



No.	CF-1991-42R1	1/2
Issue Date	13 March 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-1991-42R1
- Subject:** Front Spar Centre Web Cracks
- Effective:** 23 April 2007
- Revision:** Supersedes Airworthiness Directive (AD) CF-91-42.
- Applicability:** Applies to all Viking Air Ltd. (formerly Bombardier Inc.) DHC-2 Mk. I, Mk. II and Mk. III aircraft.
- Compliance:** Compliance is required as indicated.
- Background:** Cracks have been reported in the front spar center web of the tailplane at the pick-up bracket and at lightening holes. If not detected early and repaired, these cracks may lead to failure of the tailplane. This revision is issued to reflect the new requirements to inspect the tailplane front spar web behind the pick-up brackets using fluorescent penetrant inspection (FPI) instead of the visual inspection method used previously.
- Corrective Actions:** To prevent possible failure of the tailplane;
1. Within 200 hours air time after the effective date of this directive, if not previously accomplished in accordance with Viking Air Service Bulletin (SB) 2/47 Revision D, perform the following, in accordance with Viking Air SB 2/47 Revision E dated 23 January, 2007 or later revisions approved by Chief, Continuing Airworthiness, Aircraft Certification:
 - (a) For all aircraft, remove the tailplane front spar pick-up brackets and carry out a fluorescent penetrant inspection of the tailplane front spar web for cracks in the area of the pickup brackets in accordance with Appendix A of Viking Air SB 2/47 Revision E dated 23 January 2007 or later revisions approved by Chief, Continuing Airworthiness, Aircraft Certification:
 - (i) If cracks are found on aircraft pre-mod 2/758 (aircraft having no gusset plate installed on the rear face of the tailplane front spar), replace the tailplane front spar before further flight.
 - (ii) If cracks are found on the spar web of aircraft with Modification 2/758, replace the spar within 400 hours air time.
 - (iii) Replace previously repaired front spars with stop-drilled cracks as found during the above inspections within one year of the effective date of this AD. Replace spars with cracks that have progressed beyond previously stop-drilled holes before next flight.

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



- (b) In addition to the fluorescent penetrant inspection required by paragraph 1. (a) above, for aircraft without Modification 2/466, visually inspect the front spar web in the area of the lightening holes for cracks between the pickup brackets. If cracks are found, replace the spar before next flight.
2. If Modifications 2/436, 2/466 and 2/758 are not already incorporated, install these modifications within one year of the effective date of this AD.
 3. Inspect the front spar for cracks using fluorescent penetrant in accordance with the above paragraph 1. (a) within 2 years of the last inspection, and repeat every two years.
 4. Cracks found as result of this inspection are to be reported to:

Viking Air Limited
Technical Support
9574 Hampden road
Sidney, British-Columbia
Canada, V8L 5V5
Telephone numbers:
 Regional 250-656-7227
 North America: 1-800-0663-8444
 International: 1-800-6727-6727
FAX: 250-656-0673
Email: technical.support@vikingair.com

Authorization: For Minister of Transport, Infrastructure and Communities

Philip Tang
Acting 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.