



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-2009-11R3

Effective Date:

13 February 2019

ATA:

32

Type Certificate:

A-142

Subject:

Failure of the Main Landing Gear Stabilizer Braces

Revision:

Supersedes AD CF-2009-11R2, issued 31 May 2018

Applicability:

Bombardier Inc. model DHC-8-400, -401 and -402 aeroplanes, serial numbers 4001, 4003 and subsequent, equipped with MLG Forward Stabilizer Brace P/N 46401-7.

Compliance:

As indicated below, unless already accomplished.

Background:

Several reports have been received on failures of the aft hinge of the main landing gear (MLG) forward stabilizer brace. Laboratory examinations have found that the fatigue cracks were initiated from the dowel pin hole at the aft hinge lug of the MLG forward stabilizer brace where the stop bracket is attached. Failure of the stabilizer brace could result in the collapse of the main landing gear.

The initial issue of this AD mandated initial inspections, repetitive inspections and rectification, as required, of the MLG forward stabilizer brace.

Revision 1 of this AD mandated installation of an Elbow Restrictor (P/N 46610-1) to the MLG Down-lock Actuators as terminating action to the repeat inspections in Part I. The repeat inspections in Part IV are required for all Forward Stabilizer Brace Assemblies (P/N 46401-7) after Installation of the Elbow Restrictor (P/N 46610-1).

Revision 2 of this AD, in Part III, gives credit for the accomplishment of earlier revisions of Bombardier Service Bulletin (SB) 84-32-69 and clarifies, in Part IV, when the initial and repeat inspections are required following the installation of the elbow restrictor (P/N 46610-1) in Part III of the AD.

Revision 3 of this AD is issued to clarify that the inspections required by either Part IV Paragraph A or Paragraph B do not need to be accomplished if the aeroplane was modified and the initial inspection following rework was conducted in accordance with Alternative Means of Compliance (AMOC), AARDG-2009/A47.

Corrective Actions:

Part I - Inspection of the Main Landing Gear Forward Stabilizer Brace Part Number (P/N) 46401-7:

- A. Perform a non-destructive inspection and all required action(s) on the main landing gear forward stabilizer brace assemblies P/N 46401-7 in accordance with Bombardier Repair Drawing (RD) 8/4-32-099, Issue 1, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, with the following schedule:

1. For aircraft with main landing gear stabilizer braces that have accumulated 12 000 or more landings, within 50 landings after the effective date of the initial issue of this AD.
 2. For aircraft with main landing gear stabilizer braces that have accumulated between 9000 and 11 999 landings, within 500 landings after the effective date of the initial issue of this AD, but not more than 12 050 accumulated landings.
 3. For aircraft with main landing gear stabilizer braces that have accumulated between 4500 and 8999 landings, within 1500 landings after the effective date of the initial issue of this AD, but not more than 9500 accumulated landings.
 4. For aircraft with main landing gear stabilizer braces that have accumulated less than 4500 landings, prior to exceeding 6000 accumulated landings.
- B. Subsequently, at intervals not to exceed 2000 landings, repeat the non-destructive inspection and all required action(s) in accordance with RD 8/4-32-099, Issue 1, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, and
- C. For aircraft with main landing gear stabilizer braces that have accumulated more than 6000 cycles perform a detailed visual inspection in accordance with All Operators Message (AOM) No. 338 at intervals not to exceed 600 hours air time and if any further action is required refer to RD 8/4-32-099.

Part II - Reporting Requirement:

Within 48 hours after the inspection in accordance with Part I of this directive, report all findings to Bombardier Technical Help Desk using the tables provided in RD 8/4-32-099, Issue 1, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

Part III - Installation of Elbow Restrictor (P/N 46610-1):

Within 2000 flight hours or 12 months, whichever occurs first, from the effective date of Revision 1 of this AD, install the Elbow Restrictor (P/N 46610-1). Bombardier Service Bulletin (SB) 84-32-69, Revision C, dated 20 January 2011, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, provides approved instructions for Installation of Elbow Restrictor (P/N 46610-1).

Installation of the elbow restrictor (P/N 46610-1) in accordance with all previous revisions of SB 84-32-69 also meets the requirements of Part III of this AD.

Incorporation of Bombardier SB 84-32-76, Initial Issue, dated 20 May 2010, or later revisions approved by the Chief, Continuing Airworthiness, also meets the requirements of Part III of this AD.

Installation of the elbow restrictor (P/N 46610-1) constitutes the terminating action for the repeat inspections required by Part I of this AD, provided the revised inspection schedule required by Part IV below is followed.

The inspections required by either Part IV Paragraph A or Paragraph B do not need to be accomplished if the aeroplane was modified and the initial inspection following rework was conducted in accordance with AMOC AARDG-2009/A47.

Part IV - Inspection of the Main Landing Gear Forward Stabilizer Brace Part Number (P/N) 46401-7 for Aircraft that have incorporated Part III of this AD:

- A. Following installation of the elbow restrictor in Part III of this AD, if not already accomplished, perform the initial inspection required by Part I (A) above in accordance with the schedule provided in Part I. Thereafter, repeat the inspection as required by paragraph C below.
- B. Following installation of the elbow restrictor in Part III of this AD, and, if the initial inspection required by Part I (A) of this AD or the repeat inspection required by Part I (B) was previously done, before accumulating a further 2000 landings, repeat the non-destructive inspection and all required action(s) in accordance with RD 8/4-32-099, Issue 1, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada. Thereafter, repeat the inspection as required by paragraph C below.
- C. Perform subsequent repeat non-destructive inspections and all required action(s) on the main landing gear forward stabilizer brace (P/N 46401-7) in accordance with (RD) 8/4-32-099, Issue 1, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, with the following schedule:
 1. For forward stabilizer braces (P/N 46401-7) that have not had any required rework done in accordance with Goodrich Service Concession Request (SCR) 026-09 Section C or D, and have had SB84-32-69 or SB84-32-76 incorporated, at intervals not to exceed 6000 landings.

2. For forward stabilizer braces (P/N 46401-7) that have been reworked in accordance with Goodrich SCR 026-09, Section D and have had SB 84-32-69 or SB 84-32-76 incorporated, at intervals not to exceed 6000 landings.
3. For forward stabilizer braces (P/N 46401-7) that have been reworked in accordance with Goodrich SCR 026-09, Section C and have had SB 84-32-69 or SB 84-32-76 incorporated, at intervals not to exceed 3000 landings.

Authorization:

For the Minister of Transport,

ORIGINAL SIGNED BY

Rémy Knoerr
Chief, Continuing Airworthiness
Issued on 30 January 2019

Contact:

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