

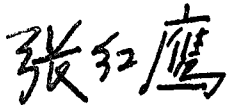
**Technical Arrangement  
Between  
Civil Aviation Administration Of China  
And  
Transport Canada Civil Aviation  
For  
The Type Validation  
Of  
Viking Air Limited  
Model  
DHC-6 Series 400**

**Original Issue**

**Civil Aviation Administration of  
China**

Aircraft Airworthiness Certification  
Department

By:

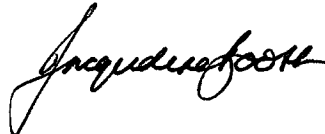


Director General

Date: 2012.08.09

**Transport Canada Civil Aviation**

By:



a/ Director, Standards (AART)

Date: JUL 13 2012

**Technical Arrangement  
Between  
Civil Aviation Administration Of China  
And  
Transport Canada Civil Aviation  
For  
The Type Validation  
Of  
Viking Air Limited  
Model  
DHC-6 Series 400**

**1.0 PURPOSE**

This Technical Arrangement (TA) defines the working relationship between Transport Canada Civil Aviation (TCCA) and the Civil Aviation Administration of China (CAAC) to facilitate the CAAC validation of the TCCA type certificate issued to Viking Air Limited for the Viking Air Limited Model DHC-6 Series 400.

**2.0 OBJECTIVES**

This TA is intended to accomplish the following objectives:

- (a) to define the working procedures under the respective responsibilities of each Authority:
  - (i) for the type certification validation process including issuance of a validated type certificate by the CAAC; and
  - (ii) for subsequent post-validation activities; and
- (b) to minimize redundant inspections, tests, demonstrations, evaluations and approvals.

**3.0 CAAC REQUIREMENT**

The requirement for this TA stems from paragraph 21.29 of CCAR 21-R3– ***Certification Procedures for Civil Aviation Products and Parts.***

**4.0 DURATION**

This TA becomes effective upon signature by both CAAC and TCCA. It will remain in effect for the duration of the validation activities and as long as post validation activities are taking place.

**5.0 COMMUNICATION**

- (1) The Aircraft Airworthiness Certification Department of CAAC (CAAC-AAD) and the Standards Branch (AART) of TCCA are responsible for the administration of this TA. The TCCA Standards Branch (AART) will work in conjunction with the Aircraft Certification Division - Pacific identified in Appendix 1, which has certification jurisdiction over the type certificate holder, Viking Air Limited.
- (2) All communications between CAAC-AAD and TCCA related to the activities of this TA will be made in the English language or Chinese language accompanied by an English translation. The contact

points for CAAC-AAD and TCCA are provided in Appendix 1 of this TA. Unless otherwise specified, TCCA shall be copied of all correspondence between Viking Air Limited and CAAC related to the activities of this TA.

- (3) Any disagreement regarding the interpretation or application of this TA will be resolved by consultation between the CAAC-AAD and TCCA. Every effort should be made to resolve differences at the technical level. Issues that cannot be satisfactorily resolved at the technical level should be expeditiously raised to the attention of the responsible contact points of TCCA and CAAC-AAD on a progressive level until an agreement or resolution is reached.

## **6.0 VALIDATION ACTIVITIES**

### **6.1 General**

TCCA and CAAC recognize that Viking Air Limited:

- (a) is the primary source for providing technical support to CAAC-AAD for the purposes of this TA. When requested, TCCA may provide the necessary assistance and support within its regulatory functions and resource capacity; and
- (b) is responsible for demonstrating compliance with the CAAC-AAD certification basis.

### **6.2 Certification Basis**

- (1) The subject of the CAAC validation is the TCCA type certificate A-82 issue 15.
- (2) The TCCA certification basis for the type certificate is defined in the applicable TCCA Type Certificate Data Sheet (TCDS).
- (3) The CAAC certification basis for purposes of the validation of a TCCA type certificate A-82 issue 15 and issuance of a CAAC validated type certificate (VTC) is the same as that of the TCCA type certificate A-82 issue 15, plus any Additional Technical Conditions (ATCs) notified. CAAC-AAD will notify in writing both TCCA and Viking Air Limited of any ATCs necessary for the CAAC validation.

### 6.3 Findings of Compliance

- (1) CAAC-AAD will perform its own findings of compliance for the purpose of its validation activity. However, CAAC may elect to recognize or accept findings of compliance by TCCA for those requirements for which they have a similar or common interpretation.
- (2) CAAC-AAD may request assistance from TCCA in findings of compliance for those ATCs identified under paragraph 6.2(3), except those requirements or airworthiness standards where TCCA has not acquired sufficient understanding to make a finding of compliance on behalf of CAAC.
- (3) Notwithstanding paragraph 6.3(1) above, at the end of the validation process TCCA will provide a formal statement, upon request, attesting that TCCA has found compliance with the CAAC certification basis, except those requirements or airworthiness standards where TCCA has not acquired sufficient understanding to make a finding of compliance on behalf of CAAC.

### 6.4 Issuance of Validated Type Certificate

CAAC will issue its own corresponding VTC once it has determined that the type design complies with the CAAC certification basis established under section 6.2(3).

## 7.0 POST VALIDATION ACTIVITIES

### 7.1 Design change approval:

- (1) Design changes that result in the re-issuance of the TCCA type certificate A-82 issue 15, which will constitute the basis for the issuance of the CAAC VTC under this TA, will have to be validated by CAAC by applying a certification procedure similar to that described in Section 6.0.
- (2) Design changes include all repair designs.
- (3) TCCA will verify the Viking Air Limited type design changes, introduced after CAAC VTC issuance, and to be released to China or embodied on aircraft to be delivered to China, comply with the CAAC VTC certification basis.
  - i. **For design change affecting the CAAC validated type certificate datasheet:** A formal application from the applicant is required by CAAC for validation. CAAC will make a technical validation and will inform the applicant and TCCA of the approval.
  - ii. **For major design changes not affecting the CAAC validated type certificate datasheet:** A notification from the applicant is required by CAAC. CAAC will normally accept such design changes without technical validation on the basis on TCCA statement of compliance to CAAC certification basis for validation. However, CAAC reserves the right to perform a technical validation. Where CAAC decides to perform a validation, it will notify Viking Air Limited and TCCA of its decision accordingly.
  - iii. **For all other design changes:** All other design changes approved by TCCA or its appropriately-authorized delegate and in compliance with CAAC validation basis will be considered approved by CAAC.

