
AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

DHC-6 (Twin Otter) Series Aeroplanes**AD/DHC-6/75****Wing Front Spar Adapter Assembly****6/2008**

Applicability: Model DHC-6, all series aircraft, fitted with wing box part numbers C6W1002-1/-3 and subsequent or R.W. Martin, Inc (FAA STC No. SA00160LA or Canadian STC No. SA96-65) Re-Life Wing Box part number WR6-1002-59 or -61, incorporating a part number C6WM1027-1 or -3 Front Spar Adapter Assembly.

- Requirement:**
1. For wing boxes incorporating C6WM1027-1 front spar adapter assembly with 10 or more years of service:
 - a. Incorporate Viking Service Bulletin (SB) 6/541 (installation of inspection holes in Lower Wing Assembly), dated 1 October 2007, or later Transport Canada approved revision; and then perform a visual inspection of front spar adapter assemblies in accordance with accomplishment instructions in SB 6/540 dated 1 October 2007, or later Transport Canada approved revision. For R.W. Martin Wing Box part numbers, perform the visual inspections in accordance with R.W. Martin SB 00160/2 Revision A, dated 15 November 2007, or later Transport Canada approved revision.
 - b. If a cracked front spar adapter assembly is detected during any inspection, before further flight, replace the adapter assembly with a new adapter (part number C6WM1027-3) in accordance with Viking SB 6/542 dated 1 October 2007, or later Transport Canada approved revision. For R.W. Martin Wing Box part numbers, contact R.W. Martin for replacement instructions.
 2. 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.

Replacement of the front spar adapter assembly in accordance with Requirement 1.b., and the incorporation of the new task C57-10-18 into the Transport Canada approved maintenance schedule in accordance with Requirement 2, constitutes terminating action to this Directive.

Note: Transport Canada AD CF-2007-31 refers.

- Compliance:**
1. Unless the initial requirement is already accomplished, within 180 days after 5 June 2008. Repeat the Requirement 1.a. visual inspection at intervals not to exceed 1,200 flight hours, 2,400 flight cycles, or 12 months, whichever occurs first.

DHC-6 (Twin Otter) Series Aeroplanes

AD/DHC-6/75 (continued)

2. Unless already accomplished, within 90 days after 5 June 2008.

This Airworthiness Directive becomes effective on 5 June 2008.

Background: There have been reports of inter-rivet cracking on several wing front spar adapter assemblies (part number 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 stress. This Directive mandates modification and inspection of the wing front spar adapter fitting and replacement of cracked fittings.



David Villiers
Delegate of the Civil Aviation Safety Authority

21 April 2008