DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2018-0710; Product Identifier 2018-NM-079-AD; Amendment 39-19574; AD 2019-03-22]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc., Airplanes

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

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes. This AD was prompted by in-service findings that a cotter pin at the main fitting joint of the nose landing gear (NLG) retraction actuator to the NLG strut showed evidence of shearing after an NLG retraction-extension cycling. This AD requires revision of the existing maintenance or inspection program, as applicable, a general visual inspection for damage of a certain cotter pin present on certain configurations of the NLG strut assembly and for the modification number shown on the identification plate for the NLG strut, and modification of the NLG retraction actuator hardware on any damaged NLG strut assembly. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].
The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact Bombardier, Inc., 400 Côte-Vertu Road West, Dorval, Québec H4S 1Y9, Canada; telephone 514-855-5000; fax 514-855-7401; email thd.crj@aero.bombardier.com; Internet http://www.bombardier.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. It is also available on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2018-0710.

**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-2018-0710; 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, the regulatory evaluation, any comments received, and other information. The address for Docket Operations (phone: 800-647-5527) 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 Admin Services Section, FAA, New York ACO
SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes. The NPRM published in the Federal Register on August 16, 2018 (83 FR 40703). The NPRM was prompted by in-service findings that a cotter pin at the main fitting joint of the NLG retraction actuator to the NLG strut showed evidence of shearing after an NLG retraction-extension cycling. The NPRM proposed to require revision of the existing maintenance or inspection program, as applicable, a general visual inspection for damage of a certain cotter pin present on certain configurations of the NLG strut assembly and for the modification number shown on the identification plate for the NLG strut, and modification of the NLG retraction actuator hardware on any damaged NLG strut assembly.

We are issuing this AD to address shearing of the cotter pin at the main fitting joint of the NLG retraction actuator to the NLG strut, which could lead to a loss of hardware and result in an actuator disconnect and the NLG failing to retract or extend, or in an undamped freefall, which could adversely affect the airplane’s continued safe flight and landing.

Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian AD CF-2018-05, dated January 23, 2018 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct
an unsafe condition for certain Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes. The MCAI states:

There have been in-service findings whereby the cotter pin at the retraction actuator to nose landing gear (NLG) strut main fitting was observed to be damaged after a NLG retraction-extension cycling. This condition could lead to a loss of hardware and result in an actuator disconnect resulting in a failure to retract or extend, or in an undamped freefall of the NLG [which could adversely affect the airplane’s continued safe flight and landing].

This [Canadian] AD mandates a revision to the approved maintenance schedule. This [Canadian] AD also mandates a visual inspection of the cotter pin for certain configurations of NLG strut assembly, and if found damaged, the incorporation of a modification which introduces a new castellated nut, spacer, end plate and sleeve to the NLG retraction actuator to main fitting joint.

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-2018-0710.

Comments

We gave the public the opportunity to participate in developing this final rule. The following presents the comments received on the NPRM and the FAA’s response to each comment.

Request to Clarify Effectivity of Inspection and Modification Requirements

NetJets stated that they were not able to find paragraph 1.A, “Effectivity,” in the proposed AD, which was referenced in paragraph (h)(2) of the proposed AD.

We infer from the commenter’s statement that they request the language in paragraph (h)(2) of the proposed AD be revised to clarify the reference to paragraph 1.A, “Effectivity.” We agree to clarify. Paragraph (h)(2) of the proposed AD directs operators to the applicable Bombardier service information specified in figure 2 to paragraph (h) of
this AD. Each Bombardier service information referenced in figure 2 to paragraph (h) of this AD contains paragraph 1.A, “Effectivity,” which operators must use to determine the applicability of the actions required in paragraph (h)(1) to their specific airplane configuration. Paragraph 1.A, “Effectivity,” can be found in Paragraph 1, “Planning Information,” in the applicable Bombardier service information. We have not changed the AD in this regard.

**Request to Refer to New Service Information**

NetJets observed that the service information specified in figure 1 to paragraph (g) of the proposed AD is out of date and requested that we update those references to the latest revision. Netjets noted that at least one of the service bulletins has been revised since the NPRM was released.