## **7.2 Documentation Approval**

Subject to paragraph 7.1 information or instructions such as Service Bulletins or Technical Instructions, and any subsequent changes or revisions thereto, that are approved by TCCA or its appropriately authorized Delegate will be considered approved by the CAAC.

## **8.0 CONTINUED AIRWORTHINESS SUPPORT ACTIVITIES**

- (1) When the service experience in China indicates the existence of an unsafe condition associated with the design or manufacturing of the subject aeroplane, CAAC will promptly notify TCCA of such information. When such information is provided, TCCA will promptly analyze this information in coordination with Viking Air Limited and will notify CAAC, where appropriate, of any action it deems necessary.
  - (2) In accordance with ICAO Annex 8, *Airworthiness of Aircraft*, TCCA will promptly notify CAAC of any mandatory continuing airworthiness information that TCCA has found necessary for the continuing airworthiness and safe operation of the affected aeroplane.
  - (3) TCCA, upon request, will assist CAAC in establishing procedures deemed necessary by CAAC for maintaining the continuing airworthiness of the aeroplanes covered by this TA.
-

**APPENDIX 1 – POINTS OF CONTACT: CAAC and TCCA**

<b>CAAC</b>	<b>TCCA</b>
<p><b>Aircraft Airworthiness Certification Department</b></p> <p><b>Director, Aircraft Certification Division</b></p> <p>155 Dongsu Street West Beijing 100710 People's Republic of China</p> <p><b>Phone:</b> 86 10 64092331 <b>Fax:</b> 86 10 64033087</p>	<p><b>Administration-related:</b></p> <p><b>National Headquarters</b> Director, Standards (AART) 330 Sparks Street, 2<sup>nd</sup> Floor Place de Ville, Tower C Ottawa, Ontario, KIA 0N5 Canada</p> <p><b>Phone:</b> +1 613 991 6477 <b>Fax:</b> +1 613 952 3298</p> <p><b>Certification-related:</b></p> <p>Pacific Region Technical Team Lead, Engineering 620-800 Burrard St., Vancouver, BC V6Z 2J8, Canada</p> <p><b>Phone:</b> + 1 604 666 5593 <b>Fax:</b> + 1 604 666 3687</p>



# Type Certificate Data Sheet

Number: A-82  
Issue No.: 15  
Approval Date: Refer Below  
Issue Date: November 14, 2011

This Type Certificate Data Sheet (TCDS), which is part of Type Certificate No. A-82, prescribes the conditions and limitations under which the product(s) for which the type certificate was granted meet(s) the standards of airworthiness required by the Canadian Aviation Regulations.

**Type Certificate Holder:**

Viking Air Limited  
1959 de Havilland Way  
Sidney, British Columbia  
V8L 5V5

**Models**

DHC-6 Series 1, 100, 110  
DHC-6 Series 200, 210  
DHC-6 Series 300, 310, 320  
DHC-6 Series 400

1. MODEL DHC-6 Series 1 (Normal Category) Approved April 7, 1966  
(Prototype and four Pre-Production Aircraft)

Engines 2 Pratt & Whitney Canada Inc. PT6A-20

Fuel For list of approved jet fuels refer to Pratt & Whitney Canada Inc. Service Bulletin No. 1244, latest issue. (MIL-G-5572C Avgas (all grades) is for emergency use only and is limited to 150 hours use in any one overhaul cycle).

Oil For list of approved lubricating oils refer to Pratt & Whitney Canada Inc. Service Bulletin No. 1001, latest issue.

Engine Limits	<u>RATING</u>	<u>ESHP</u>	<u>SHP</u>
	Take-off (5 min.)	579*	550*
	Max. Continuous	579*	550*

\* Available to 21°C (70°F) Ambient Temperature.

Temperature Limits (Inter-Turbine)

Take-off	750°C (1,382°F)
Max. Continuous	750°C (1,382°F)
Starting (2 sec.)	1,090°C (1,994°F)

Torque Limits

Take-off	42.5 psi (1,315 lb-ft)
Max. Continuous	42.5 psi (1,315 lb-ft)

Gas Generator

Take-off	38,100 rpm (101.5%)
Max. Continuous	38,100 rpm (101.5%)



# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

MODEL DHC-6 Series 1 (Cont'd)

Engine Limits (Cont'd)	<u>Oil Temperature</u> Starting Take-off Max. Continuous															
		-40°C (-40°F) Minimum 10°C to 99°C (50°F to 210.2°F) 10°C to 99°C (50°F to 210.2°F)														
	<u>Oil Pressure</u> Normal (28,000 rpm & above) Minimum (below 28,000 rpm)	65 to 85 psig 40 psig														
Propeller & Propeller Limits	2 Hartzell Hub Blades Diameter  Pitch Settings at 30 in. Station Feather Take-off Low Pitch Idle Blade Angle Reverse Blade Angle  Propeller (Np) Take-off Max. Continuous	HC-B3TN-3, -3B, -3BY T10173+1, T10173E+1  8 ft 6 in. Nominal (8 ft 4 in. min. after repairs)          2,200 rpm (100%) 2,200 rpm (100%)														
Airspeed Limits (CAS)	V <sub>NE</sub> Never Exceed V <sub>NO</sub> Max. Structural Cruise V <sub>P</sub> Design Manoeuvring V <sub>MC</sub> Minimum Control V <sub>FE</sub> Flaps Extended 0° to 20° V <sub>FE</sub> Flaps Extended 20° to 40°  * Reduce V <sub>NE</sub> 4 Kt per 1,000 ft above 10,000 ft ** Reduce V <sub>NO</sub> 3 Kt per 1,000 ft above 10,000 ft *** Reduce V <sub>P</sub> = V <sub>NO</sub> above 20,000 ft	<table border="0" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"><u>Landplane (KCAS)</u></td> <td style="width: 50%;"><u>Floatplane &amp; Skiplane (KCAS)</u></td> </tr> <tr> <td>202*</td> <td>183*</td> </tr> <tr> <td>160**</td> <td>160**</td> </tr> <tr> <td>130***</td> <td>130***</td> </tr> <tr> <td>64</td> <td>64</td> </tr> <tr> <td>100</td> <td>100</td> </tr> <tr> <td>85</td> <td>85</td> </tr> </table>	<u>Landplane (KCAS)</u>	<u>Floatplane &amp; Skiplane (KCAS)</u>	202*	183*	160**	160**	130***	130***	64	64	100	100	85	85
<u>Landplane (KCAS)</u>	<u>Floatplane &amp; Skiplane (KCAS)</u>															
202*	183*															
160**	160**															
130***	130***															
64	64															
100	100															
85	85															





# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

MODEL DHC-6 Series 1 (Cont'd)

Maximum Weight	Skiplane with Item				Floatplane with Item	
	Landplane		201(a)&(b)		202(a)	
	<u>kg</u>	<u>lb</u>	<u>kg</u>	<u>lb</u>	<u>kg</u>	<u>lb</u>
Take-off	4,990	11,000	4,990	11,000	4,990	11,000
Landing	4,990	11,000	4,536	10,000	4,990	11,000

C.G. Limits      All weights up to Maximum of 4,990 kg (11,000 lb)

Landplane and Skiplane

Forward Limit      20% M.A.C. (Sta. 203.84)  
Aft Limit            36% M.A.C. (Sta. 216.32)

Floatplane

Forward Limit      25% M.A.C. (Sta. 207.74)  
Aft Limit            32% M.A.C. (Sta. 213.20)

Minimum Crew      One Pilot (Station 95.0 in.)

Maximum Occupants      16 (Includes Crew)

Maximum Baggage      91 kg (200 lb) in forward compartment (+41.0 in.)  
227 kg (500 lb) in rear compartment (+354.0 in.)  
See Weight and Balance Handbook.

Fuel Capacity	<u>Usable Fuel*</u>	<u>Litres</u>	<u>Imp. Gal.</u>	<u>U.S. Gal.</u>
	Forward Tank (+162.5 in.)	668	147	176
	Rear Tank (+240.0 in.)	<u>691</u>	<u>152</u>	<u>182</u>
	Total	1,359	299	358

\* See NOTE 1(b) for Weight and Balance.

Oil Capacity	<u>Usable Oil*</u>	<u>Litres</u>	<u>Imp. Gal.</u>	<u>U.S. Gal.</u>
	Left (+177.0 in.)	6.8	1.2	1.5
	Right (+177.0 in.)	<u>6.8</u>	<u>1.2</u>	<u>1.5</u>
	Total	13.6	2.4	3.0

\* See NOTE 1(c) for Weight and Balance.

Serial Numbers Eligible      1 to 5 inclusive



# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

MODEL DHC-6 Series 1 (Cont'd)

Flight Manual      Canadian DOT Approved DHC-6 Twin Otter Airplane Flight Manual (Series 1 & 100), PSM 1-61-1A must be in the aircraft at all times. (See NOTE 6)

2. MODEL DHC-6 Series 100      (Normal Category)      Approved July 29, 1966  
(First Production Series)

Engines      2 Pratt & Whitney Canada Inc. PT6A-20

Fuel      For list of approved jet fuels refer to Pratt & Whitney Canada Inc. Service Bulletin No. 1244, latest issue. (MIL-G-5572C Avgas (all grades) is for emergency use only and is limited to 150 hours use in any one overhaul cycle).

Oil      For list of approved lubricating oils refer to Pratt & Whitney Canada Inc. Service Bulletin No. 1001, latest issue.

Engine Limits	<u>RATING</u>	<u>ESHP</u>	<u>SHP</u>
	Take-off (5 min.)	579*	550*
	Max. Continuous	579*	550*

\* Available to 21°C (70°F) Ambient Temperature.

Temperature Limits (Inter-Turbine)

Take-off	750°C (1,382°F)
Max. Continuous	750°C (1,382°F)
Starting (2 sec.)	1,090°C (1,994°F)

Torque Limits

Take-off	42.5 psi (1,315 lb-ft)
Max. Continuous	42.5 psi (1,315 lb-ft)

Gas Generator

Take-off	38,100 rpm (101.5%)
Max. Continuous	38,100 rpm (101.5%)

Oil Temperature

Starting	-40°C (-40°F) Minimum
Take-off	10°C to 99°C (50°F to 210.2°F)
Max. Continuous	10°C to 99°C (50°F to 210.2°F)

Oil Pressure

Normal (28,000 rpm & above)	65 to 85 psig
Minimum (below 28,000 rpm)	40 psig



# Type Certificate Data Sheet

(Continuation Sheet)

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MODEL DHC-6 Series 100 (Cont'd)

Propeller & Propeller Limits	2 Hartzell Hub Blades	HC-B3TN-3, -3B, -3BY T10173+1, T10173E+1
	Diameter	8 ft 6 in. Nominal (8 ft 4 in. min. after repairs)
	Pitch Settings at 30 in. Station	
	Feather	+87°
	Take-off Low Pitch	+16°
	Idle Blade Angle	+12°
	Reverse Blade Angle	-14°
	Propeller (Np)	
	Take-off	2,200 rpm (100%)
	Max. Continuous	2,200 rpm (100%)

Airspeed Limits (CAS)		<u>Landplane (KCAS)</u>	<u>Floatplane &amp; Skiplane (KCAS)</u>
	V <sub>NE</sub> Never Exceed	202*	183*
	V <sub>NO</sub> Max. Structural Cruise	160**	160**
	V <sub>P</sub> Design Manoeuvring	130***	130***
	V <sub>MC</sub> Minimum Control Flaps 10°	65	65
	V <sub>FE</sub> Flaps Extended 0° to 20°	100	100
	V <sub>FE</sub> Flaps Extended 20° to 37.5°	85	85
	* Reduce V <sub>NE</sub> 4 Kt per 1,000 ft above 10,000 ft		
	** Reduce V <sub>NO</sub> 3 Kt per 1,000 ft above 10,000 ft		
	*** Reduce V <sub>P</sub> = V <sub>NO</sub> above 20,000 ft		

Maximum Weight Without Mod. 6/1020 - Same as Series 1  
With Mod. 6/1020 - "Fuselage Beam, Front Wing Spar Reinforcing"

	Landplane		Skiplane with Item		Floatplane with Item	
			201(a)&(b)		202(a)&(b)	
			<u>kg</u> <u>lb</u>		<u>kg</u> <u>lb</u>	
Take-off	5,252	11,579	5,252	11,579	5,262	11,600
Landing	5,171	11,400*	5,171	11,400*	5,262	11,600

\* See NOTE 5 for Temperature Limitations on Maximum Landing Weight.



# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

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## MODEL DHC-6 Series 100 (Cont'd)

C.G. Limits      Without Mod. 6/1020 - Same as Series 1

With Mod. 6/1020 - "Fuselage Beam Front Wing Spar Reinforcing"

### Landplane

- a) Maximum Take-off Weight is 5,252 kg (11,579 lb)
- |               |   |
|---------------|---|
| Forward Limit | 20% M.A.C. (Sta. 203.84) at all weights |
| Aft Limit     | 36% M.A.C. (Sta. 216.32) at all weights |
- b) Maximum Landing Weights are as follows:
- i) For temperatures of -29°C (-20°F) and above, 5,171 kg (11,400 lb)
- |               |  |
|---------------|--|
| Forward Limit | 20% M.A.C. (Sta. 203.84) at 4,990 kg (11,000 lb) rising linearly to 22% M.A.C. (Sta. 205.40) at 5,171 kg (11,400 lb) |
| Aft Limit     | 36% M.A.C. (Sta. 216.32) at all weights  |
- ii) For temperatures below -29°C (-20°F), 4,990 kg (11,000 lb)
- |               |   |
|---------------|---|
| Forward Limit | 20% M.A.C. (Sta. 203.84) at all weights |
| Aft Limit     | 36% M.A.C. (Sta. 216.32) at all weights |

### Skiplane

- a) Maximum Take-off Weights are as follows:
- |               |  |
|---------------|--|
| Forward Limit | 20% M.A.C. (Sta. 203.84) at 4,990 kg (11,000 lb) rising linearly to 23% M.A.C. (Sta. 206.18) at 5,252 kg (11,579 lb) |
| Aft Limit     | 36% M.A.C. (Sta. 216.32) at all weights  |
- b) Maximum Landing Weights are as follows:
- i) For temperatures of -29°C (-20°F) and above, 5,171 kg (11,400 lb)
- |               |  |
|---------------|--|
| Forward Limit | 20% M.A.C. (Sta. 203.84) at 4,990 kg (11,000 lb) rising linearly to 22% M.A.C. (Sta. 205.40) at 5,171 kg (11,400 lb) |
| Aft Limit     | 36% M.A.C. (Sta. 216.32) at all weights  |
- ii) For temperatures below -29°C (-20°F), 4,990 kg (11,000 lb)
- |               |   |
|---------------|---|
| Forward Limit | 20% M.A.C. (Sta. 203.84) at all weights |
| Aft Limit     | 36% M.A.C. (Sta. 216.32) at all weights |

### Floatplane

Maximum Landing and Take-off Weight 5,262 kg (11,600 lb)

Forward Limit	25% M.A.C. (Sta. 207.74) at all weights
Aft Limit	32% M.A.C. (Sta. 213.20) at all weights



# Type Certificate Data Sheet

(Continuation Sheet)

Number:    A-82 Issue: 15

MODEL DHC-6 Series 100 (Cont'd)

Minimum Crew	One Pilot			
Maximum Occupants	21 (Includes Crew)			
Maximum Baggage	91 kg (200 lb) in forward compartment (+41.0 in.) 227 kg (500 lb) in rear compartment (+354.0 in.)			
Fuel Capacity	<u>Usable Fuel*</u>	<u>Litres</u>	<u>Imp. Gal.</u>	<u>U.S. Gal.</u>
	Forward Tank (+162.5 in.)	686	151	181
	Rear Tank (+240.0 in.)	746	164	197
	Total	1,432	315	378
	* See NOTE 1(b) for Weight and Balance.			
Oil Capacity	<u>Usable Oil*</u>	<u>Litres</u>	<u>Imp. Gal.</u>	<u>U.S. Gal.</u>
	Left (+177.0 in.)	6.8	1.2	1.5
	Right (+177.0 in.)	6.8	1.2	1.5
	Total	13.6	2.4	3.0
	* See NOTE 1(c) for Weight and Balance.			
Serial Numbers Eligible	6 to 115 inclusive			
Flight Manual	Canadian DOT Approved DHC-6 Twin Otter Airplane Flight Manual (Series 1 & 100), PSM 1-61-1A must be in the aircraft at all times. (See NOTE 6)			

3. DHC-6 Series 110

The Series 110 is the designation of the variant developed from the Series 100 that fulfils the additional Special Requirements considered necessary by the UK CAA (ARB), Ref. letters ADH 1601 dated 7 July 1967, and ADH 1601A dated 2 January 1968.

All Technical Data under "Series 100" and "Data Pertinent to All Models" is applicable to the Series 110 except as follows:

Serial Numbers Eligible	Any basic Series 100 that has been modified to embody all of the mandatory modifications identified in DOT approved Viking AEROC Report 6.1.G.12.
Airspeed Limits	See DHC-6 Twin Otter Flight Manual (Series 110), PSM 1-61-1A.





# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

## DHC-6 Series 200 (Cont'd)

Engine Limits (Cont'd)	<u>Oil Pressure</u> Normal (28,000 rpm & above) Minimum (below 28,000 rpm)	65 to 85 psig 40 psig	
Propeller & Propeller Limits	2 Hartzell Hub Blades Diameter  Pitch Settings at 30 in. Station Feather Take-off Low Pitch Idle Blade Angle Reverse Blade Angle Propeller (Np) Take-off Max. Continuous	HC-B3TN-3, -3B, -3BY T10173+1, T10173E+1 8 ft 6 in. Nominal (8 ft 4 in. min. after repairs)   +87° +16° +12° -14°  2,200 rpm (100%) 2,200 rpm (100%)	
Airspeed Limits (CAS)		<u>Landplane (KCAS)</u>	<u>Floatplane &amp; Skiplane (KCAS)</u>
	V <sub>NE</sub> Never Exceed	202*	183*
	V <sub>NO</sub> Max. Structural Cruise	160**	160**
	V <sub>P</sub> Design Manoeuvring	130***	130***
	V <sub>MC</sub> Minimum Control Flaps 10°	65	65
	V <sub>FE</sub> Flaps Extended 0° to 20°	100	100
	V <sub>FE</sub> Flaps Extended 20° to 37.5°	85	85
	* Reduce V <sub>NE</sub> 4 Kt per 1,000 ft above 10,000 ft		
	** Reduce V <sub>NO</sub> 3 Kt per 1,000 ft above 10,000 ft		
	*** Reduce V <sub>P</sub> = V <sub>NO</sub> above 20,000 ft		
Maximum Weight	<u>Landplane</u>	<u>Skiplane with Item</u>	<u>Floatplane with Item</u>
	kg    lb	201(a) kg    lb	202(a) or (b) kg    lb
	Take-off    5,252    11,579	5,252    11,579	5,262    11,600
	Landing    5,171    11,400*	5,171    11,400*	5,262    11,600

\* See NOTE 5 for Temperature Limitations on Maximum Landing Weight.



# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

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## DHC-6 Series 200 (Cont'd)

C.G. Limits With Mod. 6/1020 - All Series 200 Aircraft Serial Numbers 116 to 230 inclusive have this Mod. embodied.

### Landplane

- a) Maximum Take-off Weight is 5,252 kg (11,579 lb)
- |               |   |
|---------------|---|
| Forward Limit | 20% M.A.C. (Sta. 203.84) at all weights |
| Aft Limit     | 36% M.A.C. (Sta. 216.32) at all weights |
- b) Maximum Landing Weights are as follows:
- i) For temperatures of -29°C (-20°F) and above, 5,171 kg (11,400 lb)
- |               |  |
|---------------|--|
| Forward Limit | 20% M.A.C. (Sta. 203.84) at 4,990 kg (11,000 lb) rising linearly to 22% M.A.C. (Sta. 205.40) at 5,171 kg (11,400 lb) |
| Aft Limit     | 36% M.A.C. (Sta. 216.32) at all weights  |
- ii) For temperatures below -29°C (-20°F), 4,990 kg (11,000 lb)
- |               |   |
|---------------|---|
| Forward Limit | 20% M.A.C. (Sta. 203.84) at all weights |
| Aft Limit     | 36% M.A.C. (Sta. 216.32) at all weights |

### Skiplane

- a) Maximum Take-off Weights are as follows:
- |               |  |
|---------------|--|
| Forward Limit | 20% M.A.C. (Sta. 203.84) at 4,990 kg (11,000 lb) rising linearly to 23% M.A.C. (Sta. 206.18) at 5,252 kg (11,579 lb) |
| Aft Limit     | 36% M.A.C. (Sta. 216.32) at all weights  |
- b) Maximum Landing Weights are as follows:
- i) For temperatures of -29°C (-20°F) and above, 5,171 kg (11,400 lb)
- |               |  |
|---------------|--|
| Forward Limit | 20% M.A.C. (Sta. 203.84) at 4,990 kg (11,000 lb) rising linearly to 22% M.A.C. (Sta. 205.40) at 5,171 kg (11,400 lb) |
| Aft Limit     | 36% M.A.C. (Sta. 216.32) at all weights  |
- ii) For temperatures below -29°C (-20°F), 4,990 kg (11,000 lb)
- |               |   |
|---------------|---|
| Forward Limit | 20% M.A.C. (Sta. 203.84) at all weights |
| Aft Limit     | 36% M.A.C. (Sta. 216.32) at all weights |

### Floatplane

Maximum Landing and Take-off Weight 5,262 kg (11,600 lb)

Forward Limit	25% M.A.C. (Sta. 207.74) at all weights
Aft Limit	32% M.A.C. (Sta. 213.20) at all weights

Minimum  
Crew

One Pilot





# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

## DHC-6 Series 200 (Cont'd)

Maximum Occupants 21 (Includes Crew)

Maximum Baggage		kg	lb	
	Forward - Short Nose	91	200	(+41.0 in.)
	Forward - Long Nose (Mod. 6/1077)	136	300	(+25.0 in.)
	Rear	227	500	(+354.0 in.)
	Rear Extension Shelf	68	150	(+391.0 in.)

\* Total Rear + Rear Extension Shelf not to exceed 227 kg (500 lb) maximum.

Fuel Capacity	Usable Fuel*	Litres	Imp. Gal.	U.S. Gal.
	Forward Tank (+162.5 in.)	686	151	181
	Rear Tank (+240.0 in.)	746	164	197
	Total	1,432	315	378

\* See NOTE 1(b) for Weight and Balance.

Oil Capacity	Usable Oil*	Litres	Imp. Gal.	U.S. Gal.
	Left (+177.0 in.)	6.8	1.2	1.5
	Right (+177.0 in.)	6.8	1.2	1.5
	Total	13.6	2.4	3.0

\* See NOTE 1(c) for Weight and Balance.

Serial Numbers Eligible 116 to 230 inclusive (except 130 and 210) plus any other Series aircraft that has been modified to embody the following Mods.:  
Mod. 6/1020; 1075 or 1076; 1077.

Flight Manual Canadian DOT Approved DHC-6 Twin Otter Airplane Flight Manual (Series 200), PSM 1-62-1A must be in the aircraft at all times. (See NOTE 6)

## 5. DHC-6 Series 210

The Series 210 is the designation of the variant developed from the Series 200 that fulfils the additional Special Requirements considered necessary by the UK CAA (ARB), Ref. letters ADH 1601 dated 7 July 1967, and ADH 1601A dated 2 January 1968 and UK Special Conditions amended to Issue 2 dated 1 July 1969.

All Technical Data under "Series 200" and "Data Pertinent to All Models" is applicable to the Series 210 except as follows:

Serial Numbers Eligible Any basic Series 200 that has been modified to embody all of the mandatory modifications identified in DOT approved Viking AEROC Report 6.1.G.12.





# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

## DHC-6 Series 300 (Cont'd)

Engine Limits (Cont'd)	<u>Oil Temperature</u>	
	Starting	-40°C (-40°F) Minimum
	Take-off	10°C to 99°C (50°F to 210.2°F)
	Max. Continuous	10°C to 99°C (50°F to 210.2°F)
	<u>Oil Pressure</u>	
	Normal (28,000 rpm & above)	80 to 100 psig
	Minimum (below 28,000 rpm)	40 psig
Propeller & Propeller Limits	2 Hartzell	
	Hub	HC-B3TN-3D (Y)*
	Blades	T10282H (B)**+0, T10282 (B)**+0
	Diameter	8 ft 6 in. Nominal (8 ft 4 in. min. after repairs)
	* (Y) designates Zero Thrust Latches	
	** (B) designates De-icing Boots.	
	Pitch Settings at 30 in. Station	
	Feather	+87°
	Take-off Low Pitch	+17°
	Idle Blade Angle	+11°
	Reverse Blade Angle	-15°
	Propeller (Np)	
	Take-off	2,110 rpm (96%)
	Max. Continuous	2,110 rpm (96%)

Airspeed Limits (CAS)	<u>Landplane (KCAS)</u>	<u>Floatplane &amp; Skiplane (KCAS)</u>
V <sub>MO</sub> Max. Operating (Pre-Mod. 6/1291) Sea Level	160	160
5,000 ft	155	155
10,000 ft	150	150
15,000 ft	145	145
20,000 ft	130	130
25,000 ft	115	115
V <sub>MO</sub> Max. Operating (Mod. 6/1291) Sea Level to 6,700 ft	170	
10,000 ft	160	
15,000 ft	145	
20,000 ft	130	
25,000 ft	115	



# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

## DHC-6 Series 300 (Cont'd)

Airspeed Limits (Cont'd)		Landplane (KCAS)	Floatplane & Skiplane (KCAS)
	V <sub>P</sub> Design Manoeuvring	136*	136*
	V <sub>MC</sub> Minimum Control		
	Flaps 10°	66	67
	V <sub>FE</sub> Flaps Extended (Pre-Mod. 6/1395)		
	0° to 10°	102	102
	V <sub>FE</sub> Flaps Extended (Mod. 6/1395)		
	0° to 10°	105	105
	V <sub>FE</sub> Flaps Extended		
	10° to 37.5°	95	95

\* Reduce V<sub>P</sub> to V<sub>MO</sub> above 18,000 ft.

Maximum Weight	Landplane		Skiplane with Item 201(a)		Floatplane with Item 202(a) or (b)	
	kg	lb	kg	lb	kg	lb
	Take-off	5,670	12,500	5,670	12,500	5,670
Landing	5,579	12,300**	5,579	12,300	5,670	12,500
	** Main-wheel Tire Pressure		38 psi			
	Below -29°C (-20°F)		34 psi			

### C.G. Limits Landplane and Wheel-Skiplane

- a) Maximum Take-off Weight is 5,670 kg (12,500 lb)
  - Forward Limit 20% M.A.C. (Sta. 203.84), 5,261 kg (11,600 lb) rising linearly to 25% M.A.C. (Sta. 207.74), 5,670 kg (12,500 lb)
  - Aft Limit 36% M.A.C. (Sta. 216.32) at all weights
- b) Maximum Landing Weight is 5,579 kg (12,300 lb)
  - Forward Limit 20% M.A.C. (Sta. 203.84), 4,989 kg (11,000 lb) rising linearly to 25% M.A.C. (Sta. 207.74), 5,579 kg (12,300 lb)
  - Aft Limit 36% M.A.C. (Sta. 216.32) at all weights

### Floatplane

- Maximum Landing and Take-off Weight 5,670 kg (12,500 lb)
  - Forward Limit 25% M.A.C. (Sta. 207.74) at all weights
  - Aft Limit 32% M.A.C. (Sta. 213.20) at all weights

Minimum Crew One Pilot



# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

## DHC-6 Series 300 (Cont'd)

Maximum Occupants 22 (Includes Crew)

Maximum Baggage		kg	lb	
	Forward - Short Nose	91	200	(+41.0 in.)
	Forward - Long Nose (Mod. 6/1077)	136	300	(+25.0 in.)
	Rear	227	500	(+354.0 in.)
	Rear Extension Shelf	68	150	(+391.0 in.)

\* Total Rear + Rear Extension Shelf not to exceed 227 kg (500 lb) maximum.

Fuel Capacity	Usable Fuel*	Litres	Imp. Gal.	U.S. Gal.
	Forward Tank (+162.5 in.)	686	151	181
	Rear Tank (+240.0 in.)	746	164	197
	Total	1,432	315	378

\* See NOTE 1(b) for Weight and Balance.

Oil Capacity	Usable Oil*	Litres	Imp. Gal.	U.S. Gal.
	Left (+177.0 in.)	6.8	1.2	1.5
	Right (+177.0 in.)	6.8	1.2	1.5
	Total	13.6	2.4	3.0

\* See NOTE 1(c) for Weight and Balance.

Serial Numbers Eligible 130, 210, and 231 to 844 inclusive.

Flight Manual Canadian DOT Approved DHC-6 Twin Otter Airplane Flight Manual (Series 300/320), PSM 1-63-1A, must be in the aircraft at all times. (See NOTE 6).

## 7. DHC-6 Series 310

The Series 310 is the designation of a variant of the Series 300 airplane which embodies the additional Special Requirements considered necessary by the UK CAA (ARB) and which are identified in Viking AEROC Report 6.1.G.12.

All Technical Data under "Series 300" and "Data Pertinent to All Models" is applicable to the Series 310 except as follows:

Serial Numbers Eligible Any basic Series 300 that has been modified to embody all of the mandatory modifications identified in DOT approved Viking AEROC Report 6.1.G.12.



# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

DHC-6 Series 310 (Cont'd)

Airspeed Limits            See DHC-6 Twin Otter Flight Manual (Series 300 and variants), PSM 1-63-1A.

Flight Manual            Canadian DOT Approved DHC-6 Twin Otter Airplane Flight Manual (Series 300 and variants), PSM 1-63-1A, must be in the aircraft at all times. (See NOTE 6).

8. DHC-6 Series 320 (Australian Normal and Transport Category)            Approved January 23, 1970

The Series 320 is the designation of the variant developed from the Series 300 that fulfils the Australian Department of Civil Aviation Airworthiness Certification Requirements for importation of aeroplanes in the Normal Category (Australian ANO 101.22 Issue 1 of 1 July 1967), and for aeroplanes not above 5,670 kg (12,500 lb) in the Transport Category (Australian ANO 101.4 Issue 1 of 1 July 1967). Ref. DCA Letter 16/16/301 dated 11 December 1968.

