



# AIRWORTHINESS DIRECTIVE

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*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-2019-02

**Effective Date:**

23 January 2019

**ATA:**

05

**Type Certificate:**

A-82

**Subject:**

Time Limits / Maintenance Checks – Airworthiness Limitations - Implementation

**Replacement:**

Supersedes the following ADs:

CF-80-06 issued 13 March, 1980

CF-81-07R4 issued 15 March, 1994

CF-95-12 issued 11 July, 1995

CF-2000-14 issued 25 May, 2000

**Applicability:**

Viking Air Ltd. (formerly de Havilland) model DHC-6 series 1, DHC-6 series 100, DHC-6 series 110, DHC-6 series 200, DHC-6 series 210, DHC-6 series 300, DHC-6 series 310, DHC-6 series 320 and DHC-6 series 400 aeroplanes, all serial numbers.

**Compliance:**

As indicated below, unless already accomplished.

**Background:**

The airworthiness limitations for DHC-6 aeroplanes are defined and published in the Viking Air Ltd. (Viking) Airframe Airworthiness Limitations Manual, Product Support Manual (PSM) 1-6-11, approved by Transport Canada. The instructions contained in PSM 1-6-11 have been identified as mandatory actions for continued airworthiness. Failure to comply with those instructions could result in an unsafe condition.

Viking Air Ltd. published Revision 9 of PSM 1-6-11 earlier in 2018. Revision 9 of PSM 1-6-11, dated 30 April 2018, includes some new and/or more restrictive limitations than those contained in Revision 5. For the reason described above, this AD requires implementation of the actions specified in PSM 1-6-11 Revision 9.

The compliance requirements for several of the tasks in PSM 1-6-11 were previously a range of flight hours and flight cycles. With Revision 9 of PSM 1-6-11, the range-based requirements have been changed to specific flight hours and flight cycle limits. This AD provides a phase-in allowance for those limitations so that operators will have the opportunity to schedule the modifications and inspections required by the limitations. The phase-in allowances are intended to mitigate the impact of changing from compliance ranges to compliance limits for aeroplanes that are approaching or have exceeded the limits on the effective date of the AD.

Revision 9 of PSM 1-6-11 also includes some airworthiness limitations that were previously contained in service bulletins (SB) or other PSMs. Some of those limitations were mandated by ADs, specifically AD CF-80-06, CF-81-07R4 and CF-95-12. Because the affected limitations will now be controlled in PSM 1-6-11, the above mentioned ADs are superseded by this AD.

The following are new tasks in PSM 1-6-11 Revision 9:

1. Task 27-007 Replacement of flight control pulleys at Fuselage Station (FS) 270.
2. Tasks 32-001 and 32-002 Overhaul of main landing gear leg. There is an associated requirement to ensure that each affected part has been assigned a unique serial number.
3. Task 53-006 Inspection of the skin flange of machined frame at FS 239.
4. Tasks 54-003 to 54-010 Inspection of nacelle longerons.
5. Tasks 57-039 to 57-041 Inspection for wing upper skin disbond.

Task 27-004 Replacement of flight control cables after spillage of corrosive materials in PSM 1-6-11 was limited to landplane configurations in previous revisions of PSM 1-6-11 but is now applicable to all configurations.

The intent of the word "airframe" in PSM 1-6-11 Revision 9 is to include fuselage, nacelles, struts, interiors, cowlings, fairings, airfoils, landing gear and their controls. The airframe life limitation in PSM 1-6-11 Revision 9 is not intended to apply to components such as those in the fuel, electrical and hydraulic systems that are occasionally transferred from one aeroplane to another and may be salvaged from an aeroplane that is retired from service for use on an in-service aeroplane. PSM 1-6-13 defines current airworthiness limitations for DHC-6 avionics that are not addressed in this AD.

#### **Corrective Actions:**

##### **A. Maintenance Tasks and Replacement of Life Limited Parts:**

From the effective date of this AD, perform the following actions, as specified in PSM 1-6-11, as applicable to aeroplane model and configuration:

1. Replace or modify, as applicable, each component before exceeding the applicable life limit/modification limit.
2. Accomplish all applicable maintenance tasks within the defined initial thresholds and repeat intervals.
3. Where the task that is specified in PSM 1-6-11 is an inspection task, if a defect is found during the inspection, repair or replace, as applicable, the damaged component before further flight unless alternative time frames or actions are specified in PSM 1-6-11 or in documents that are referenced by PSM 1-6-11.