We agree with the request to refer to the latest service information, which adds a note to clarify the level at which time tracking of non-serialized parts should be done, and increases the interval at which certain inspections must be conducted. We have determined that the revised actions have no effect on airplanes on which the earlier actions were completed. Each service bulletin in figure 1 to paragraph (g) of the AD has been revised since the NPRM was released, and we have revised the preamble and figure 1 to paragraph (g) of this AD accordingly. We have coordinated this with TCCA.

Because the revised service information does not include any additional actions, we have revised paragraph (j) of this AD to provide credit for specified actions performed before the effective date of this AD in accordance with Airworthiness Limitation (AWL) Task 32-33-01-111, “Restoration of the Nose Landing Gear Shock-Strut Assembly to Retraction-Actuator Main-Fitting Joint,” of Bombardier Global 5000 Time
Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this final rule with the changes described previously and minor editorial changes. We have 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.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this final rule.

Related Service Information under 1 CFR part 51

Bombardier has issued the following service information, which describes procedures for a general visual inspection for damage of the cotter pin retaining the bolt
that secures the main fitting joint of the NLG retraction actuator to the NLG strut and for
the modification number shown on the identification plate for the NLG strut, and
modification of the NLG retraction actuator hardware that secures the NLG retraction
actuator to the NLG strut. These documents are distinct since they apply to different
airplane models in different configurations.

- Bombardier Service Bulletin 700-1A11-32-022, Revision 2, dated
  November 6, 2017.
- Bombardier Service Bulletin 700-32-035, Revision 2, dated November 6,
  2017.
- Bombardier Service Bulletin 700-32-5011, Revision 2, dated November 6,
  2017.
- Bombardier Service Bulletin 700-32-6011, Revision 2, dated November 6,
  2017.

Bombardier has issued AWL Task 32-33-01-111, “Restoration of the Nose
Landing Gear Shock-Strut Assembly to Retraction-Actuator Main-Fitting Joint,” of the
following service information, which identifies airworthiness limitation tasks for
restoration of the main fitting joint of the NLG retraction actuator to the NLG strut. These
documents are distinct since they apply to different airplane models in different
configurations.

- Bombardier Global 5000 Time Limits/Maintenance Checks, Publication No.
  BD-700 TLMC, Revision 20, dated May 3, 2018, for Bombardier Model
  BD-700-1A11 airplanes.

• Bombardier Global 6000 Time Limits/Maintenance Checks, Publication No. GL 6000 TLMC, Revision 10, dated May 3, 2018, for Bombardier Model BD-700-1A10 airplanes.

• Bombardier Global Express Time Limits/Maintenance Checks, Publication No. BD-700 TLMC, Revision 29, dated May 3, 2018, for Bombardier Model BD-700-1A10 airplanes.

• Bombardier Global Express XRS Time Limits/Maintenance Checks, Publication No. BD-700 XRS TLMC, Revision 16, dated May 3, 2018, for Bombardier Model BD-700-1A10 airplanes.

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

We estimate that this AD affects 60 airplanes of U.S. registry. We estimate the following costs to comply with this AD:

<table>
<thead>
<tr>
<th>Estimated costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor cost</td>
</tr>
<tr>
<td>4 work-hours X $85 per hour = $340</td>
</tr>
</tbody>
</table>
We have determined that revising the existing maintenance or inspection program takes an average of 90 work-hours per operator, although we recognize that this number may vary from operator to operator. In the past, we have estimated that this action takes 1 work-hour per airplane. Since operators incorporate maintenance or inspection program changes for their affected fleet(s), we have determined that a per-operator estimate is more accurate than a per-airplane estimate. Therefore, we estimate the total cost per operator to be $7,650 (90 work-hours x $85 per work-hour).

We estimate the following costs to do the necessary on-condition action that would be required based on the results of any required actions. We have no way of determining the number of aircraft that might need this on-condition action:

**Estimated costs of on-condition action**

<table>
<thead>
<tr>
<th>Labor cost</th>
<th>Parts cost</th>
<th>Cost per product</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 work-hour X $85 per hour = $85</td>
<td>$10,847</td>
<td>$10,932</td>
</tr>
</tbody>
</table>

According to the manufacturer, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all known costs in our cost estimate.

**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.

This 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**

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) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),

(3) Will not affect intrastate aviation in Alaska, and

(4) 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

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):

Product Identifier 2018-NM-079-AD.

