators may receive either PSEU P/N due to component availability. However, the service information also states that those in receipt of a PSEU must declare the appropriate service information specific to the PSEU P/N. In addition, while most of the Accomplishment Instructions between Bombardier Service Bulletin 84–32–143, Revision B, dated November 16, 2016, and Bombardier Service Bulletin 84–32–149, dated November 16, 2016, are the same, they are not identical. Therefore, recording compliance with another service bulletin would not be in compliance with the applicable corrective actions for the PSEU P/N. The FAA has not changed the AD in this regard.

**Conclusion**

The FAA reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes. The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

**Related Service Information Under 1 CFR Part 51**

De Havilland Aircraft of Canada Limited has issued Bombardier Service Bulletin 84–32–140, Revision B, dated January 30, 2018. This service information describes set-up procedures for proper configuration of the MLG prior to performing subsequent procedures for inspections for correct height of the lock link over-center stop pin and for correct gaps of the left-hand and right-hand MLG downlock proximity sensors, and replacement of the shim.

De Havilland Aircraft of Canada Limited has also issued Bombardier Service Bulletin 84–32–143, Revision B, dated November 16, 2016, which describes procedures for installation of a new, improved PSEU, P/N 30145–0601, with software changes.

De Havilland Aircraft of Canada Limited has also issued Bombardier Service Bulletin 84–32–149, dated November 16, 2016, which describes procedures for installation of a new, improved PSEU, P/N 30145–0602, with software changes.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

**Costs of Compliance**

The FAA estimates that this AD affects 57 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

<table>
<thead>
<tr>
<th>Labor cost</th>
<th>Parts cost</th>
<th>Cost per product</th>
<th>Cost on U.S. operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 12 work-hours × $85 per hour = Up to $1,020</td>
<td>Up to $4,750</td>
<td>Up to $5,770</td>
<td>Up to $328,890.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Labor cost</th>
<th>Parts cost</th>
<th>Cost per product</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 work-hour × $85 per hour = $85</td>
<td>$374</td>
<td>$459</td>
</tr>
</tbody>
</table>

**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.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

1. Is not a “significant regulatory action” under Executive Order 12866,
2. 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.

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

§ 39.13 [Amended]

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:


(a) Effective Date

This airworthiness directive (AD) is effective July 9, 2021.

(b) Affected Airworthiness Directives (ADs)

None.

(c) Applicability

This AD applies to De Havilland Aircraft of Canada Limited (type certificate previously held by Bombardier, Inc.) Model DHC–8–400, –401, and –402 airplanes, certificated in any category, having serial numbers 4001, and 4003 through 4534 inclusive.

(d) Subject

Air Transport Association (ATA) of America Code 32, Landing Gear.

(e) Reason

This AD was prompted by a report of main landing gear (MLG) retraction after striking an obstacle or severe wheel imbalance after a tire failure. The FAA is issuing this AD to address loss of MLG downlock signal caused by the vibrations from those events, which leads to de-energizing the MLG solenoid sequence valve and subsequent removal of hydraulic pressure from the MLG downlock actuator. Loss of the hydraulic pressure in the downlock actuator, combined with the vibrations, can cause the stabilizer brace to unlock and the MLG to subsequently retract.

(f) Compliance

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

(g) Downlock Sensor Rigging and Reduced Lock Link Over-Center

Within 9 months after the effective date of this AD: Verify both the height of the lock link over-center stop pin and the gap of the left-hand and right-hand MLG downlock proximity sensors, and perform corrective actions as required, in accordance with paragraphs 3.A. and 3.B. of the Accomplishment Instructions of Bombardier Service Bulletin 84–32–140, Revision B, dated January 30, 2018. Do all applicable corrective actions before further flight.

(h) Installation of Proximity Sensor Electronic Unit (PSEU) Part Number (P/N) 30145–0601


(i) Installation of PSEU P/N 30145–0602

Installing PSEU P/N 30145–0602 in accordance with paragraphs 3.A. and 3.B. of the Accomplishment Instructions of Bombardier Service Bulletin 84–32–149, dated November 16, 2016, also accomplishes the requirements of paragraphs (g) and (h) of this AD.

(j) Credit for Previous Actions

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


(2) This paragraph provides credit for actions required by paragraphs (g) and (h) of this AD, if PSEU P/N 30145–0601 was installed before the effective date of this AD using the service information as specified in paragraphs (j)(2)(i) or (ii) of this AD.


(k) 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 request in this AD to obtain instructions from a manufacturer, the instructions 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.

(l) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) TCCA AD CP–2016–3181, dated March 24, 2017, for related information. This MCAI may be found in the AD docket on the internet at https://www.regulations.gov for and locating Docket No. FAA–2020–0975.

(2) For more information about this AD, contact Darren Gassetto, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516–228–7323; fax 516–794–5531; email 9-avs-nyacocos@faa.gov.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (m)(3) and (4) of this AD.

(m) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.


(3) For service information identified in this AD, contact De Havilland Aircraft of Canada Limited, Q-Series Technical Help
SUMMARY:
The FAA is adopting a new airworthiness directive (AD) for certain Airbus SAS Model A330–200 Freighter series airplanes. This AD is prompted by a report indicating occurrences of broken brackets of the support structure of the halon fire extinguishing bottle 4005WX; investigation showed that fatigue cracks initiated in the attachment brackets at the cross beams due to dynamic loading, and in some cases propagated in the struts. The NPRM proposed to require replacing the support brackets of the 4005WX fire extinguisher bottle with reinforced support brackets, and replacing the strut assembly at the affected location, as specified in EASA AD 2020–0234.

The FAA gave the public the opportunity to participate in developing this final rule. The FAA received no comments on the NPRM or on the determination of the cost to the public.

Conclusion
The FAA reviewed the relevant data and determined that air safety and the public interest require adopting this final rule as proposed, except for minor editorial changes. The FAA has determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for addressing the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

Related Service Information Under 1 CFR Part 51
EASA AD 2020–0234 describes procedures for replacing the support brackets of the 4005WX fire extinguisher bottle with reinforced support brackets, and replacing the strut assembly at the right-hand underfloor section 13/14 at frame (FR) 34/35 and FR 35/36. This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance
The FAA estimates that this AD affects 6 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD: