



AIRWORTHINESS DIRECTIVE

This Airworthiness Directive (AD) is issued pursuant to Canadian Aviation Regulation (CAR) 521.427. No person shall conduct a take-off or permit a take-off to be conducted in an aircraft that is in their legal custody and control, unless the requirements of CAR 605.84 pertaining to ADs are met. Standard 625 - Aircraft Equipment and Maintenance Standards Appendix H provides information concerning alternative means of compliance (AMOC) to ADs.

Number:

CF-2016-16R1

Effective Date:

11 July 2016

ATA:

32

Type Certificate:

A-142

Subject:

Landing Gear – Main Landing Gear – Retract Actuator Rod End Cracking

Revision:

Supersedes AD CF-2016-16, issued 20 May 2016.

Applicability:

Bombardier Inc. DHC-8-400 series, models -400, -401 and -402, serial numbers 4001, 4003 thru 4325, equipped with main landing gear (MLG) retract actuator rod end part number (P/N) P3A2750 or P3A2750-1.

Compliance:

As indicated below, unless already accomplished.

Background:

There has been a single reported case of a cracked MLG retract actuator rod end in service. A supplier disclosure letter and subsequent Bombardier analysis indicate that the MLG retract actuator rod end P/N P3A2750 and P3A2750-1 may develop fatigue cracking. This condition, if not corrected, could lead to left hand (LH) or right hand (RH) MLG collapse.

This AD mandates the inspection and replacement of the LH and RH MLG retract actuator rod ends P/N P3A2750 and P3A2750-1.

This AD was revised to clarify paragraph B. and C., which specifies when the Liquid Penetrant Inspections (LPI) should begin.

Corrective Actions:

- A. Within 100 flight cycles (FC) from the effective date of this AD, verify the part number of the LH and RH MLG retract actuator rod end installed onboard the aeroplane in accordance with the accomplishment instructions contained in Bombardier Service Bulletin (SB) 84-32-142, Initial Issue, dated 4 May 2016, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada. If rod end P/N P3A6460 is installed on the LH and RH MLG, no further action is required. Verification of the part number can be done through an inspection of the aeroplane or a review of the aeroplanes records.
- B. For rod ends P3A2750 or P3A2750-1 that have accumulated more than 6000 FC since new:
 - 1. Within 100 FC from the effective date of this AD, perform the initial LPI in accordance with the accomplishment instructions contained in Bombardier SB 84-32-142, Initial Issue, dated 4 May 2016, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada:

- a. If a crack is found, remove rod end P/N P3A2750 or P3A2750-1 and replace with rod end P/N P3A6460 before further flight in accordance with the accomplishment instructions contained in Bombardier SB 84-32-142, Initial Issue, dated 4 May 2016, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.
 - b. If no crack is found, repeat the LPI on the rod end at intervals not to exceed 600 FC.
2. Within 1800 FC from the initial inspection date, remove and replace rod end P/N P3A2750 or P3A2750-1 with rod end P/N P3A6460 in accordance with the accomplishment instructions contained in Bombardier (SB) 84-32-142, Initial Issue, dated 4 May 2016, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada. The accumulated flight cycles on rod end P/N P3A2750 or P3A2750-1 shall not exceed 10450 FC.
- C. For rod ends P/N P3A2750 or P3A2750-1 that have accumulated less than or equal to 6000 FC since new:
1. Within 600 FC from the effective date of this AD, perform the initial LPI in accordance with the accomplishment instructions contained in Bombardier SB 84-32-142, Initial Issue, dated 4 May 2016, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.
 - a. If a crack is found, remove rod end P/N P3A2750 or P3A2750-1 and replace with rod end P/N P3A6460 before further flight in accordance with the accomplishment instructions contained in Bombardier SB 84-32-142, Initial Issue, dated 4 May 2016, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.
 - b. If no crack is found, repeat the LPI on the rod end at intervals not to exceed 600 FC.
 2. Within 1800 FC from the initial inspection date, remove and replace rod end P/N P3A2750 or P3A2750-1 with rod end P/N P3A6460 in accordance with the accomplishment instructions contained in Bombardier SB 84-32-142, Initial Issue, dated 4 May 2016, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.
- D. As of the effective date of this AD, no person shall install a MLG retract actuator rod end P/N P3A2750 or P3A2750-1 on DHC-8 Series 400 aeroplanes.
- E. Installation of rod end P/N P3A6460 on both LH side and RH side MLG is considered as terminating action for this AD.
- F. If it is not possible to complete all the instructions in SB 84-32-142 because of the configuration of the aeroplane, contact the Q Series Technical Help Desk in Toronto at telephone 1-514-855-8500 or Toll Free North America 1-844-272-2720 or facsimile (416) 375-4539 or e-mail: thd.qseries@aero.bombardier.com for an approved disposition/repair and incorporate the disposition/repair, before further flight. The approved disposition/repair must specifically reference this AD.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Rémy Knoerr
Chief, Continuing Airworthiness
Issued on 27 June 2016

Contact:

Craig McAllister, Continuing Airworthiness, Ottawa, telephone 1-888-663-3639, facsimile 613-996-9178 or e-mail AD-CN@tc.gc.ca or any Transport Canada Centre.