



EMERGENCY AIRWORTHINESS DIRECTIVE

The following airworthiness directive (AD) may be applicable to an aircraft which our records indicate is registered in your name. ADs are issued pursuant to **Canadian Aviation Regulation (CAR) 521 Division X**. Pursuant to **CAR 605.84** and the further details of **CAR Standard 625, Appendix H**, the continuing airworthiness of a Canadian registered aircraft is contingent upon compliance with all applicable ADs. Failure to comply with the requirements of an AD may invalidate the flight authorization of the aircraft. Alternative means of compliance shall be applied for in accordance with **CAR 605.84** and the above-referenced **Standard**.

This AD has been issued by the Continuing Airworthiness Division (AARDG), National Aircraft Certification Branch, Transport Canada, Ottawa, telephone 613 952-4357.

Number: CF-2013-39R2 **Effective Date:** 12 December 2014

ATA: 57 **Type Certificate:** A-131

Subject: Wings - Inboard Flap Hinge Box – Incorrectly Oriented (Hi-LOK/Hi-LITE) Fastener on Forward Attachment Fitting

Revision: Supersedes AD CF-2013-39R1, issued 15 August 2014, for CL-600-1A11 (600), CL-600-2A12 (601 Variant) and CL-600-2B16 (601-3A/-3R Variant) aeroplanes

Applicability: Bombardier Inc.:
Model CL-600-1A11 (600) aeroplanes, serial numbers 1004 through 1085;
Model CL-600-2A12 (601 Variant) aeroplanes, serial numbers 3001 through 3066;
Model CL-600-2B16 (601-3A/3R Variant) aeroplanes, serial numbers 5001 through 5194.

Compliance: As indicated below, unless already accomplished.

Background: There have been three in-service reports on 604 Variant aeroplanes of a fractured fastener head on the inboard flap hinge-box forward fitting at Wing Station (WS) 76.50, found during a routine maintenance inspection. Investigation revealed that the installation of these fasteners on the inboard flap hinge-box forward fittings at WS 76.50 and WS 127.25, on both wings, does not conform to the engineering drawings. Incorrect installation may result in premature failure of the fasteners attaching the inboard flap hinge-box forward fitting. Failure of the fasteners could lead to the detachment of the flap hinge box and consequently the detachment of the flap surface. The loss of a flap surface could adversely affect the continued safe operation of the aeroplane.

The original issue of this AD mandated a detailed visual inspection (DVI) of each inboard flap hinge-box forward fitting, on both wings, and rectification as required. Incorrectly oriented fasteners require repetitive inspections until the terminating action is accomplished.

Although there have been no reported fractured fastener heads found to date on any model CL-600-1A11, -2A12 or -2B16 (601-3A-3R Variant) aeroplanes, incorrectly oriented fasteners may also be installed.

After the issuance of the original AD, there has been one reported incident on a 604 Variant aeroplane where four fasteners were found fractured on the same flap hinge-box forward fitting. The investigation determined that the fasteners were incorrectly installed.

Revision 1 of this AD was issued to remove the 604 Variant aeroplanes from the Applicability section since they were addressed in AD CF-2014-27 and to clarify paragraphs A.2. and C of this AD so that it matched the Bombardier Alert Service Bulletins.

After the issuance of Revision 1 of this AD, there have been several reports of incorrectly oriented fasteners found on CL-600-1A11, and -2B16 (601-3A Variant) aeroplanes. Although there have been no reports of fractured fasteners found to date, incorrectly oriented fasteners could result in the premature failure of the forward flap hinge-box fitting.

Revision 2 of this AD is issued to reduce the initial and repetitive inspection intervals and to impose replacement of the incorrectly oriented fasteners within 24 months. This AD also corrects various terminology errors which were found in previous French versions of this AD.

Corrective Actions:

- A. Within 10 flight cycles from the effective date of this AD, or within 100 flight cycles from the effective date of the original issue of this AD (20 December 2013), whichever occurs first, perform an initial DVI of each inboard flap fastener of the hinge-box forward fitting at WS 76.50 and WS 127.25, on both wings, in accordance with the Accomplishment Instructions of the applicable Bombardier Alert Service Bulletin (ASB) listed below, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada:

Aeroplane Serial Numbers	ASB	Issue Date
1004 through 1085	A600-0763 Revision 2	9 December 2014
3001 through 3066 5001 through 5194	A601-0627 Revision 2	9 December 2014

1. If all fasteners are found intact and correctly oriented, no further action is required. Compliance with this AD is complete.
2. If a fastener is found fractured, before further flight, remove and replace the fractured fastener and all forward and aft fasteners at WS 76.50 & WS 127.25, on both wings, in accordance with the applicable above-mentioned ASB. Compliance with this AD is complete.
3. If a fastener is incorrectly oriented but intact, repeat the inspections required in paragraph B of this AD until the terminating action in paragraph C is accomplished.

Inspection and replacement of the fasteners, as required, in accordance with the Accomplishment Instructions in Bombardier ASBs A600-0763, Basic Issue or Revision 01, dated 26 September 2013 and 26 February 2014, respectively, or ASB A601-0627, Basic Issue or Revision 1, dated 26 September 2013 and 26 February 2014, respectively, as applicable, prior to the Effective date of this AD, also meets the requirements of paragraph A of this AD.

- B. Subsequently, repeat the DVI specified in paragraph A of this AD in accordance with the following schedule until paragraph C of this AD is accomplished:

1. Within 10 flight cycles from the effective date of this AD or from the most recent inspection, whichever occurs later; and
 2. Thereafter, at intervals not to exceed 10 flight cycles.
- C. Within 24 months from the effective date of this AD, remove and replace all forward and aft fasteners at WS 76.50 & WS 127.25, on both wings, in accordance with the applicable above-mentioned ASBs.

Replacement of all forward and aft fasteners at WS 76.50 & WS 127.25, on both wings, in accordance with the applicable above-mentioned ASBs, constitutes terminating action to this AD.

Replacement of the fasteners in accordance with the Accomplishment Instructions in Bombardier ASBs A600-0763, Basic Issue or Revision 01, dated 26 September 2013 and 26 February 2014, respectively, or ASB A601-0627, Basic Issue or Revision 1, dated 26 September 2013 and 26 February 2014, respectively, as applicable, prior to the Effective date of this AD, also meets the requirements of paragraph C of this AD.

Authorization: For the Minister of Transport,

ORIGINAL SIGNED BY

Derek Ferguson
Chief, Continuing Airworthiness

Contact: Robert Farinas, Continuing Airworthiness, Ottawa, telephone 613-952-4357, facsimile 613-996-9178 or e-mail AD-CN@tc.gc.ca or any Transport Canada Centre.