All Technical Data under "Series 300" and "Data Pertinent to All Models" is applicable to the Series 320 except as follows:

Serial Numbers Eligible            Normal Category - Any Series 300 that has been modified to fulfil the additional requirements of DCA ANO 101.22 by the embodiment of the following modifications:

- Mod. 6/1293;
- S.O.O. 6014, S.O.O. 6118, S.O.O. 6119 Part A, S.O.O. 6120, S.O.O. 6122, S.O.O. 6126; and
- S.O.O. 6121 when fitted with an auto-pilot.

Transport Category - Any Series 300 that has been modified to fulfil the requirements of the Normal Category above and in addition the requirements of DCA ANO 101.4 by the embodiment of the following modifications:

- S.O.O. 6119 Part B, S.O.O. 6123, S.O.O. 6127; and
- S.O.O. 6121 when fitted with an auto-pilot.

Airspeed Limits            See DHC-6 Twin Otter Airplane Flight Manual (Series 300 and variants), PSM 1-63-1A.

Flight Manual            Canadian DOT Approved DHC-6 Twin Otter Airplane Flight Manual (Series 300 and variants), PSM 1-63-1A, including amendments and supplements specific to Series 320 aircraft must be in the aircraft at all times. (See NOTE 6).





## Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

DHC-6 Series 400 (Cont'd)

Engine Limits (Cont'd)	<u>Oil Pressure</u> Normal (27,000 rpm & above) Minimum (below 27,000 rpm)	85 to 105 psig 40 psig
Airspeed Limits (CAS)	<u>Landplane (KCAS)</u>	<u>Landplane (KIAS)</u>
	V <sub>MO</sub> Max. Operating Sea Level to	
	6,700 ft	170
	10,000 ft	160
	15,000 ft	145
	20,000 ft	130
	25,000 ft	115
	V <sub>P</sub> Design Manoeuvring	136*
	V <sub>MC</sub> Minimum Control	
	Flap 10°	66
	V <sub>FE</sub> Flaps Extended	
	0° to 10°	105
	V <sub>FE</sub> Flaps Extended	
	11° to 37°	95
	* Reduce V <sub>P</sub> =V <sub>MO</sub> above 18,000 ft	
Maximum Weight		<u>Landplane</u>
		<u>kg</u> <u>lb</u>
	Take-off	5,670      12,500
	Landing	5,579      12,300*
	* Main-wheel Tire Pressure	38 psi
	Below -29°C (-20°F)	34 psi
CG Limits	<u>Landplane</u>	
	a) Maximum Take-off Weight is 5,670 kg (12,500 lb)	
	Forward Limit	20% M.A.C. (Sta. 203.84), 5,261 kg (11,600 lb) rising linearly to 25% M.A.C. (Sta. 207.74), 5,670 kg (12,500 lb)
	Aft Limit	36% M.A.C. (Sta. 216.32) at all weights
	b) Maximum Landing Weight is 5,579 kg (12,300 lb)	
	Forward Limit	20% M.A.C. (Sta. 203.84), 4,989 kg (11,000 lb) rising linearly to 25% M.A.C. (Sta. 207.74), 5,579 kg (12,300 lb)
	Aft Limit	36% M.A.C. (Sta. 216.32) at all weights
Minimum Crew	One Pilot	





# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

DHC-6 Series 400 (Cont'd)

Maximum Occupants	19 (excluding pilot seats)		
Maximum Baggage	Forward (Mod. 6/2020)	kg 136	lb 300 (+25.0 in.)
Serial Numbers Eligible	845 and subsequent		
Type Design Definition	Viking Air Limited Top Drawing C61000-9.		
Flight Manual	Canadian DOT Approved DHC-6 Twin Otter Airplane Flight Manual (Series 400), PSM 1-64-1A, must be in the aircraft at all times.		
Instructions for Continued Airworthiness (ICA) (See NOTE 4)	The ICA consist of the following Viking Air Limited documents:		
	Aircraft Maintenance Manual (AMM)		PSM 1-64-2
	Structural Repair Manual (SRM)		PSM 1-6-3
	Illustrated Parts Catalogue (IPC)		PSM 1-64-4
	Corrosion Prevention and Control Manual (CPCP)		PSM 1-6-5
	Inspection Requirements Manual		PSM 1-6-7
	Structural Components Service Life Limits Manual		PSM 1-6-11
	Avionics Limitations Manual		PSM 1-6-13

DATA PERTINENT TO ALL MODELS EXCEPT AS INDICATED

Datum	Station 0 is 277.67 cm (109.32 in.) forward of a jig point which is marked by a plate attached to the bulkhead between the cockpit and the cabin.
Levelling Means	The cabin floor rails provide a surface for levelling the airplane both laterally and longitudinally. The cabin floor level is 15 in. below water line zero.
M.A.C.	198.1 cm (78 in.). (The wing leading edge is at Station 188.24.)
Control Surface Movements	See DHC-6 Twin Otter (Series 1/100/200) Maintenance Manual, PSM 1-6-2 for Series 1/100/200, DHC-6 Twin Otter (Series 300) Maintenance Manual, PSM 1-63-2 for the Series 300 and DHC-6 Twin Otter (Series 400) Maintenance Manual, PSM 1-64-2 for the Series 400, for rigging procedure and measurements.
Maximum Operating Altitude	25,000 ft (when supplementary breathing equipment is provided for all occupants in accordance with the operating rules).



# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

DATA PERTINENT TO ALL MODELS EXCEPT AS INDICATED (Cont'd)

Required  
Equipment

The basic required equipment as prescribed by the applicable airworthiness requirements (see Certification Basis) and operating rules must be installed in aircraft. The equipment that was required to be installed in the aircraft for certification is identified in Viking Report AEROC 6.6.G.1

Certification  
Basis  
(See NOTE 12)

Date of Application for DHC-6 Type Approval, April 2, 1964.