(a) Effective Date

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Bombardier, Inc., Model BD-700-1A10 and BD-700-1A11 airplanes, certificated in any category, serial numbers 9002 through 9638 inclusive and 9998.

(d) Subject
(e) Reason

This AD was prompted by in-service findings that a cotter pin at the main fitting joint of the nose landing gear (NLG) retraction actuator to the NLG strut showed evidence of shearing after an NLG retraction-extension cycling. We are issuing this AD to address this condition, which could lead to a loss of hardware and result in an actuator disconnect and the NLG failing to retract or extend, or in an undamped freefall, which could adversely affect the airplane’s continued safe flight and landing.

(f) Compliance

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

(g) 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 Airworthiness Limitation (AWL) Task 32-33-01-111, “Restoration of the Nose Landing Gear Shock-Strut Assembly to Retraction-Actuator Main-Fitting Joint,” as specified in the applicable time limits/maintenance checks (TLMC) manual identified in figure 1 to paragraph (g) of this AD, as applicable. The initial compliance time for doing the task is at the time specified in the applicable TLMC manual listed in figure 1 to paragraph (g) of this AD, or within 30 days after the effective date of this AD, whichever occurs later.
Figure 1 to paragraph (g) of this AD – Acceptable Time Limits/Maintenance Checks Manuals

<table>
<thead>
<tr>
<th>Airplane Models</th>
<th>Time Limits/Maintenance Checks (TLMC) Manual</th>
<th>Acceptable Revision Number</th>
<th>Date of Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD-700-1A10</td>
<td>Bombardier Global Express TLMC, Publication No. BD-700 TLMC</td>
<td>Revision 29</td>
<td>May 3, 2018</td>
</tr>
<tr>
<td></td>
<td>Bombardier Global Express XRS TLMC, Publication No. BD-700 XRS TLMC</td>
<td>Revision 16</td>
<td>May 3, 2018</td>
</tr>
<tr>
<td></td>
<td>Bombardier Global 6000 TLMC, Publication No. GL 6000 TLMC</td>
<td>Revision 10</td>
<td>May 3, 2018</td>
</tr>
<tr>
<td>BD-700-1A11</td>
<td>Bombardier Global 5000 TLMC, Publication No. BD-700 TLMC</td>
<td>Revision 20</td>
<td>May 3, 2018</td>
</tr>
<tr>
<td></td>
<td>Bombardier Global 5000 GL 5000 Featuring Global Vision Flight Deck, Publication No. GL 5000 GVFD TLMC</td>
<td>Revision 10</td>
<td>May 3, 2018</td>
</tr>
</tbody>
</table>

(h) Inspection and Modification

(1) Except for airplanes identified in paragraph (h)(2) of this AD: Within 6 months from the effective date of this AD, perform a general visual inspection for damage of the cotter pin retaining the bolt that secures the NLG retraction actuator to the NLG strut, and a general visual inspection of the modification number shown on the
identification plate for the NLG strut, and, if applicable, mark the correct modification number on the identification plate of the NLG strut, in accordance with the applicable Bombardier service information as shown in figure 2 to paragraph (h) of this AD. If damage to the cotter pin is present: Before further flight, perform the modification of the NLG retraction actuator hardware in accordance with the Accomplishment Instructions of the applicable Bombardier service information as shown in figure 2 to paragraph (h) of this AD.

(2) The actions specified in paragraph (h)(1) of this AD are not required for airplanes that do not have the NLG configuration specified in Paragraph 1.A, “Effectivity” of the applicable Bombardier service information as shown in figure 2 to paragraph (h) of this AD.

**Figure 2 to paragraph (h) of this AD – Service Bulletins for Inspection and Modification**

<table>
<thead>
<tr>
<th>Airplane Model</th>
<th>Bombardier Service Bulletin</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD-700-1A10</td>
<td>700-32-035, Revision 2</td>
<td>November 6, 2017</td>
</tr>
<tr>
<td></td>
<td>700-32-6011, Revision 2</td>
<td>November 6, 2017</td>
</tr>
<tr>
<td>BD-700-1A11</td>
<td>700-1A11-32-022, Revision 2</td>
<td>November 6, 2017</td>
</tr>
<tr>
<td></td>
<td>700-32-5011, Revision 2</td>
<td>November 6, 2017</td>
</tr>
</tbody>
</table>

(i) No Alternative Actions or Intervals

After the maintenance or inspection program has been revised as required by paragraph (g) of this AD, no alternative actions (e.g., inspections) or intervals, may be used unless the actions or intervals are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (l)(1) 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 AWL Task 32-33-01-111, “Restoration of the Nose Landing Gear Shock-Strut Assembly to Retraction-Actuator Main-Fitting Joint,” of the applicable service information specified in figure 3 to paragraph (j)(1) of this AD.

