



No.	CF-2007-31	1/2
Issue Date 17 December 2007		

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-2007-31

Subject: DHC-6 'Twin Otter' Wing Front Spar Adapter Assembly

Effective: 10 January 2008

Applicability: Applies to all Viking Air Ltd. (formerly Bombardier Inc.) DHC-6, all series, (Twin Otter) aircraft, fitted with wing box part numbers (P/N) C6W1002-1/-3 and subsequent or R.W. Martin, Inc (FAA STC No. SA00160LA or Canadian STC No. SA96-65) Re-Life Wing Box P/N WR6-1002-59 or -61, incorporating a P/N C6WM1027-1 or -3 Front Spar Adapter Assembly.

Compliance: Required as indicated.

Background: There have been reports of inter-rivet cracking on several wing front spar adapter assemblies (P/N C6WM1027-1) on the horizontal and vertical flanges. It was determined that the cracking was caused by stress corrosion in the short transverse grain initiated by local riveting induced stresses. This directive mandates modification and inspection of the wing front spar adapter fitting and replacement of cracked fittings.

- Corrective Actions:**
1. For wing boxes incorporating C6WM1027-1 front spar adaptor assembly with 10 or more years of service;
 - A. Initially within 180 days of the effective date of this directive unless already accomplished, incorporate Viking service bulletin (SB) 6/541 (Installation of inspection holes in Lower Wing Assembly), dated 1 October 2007 or later revisions approved by Chief, Continuing Airworthiness, National Aircraft Certification and then perform a visual inspection of front spar adapter assemblies in accordance with accomplishment instructions in Viking SB 6/540, dated 1 October 2007 or later revisions approved by Chief, Continuing Airworthiness, National Aircraft Certification. For R.W. Martin Wing Box part numbers, perform the visual inspections in accordance with R.W. Martin SB No. 00160/2, Revision A, dated 15 November 2007 or later revisions approved by Chief, Continuing Airworthiness, National Aircraft Certification;
 - B. Repeat the visual inspection of paragraph A above at intervals not exceeding 1200 hours flight time or 2400 flight cycles or 12 months whichever occurs first; and

Pursuant to **CAR 202.51** the registered owner of a Canadian aircraft shall, within seven days, notify the Minister in writing of any change of his or her name or address.

To request a change of address, contact the Civil Aviation Communications Centre (AARC) at Place de Ville, Ottawa, Ontario K1A 0N8, or 1-800-305-2059, or www.tc.gc.ca/civilaviation/communications/centre/address.asp

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- C. Before further flight, replace any cracked front spar adapter assembly with a new adapter (P/N C6WM1027-3) in accordance with Viking SB 6/542, dated 1 October 2007 or later revisions approved by Chief, Continuing Airworthiness, National Aircraft Certification. For R.W. Martin Wing Box part numbers, contact R.W. Martin for replacement instructions.
2. Within 90 days after the effective date of this directive, incorporate task C57-10-18 of the DHC-6 Corrosion Prevention and Control Manual, PSM 1-6-5, into the Transport Canada approved maintenance schedule.
 3. Replacement of the front spar adapter assembly, in accordance with paragraph 1.C., and the incorporation of the new task C57-10-18 into the Transport Canada approved maintenance schedule, as per paragraph 2, constitutes terminating action to this directive.

Authorization: For Minister of Transport, Infrastructure and Communities

B. Goyaniuk
Chief, Continuing Airworthiness

Contact: Mr. Bill Miller, Continuing Airworthiness, Ottawa, telephone 613-952-4388, facsimile 613-996-9178 or e-mail millerw@tc.gc.ca or any Transport Canada Centre.