



No.	CF-2003-28	1/3
Issue Date	28 November 2003	

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) 593**. 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), Aircraft Certification Branch, Transport Canada, Ottawa, telephone (613) 952-4357.

Number: CF-2003-28

Subject: Bombardier DHC-8-400 Series – Fuselage Bottom Skin and Number 2 VHF Antenna Support Structure Inspection and Rework

Effective: 9 January 2004

Applicability: Bombardier Inc. DHC-8 aircraft, Models 401 and 402, Serial Numbers 4003 through 4076 and 4078 through 4081.

Compliance: Compliance is required as indicated below, unless already accomplished.

Background: During an 'A' check, an aircraft was found to have an 8-inch crack on the fuselage skin in the vicinity of the forward Number 2 VHF antenna. Upon further investigation, it was found that four of eight cleats, P/N 85307891, attaching the internal antenna support plate had cracked as well. Since the original report, other aircraft were found to have cracked cleats. If undetected, cracking of the fuselage skin could result in rapid decompression of the aircraft.

Corrective Action: 1. Initially, in accordance with the following schedule:

Accumulated Air Time (Hours)	Initial Compliance Time
1,450 or less	Prior to exceeding 1,900 hours air time
Greater than 1,450 but less than or equal to 2,200	Within 300 hours air time after the effective date of this directive
Greater than 2,200 but less than or equal to 3,000	Within 150 hours air time after the effective date of this directive
Greater than 3,000	Within 50 hours air time after the effective date of this directive

Inspect the aircraft records to determine if any of the following has been incorporated:

- (a) Bombardier Aerospace Repair Drawing RD8/4-53-317
- (b) Bombardier Aerospace ModSum IS4Q5300001

- 2. If Bombardier Aerospace Repair Drawing RD8/4-53-317 or Bombardier Aerospace ModSum IS4Q5300001 has been incorporated, carry out terminating action in accordance with paragraph 4. of this directive at the times specified in that paragraph.
- 3. If neither Bombardier Aerospace Repair Drawing RD8/4-53-317 nor Bombardier Aerospace ModSum IS4Q5300001 has been incorporated, prior to further flight, accomplish the following:

- (a) Carry out a detailed visual inspection of the external surface of the fuselage skin for cracking in the area around the Number 2 VHF antenna. The inspection is to be done using a 10X magnifying glass and appropriate lighting.
- (i) If the fuselage skin is cracked, prior to further flight, incorporate repair in accordance with Bombardier Aerospace Repair Drawing RD8/4-53-317, Issue 2, or later approved revisions. Replace all eight support cleats, P/N 85307891, at stringer 32S and 33, between stations X71.8 and X94.8, in accordance with Bombardier Aerospace Repair Drawing RD8/4-53-328, Issue 1, or later approved revisions. Carry out terminating action in accordance with paragraph 4. of this directive at the times specified in that paragraph.
 - (ii) If the fuselage skin is not cracked, prior to further flight, inspect the Number 2 VHF antenna internal support structure in accordance with paragraph 3.(b) of this directive.
- (b) Carry out a detailed visual inspection of the support cleats, P/N 85307891, at stringer 32S and 33, between stations X71.8 and X94.8, for cracking and deformation in the area of the bend radius and for broken rivets.
- (i) If there is cracking or deformation of the cleats or broken rivet, remove the antenna and carry out a detailed visual inspection of the external surface of the fuselage skin underneath the antenna. The inspection is to be done using a 10X magnifying glass and appropriate lighting.
 - If the fuselage skin is not cracked, prior to further flight, reinforce the fuselage skin around the Number 2 VHF antenna and replace all eight support cleats, P/N 85307891, at stringer 32S and 33, between stations X71.8 and X94.8, in accordance with Bombardier Aerospace ModSum IS4Q5300001, Revision A, or later approved revisions. Carry out terminating action in accordance with paragraph 4. of this directive at the times specified in that paragraph.
 - If the fuselage skin is cracked, prior to further flight, incorporate repair in accordance with Bombardier Aerospace Repair Drawing RD8/4-53-317, issue 2, or later approved revisions, and replace all eight support cleats, P/N 85307891, at stringer 32S and 33, between stations X71.8 and X94.8 in accordance with Bombardier Aerospace Repair Drawing RD8/4-53-328, Issue 1, or later approved revisions. Carry out terminating action in accordance with paragraph 4. of this directive at the times specified in that paragraph.
 - (ii) If there is no cracking or deformation of the cleats and there is no broken rivet, repeat the inspections identified in paragraph 3.(a) through 3.(b) above at intervals specified in the table below, and carry out terminating action in accordance with paragraph 4. of this directive at the times specified in that paragraph.

Repeat Inspection Interval (Hours Air Time)	
Cleats not replaced per RD8/4-53-328	Cleats Replaced per RD8/4-53-328
200 (See note)	500

NOTE: If the inspection of the cleats reveals they are neither cracked nor deformed and there is no broken rivet, the option exists to replace all eight (8) cleats, P/N 85307891, in accordance with RD8/4-53-328 Issue 1, or later approved revisions, to increase the repeat inspection interval from 200 hours air time to 500 hours air time.

4. Within 4,000 hours air time after the effective date of this directive, accomplish the following:
- (a) Incorporate Bombardier Aerospace ModSum 4-113458 to reinforce the Number 2 VHF antenna support structure. Bombardier Aerospace Service Bulletin 84-53-32, Revision A, dated 7 July 2003, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, provides approved instructions for incorporating Modsum 4-113458; and
 - (b) If neither Bombardier Aerospace ModSum IS4Q5300001 nor Repair Drawing RD8/4-53-317 has been previously incorporated, reinforce the fuselage skin around the Number 2 VHF antenna by incorporating Bombardier Aerospace ModSum IS4Q5300001, Revision A, or later approved revisions.

Accomplishment of paragraph 4.(a) and 4.(b) above provides terminating action to the inspection requirements of paragraph 3. of this directive.

Authorization: For Minister of Transport



B. Goyaniuk
Chief, Continuing Airworthiness

Contact: Mr. Philip Tang, Transport Canada, Continuing Airworthiness, Ottawa, telephone (613) 952-4379, facsimile (613) 996-9178 or e-mail tangp@tc.gc.ca or any Transport Canada Centre.