**Figure 3 to paragraph (j)(1) of this AD - Acceptable Temporary Revisions (TR) by Airplane Model**

<table>
<thead>
<tr>
<th>Airplane Models</th>
<th>TLMC Manual</th>
<th>Acceptable TR</th>
<th>Date of Issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD-700-1A10</td>
<td>Bombardier Global Express TLMC, Publication No. BD-700 TLMC</td>
<td>TR-5-2-46</td>
<td>May 19, 2015</td>
</tr>
<tr>
<td></td>
<td>Bombardier Global Express XRS TLMC, Publication No. BD-700 XRS TLMC</td>
<td>TR-5-2-9</td>
<td>May 19, 2015</td>
</tr>
<tr>
<td></td>
<td>Bombardier Global 6000 TLMC, Publication No. GL 6000 TLMC</td>
<td>TR-5-2-13 and TR-5-2-14</td>
<td>May 19, 2015</td>
</tr>
<tr>
<td></td>
<td>Bombardier Global 5000</td>
<td>TR-5-2-13 and TR-5-2-14</td>
<td>May 19, 2015</td>
</tr>
</tbody>
</table>
(2) This paragraph provides credit for actions required by paragraph (h)(1) of this AD, if those actions were performed before the effective date of this AD using the service information specified in paragraphs (j)(2)(i) through (j)(2)(xiii) of this AD, provided that it can be confirmed that at least 25 NLG extension-retraction cycles had been completed on the NLG at the time of completion of the Instructions of the applicable service information specified in paragraphs (j)(2)(i) through (j)(2)(xiii) of this AD; and provided neither the NLG nor the NLG retraction actuator has been replaced or modified since the completion of the Instructions of the applicable service information specified in paragraphs (j)(2)(i) through (j)(2)(xiii) of this AD.

(i) Task 32-33-01-111 of Bombardier Global 5000 Time Limits/Maintenance Checks, Revision 19, dated November 13, 2017.


(vii) Bombardier Service Bulletin 700-1A11-32-022, Revision 1, dated August 26, 2015.


(ix) Bombardier Service Bulletin 700-32-035, Revision 1, dated August 26, 2015.


(xi) Bombardier Service Bulletin 700-32-5011, Revision 1, dated August 26, 2015.


(xiii) Bombardier Service Bulletin 700-32-6011, Revision 1, dated August 26, 2015.

(k) Service Information Prohibition

As of the effective date of this AD, no person may incorporate Liebherr-Aerospace Service Bulletin 1285A-32-07 at any revision level on the NLG strut assemblies of any Bombardier, Inc., Model BD-700-1A10 or BD-700-1A11 airplane.

(l) 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 Bombardier, Inc.’s TCCA Design Approval Organization (DAO). If
approved by the DAO, the approval must include the DAO-authorized signature.

(m) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian
AD CF-2018-05, dated January 23, 2018, for related information. This MCAI may be
found in the AD docket on the Internet at http://www.regulations.gov by searching for

(2) For more information about this AD, contact Darren Gassetto, Aerospace
Engineer, Mechanical Systems and Admin 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-nyaco-cos@faa.gov.

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

(i) Bombardier Service Bulletin 700-1A11-32-022, Revision 2, dated November 6, 2017.


(3) 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; email thd.crj@aero.bombardier.com; Internet http://www.bombardier.com.

(4) 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.
(5) You may view this 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/cfr/ibr-locations.html.

Issued in Des Moines, Washington, on February 14, 2019.

Michael Kaszycki,
Acting Director,
System Oversight Division,
Aircraft Certification Service.

[FR Doc. 2019-03255 Filed: 3/8/2019 8:45 am; Publication Date: 3/11/2019]