##### **B. Phase-in Allowance for Specified Tasks:**

For the PSM 1-6-11 tasks listed in Table 1 below, the following phase-in allowances may be used to make scheduling of the required action more practical.

1. For Task 27-007, for pulleys that have been in service for 48 months or longer, as of the effective date of this AD, replace the pulleys within 12 months from the effective date of this AD.
2. For Tasks 32-001 and 32-002:
  - a. For landing gear legs that have not been marked with a unique serial number in accordance with Viking Technical Bulletin V6/0063, as of the effective date of this AD, comply with the requirements of SB V6/0016, Revision B, dated 23 May 2018, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada within 6 months from the effective date of this AD. The absence of a serial number is an indication that the initial inspection of the landing gear leg has not previously been accomplished.
  - b. For all other main landing gear legs, accomplish the next overhaul no later than 60 months from the last overhaul.
3. For Tasks 57-006, 57-007, 57-010, 57-011, 57-013 and 57-014:
  - a. For aeroplanes/wings (as applicable) that have accumulated more than 16 000 hours air time/32 000 flight cycles but less than 17 000 hours air time/34 000 flight cycles, as of the effective date of this AD, accomplish the maintenance task within 1000 hours air time or 2000 flight cycles, whichever occurs first, from the effective date of this AD.

- b. For aeroplanes/wings (as applicable) that have accumulated 17 000 hours air time/34 000 flight cycles or more, as of the effective date of this AD, accomplish the maintenance task on or before reaching 18 000 hours air time/36 000 flight cycles or within 60 months, whichever occurs first, from the effective date of this AD.
4. For Tasks 57-018, 57-019, 57-022, 57-023, 57-026, 57-027, 57-030, 57-031:
- a. For aeroplanes/wings (as applicable) that have accumulated more than 11 000 hours air time/22 000 flight cycles but less than 12 000 hours air time/24 000 flight cycles, as of the effective date of this AD, accomplish the maintenance task within 1000 hours air time or 2000 flight cycles, whichever occurs first, from the effective date of this AD.
- b. For aeroplanes/wings (as applicable) that have accumulated 12 000 hours air time/24 000 flight cycles or more, as of the effective date of this AD, accomplish the maintenance task on or before reaching 13 000 hours air time/26 000 flight cycles or within 60 months whichever occurs first, from the effective date of this AD.
5. For Tasks 57-039 to 57-041, for aeroplanes with wings that have accumulated more than 20 years since date of manufacture, as of the effective date of this AD and have not previously been inspected as per SB V6/0018 Revision NC, dated 4 March, 2013, or later revisions approved by the Chief, Continuing Airworthiness, Transport Canada, accomplish the required inspection within 120 days from the effective date of this AD.

**Table 1**

<b>PSM 1-6-11 Rev. 9 Task #</b>	<b>Task Summary</b>	<b>Specified Period</b>	<b>Phase-In Allowance</b>
27-007	Replace pulleys at FS 270.	60 months	See Corrective Action B.1
32-001 and 32-002	Overhaul main landing gear	24 000 landings/120 months for initial inspection 7 000 landings/60 months for repeat inspections	See Corrective Action B.2
57-006, 57-007, 57-010, 57-011, 57-013, and 57-014	Incorporate Mod 6/1318	17 000 Hours air time/34 000 Flight Cycles	See Corrective Action B.3
	Inspect Main Spar at Station 152.8 (Refer PSM 1–6–7 Part 3)		
57-018, 57-019, 57-022, 57-023, 57-026, 57-027, 57-030, and 57-031	Incorporate Mod 6/1318	12 000 Hours air time/24 000 Flight Cycles	See Corrective Action B.4
	Inspect Main Spar at Station 152.8 (Refer PSM 1–6–7 Part 3)		
57-039 to 57-041	Inspect for wing disbond	As per SB V6/0018/20 years	See Corrective Action B.5

C. The use of later Transport Canada approved revisions of PSM 1-6-11 are acceptable for compliance with the requirements of this AD.

**Authorization:**

For the Minister of Transport,

ORIGINAL SIGNED BY

Rémy Knoerr  
Chief, Continuing Airworthiness  
Issued on 9 January 2019

**Contact:**

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