



# 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-2018-30

**Effective Date:**

21 November 2018

**ATA:**

55

**Type Certificate:**

A-142

**Subject:**

Stabilizers - Elevator - Spring Tab - Mass Balance Hinge Arm Fracture

**Applicability:**

Bombardier Inc. model DHC-8-102, -103, -106, -201, -202, -301, -311, -314 and -315 aeroplanes, serial numbers 003 through 672.

**Compliance:**

As indicated below, unless already accomplished.

**Background:**

One operator has reported the loss of an elevator spring tab balance weight prior to takeoff. An investigation found that clearances, due to tolerance stack-up between balance weight and hinge arm, allow the attachment bolts to fret with the hinge arm causing wear and potentially progressing to fracture and loss of the spring tab balance weight. The loss of a spring tab balance weight could result in unacceptable flutter margins and loss of the aeroplane.

This AD mandates a one-time inspection to verify the spring tab balance weights are securely attached on both the left hand and right hand spring tab assemblies. If any of the balance weights are found loose, instructions are given to repair any damage to the hinge arm, and to add a solid shim between balance weight and hinge arm to eliminate any potential gap, and to specify balance weight attachment hardware that has low susceptibility to hydrogen embrittlement.

**Corrective Actions:**

Within 600 hours air time from the effective date of this AD, inspect the two balance weights and two hinge arms on each elevator spring tab (Left Hand and Right Hand), in accordance with the Accomplishment Instructions of Service Bulletin (SB) 8-55-27, Section 3.B, Part A, Revision A dated 15 August 2018 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada.

If any of the balance weight attachment locknuts, Part Number (P/N) MS 21042-4, is found fractured, loose or missing, conduct the rectification in accordance with Section 3.B, Part B of the above-mentioned SB before further flight.

If the balance weight is found not secure, repair any damage to the hinge arm and permanently secure the mass balance, within 60 hours air time from the inspection date, in accordance with Section 3.B, Part B of the above-mentioned SB.

If the balance weight is found secure, repair any damage to the hinge arm and permanently secure the mass balance, within 5000 hours air time from the inspection date, in accordance with Section 3.B, Part B of the above-mentioned SB.

If the inspection or rectification was accomplished as per SB 8-55-27 Section 3.B, Initial revision dated 17 April, 2018, then perform a visual inspection of the balance weight locknuts, P/N MS21042-4, within 600 hours air time from the effective date of this AD, as per Section 3.B, Part C of SB 8-55-27 Revision A dated 15 August 2018 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada. If any of the balance weight attachment locknuts, P/N MS 21042-4, are found fractured, loose or missing, conduct the rectification in accordance with SB 8-55-27 Section 3.B, Part B, Revision A dated, 15 August 2018 or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada before further flight.

**Authorization:**

For the Minister of Transport,

*ORIGINAL SIGNED BY*

Rémy Knoerr  
Chief, Continuing Airworthiness  
Issued on 7 November 2018

**Contact:**

Brian Daly, Continuing Airworthiness, Ottawa, telephone 888-663-3639, facsimile 613-996-9178 or e-mail [AD-CN@tc.gc.ca](mailto:AD-CN@tc.gc.ca) or any Transport Canada Centre.