DHC-6 Series 1, 100, 110, 200, 210, 300, 310 and 320

1. Part 3 of the United States Civil Air Regulations (CAR 3) as amended May 15, 1956, including Amendments 3-1 through 3-8, plus Special Conditions for Multi-Engine Turbine Powered Aircraft dated November 6, 1964.
2. In addition, for DHC-6 Series 300 aeroplanes when operated in accordance with Airplane Flight Manual Supplement 37 - Supplemental Performance Data, document PSM 1-63-1A, Section 9-37:
  - i) The following requirements of the Part 23 of Title 14 of the United States Code of Federal Regulations (FAR 23) as amended up to and including Amendment 23-57, which were incorporated in AWM 523 at Change 523-8, as applicable to the commuter category:
 

§§ 23.25, 23.45, 23.49, 23.51, 23.53, 23.55, 23.57, 23.59, 23.61, 23.63, 23.65, 23.66, 23.67, 23.69, 23.73, 23.75, 23.77, 23.149, 23.1581, 23.1583, 23.1585, 23.1587 and 23.1589; and
  - ii) The following requirements of the 14 CFR Part 25 (FAR 25) as amended up to and including Amendment 25-23:
 

§§ 25.105, 25.107, 25.109, 25.111, 25.113, 25.115, 25.119, 25.121, 25.123, and 25.125.

See NOTE 8 for information regarding compliance with Special Federal Aviation Regulation Number 23 (SFAR 23) dated January 7, 1969, and Amendment SFAR 23-1 dated December 24, 1969.

DHC-6 Series 400

1. Part 23 of Title 14 of the United States Code of Federal Regulations (FAR 23) Amendment (Amdt.) 23-1 through 23-6, Amdt. 23-8 (23.1529) and Amdt. 23-9 (23.1441, 23.1443, 23.1447, 23.1449), plus Special Federal Aviation Regulation Number 23 (SFAR 23) dated June 7, 1969 and Amdt. SFAR 23-1 dated December 24, 1969; except as follows:



# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

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## DATA PERTINENT TO ALL MODELS EXCEPT AS INDICATED (Cont'd)

Certification  
Basis (Cont'd)

- §§ 23.25, 23.49, 23.51, 23.65, 23.67, 23.75, 23.77, 23.145, 23.161, 23.175, 23.207, 23.361, 23.367, 23.371, 23.423, 23.425, 23.572, 23.617, 23.629, 23.643, 23.677, 23.721, 23.867, 23.901, 23.933, 23.939, 23.955, 23.991, 23.997, 23.1041, 23.1043, 23.1093, 23.1103, 23.1111, 23.1121, 23.1141, 23.1155, 23.1305, 23.1323, 23.1413, 23.1501, 23.1505, 23.1527, 23.1545, 23.1557, 23.1563, 23.1583, 23.1585 and 23.1587 as amended by Amdt. 23-7;
- §§ 23.783 (a), (b), (c)(1), (c)(3) and (c)(4), 23.785 (a), (b), (c), (f), (g)(2), (h), (i), (j), (k), and (l), 23.787(a), (b), (d), (f) and (g), 23.803, 23.807 (a), (b), (c) and (d), 23.815 and 23.851 (a) and (b) as amended by Amdt. 23-34 (incorporated in AWM 523 at Change 523-1);
- §§ 23.853 (a), (c), (d)(3)(i) and (ii) and 23.1359(c) as amended by Amdt. 23-49 (incorporated in AWM 523 at NPA 97-168);
- AWM 523.1557(c)(4) at Change 523-8; and
- AWM 516, Change 516-8.

See NOTE 8 for information regarding compliance with SFAR 23 and Amdt. SFAR 23-1.

2. In addition, for those areas of the aircraft affected by the installation of the cockpit upgrade - EFIS avionics suite (See NOTE 13), the following requirements, which were the latest in effect in FAR 23 Amdt. 23-57 (incorporated in AWM 523 at Change 523-8) on the date of application for the DHC-6 Series 400:

- FAR 23 Subpart D: §§ 23.771 - Amdt. 23-14, 23.773 - Amdt. 23-45, 23.777 and 23.779 - Amdt. 23-51, 23.781 - Amdt. 23-33, 23.867 - Amdt. 23-49;
- FAR 23 Subpart E: §§ 23.901 - Amdt. 23-53, 23.963 - Amdt. 23-51;
- FAR 23 Subpart F: §§ 23.1367 and 23.1381 - Amdt. 23-0; 23.1301, 23.1327 and 23.1335 - Amdt. 23-20; 23.1457 and 23.1459 - Amdt. 23-35; 23.1322, 23.1331 and 23.1357 - Amdt. 23-43; 23.1303, 23.1307, 23.1309, 23.1311, 23.1321, 23.1323, 23.1326, 23.1329, 23.1351, 23.1353, 23.1359, 23.1361, 23.1365 and 23.1431 - Amdt. 23-49; 23.1325 - Amdt. 23-50; 23.1337 - Amdt. 23-51; 23.1305 - Amdt. 23-52; and 23.1308 - Amdt. 23-57; and,
- FAR 23 Subpart G: §§ 23.1551 - Amdt. 23-0; 23.1547 - Amdt. 23-20; 23.1501 and 23.1541 - Amdt. 23-21; 23.1529 - Amdt. 23-26; 23.1549 and 23.1557 - Amdt. 23-45; 23.1543, 23.1545, 23.1553, 23.1555, 23.1559, 23.1581, 23.1583, 23.1585, 23.1587, 23.1589 - Amdt. 23-50.



# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

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DATA PERTINENT TO ALL MODELS EXCEPT AS INDICATED (Cont'd)

Certification  
Basis (Cont'd)

3. For aeroplanes when operated in accordance with Airplane Flight Manual Supplement 37 - Supplemental Performance Data, document PSM 1-64-1A, Section 9-37:

i) The following requirements of FAR 23 as amended up to and including Amdt. 23-57 as applicable to the commuter category apply in place of the FAR 23 requirements listed in section 1:

§§ 23.25, 23.45, 23.49, 23.51, 23.53, 23.55, 23.57, 23.59, 23.61, 23.63, 23.65, 23.66, 23.67, 23.69, 23.73, 23.75, 23.77, 23.149, 23.1581, 23.1583, 23.1585, 23.1587 and 23.1589; and

ii) In addition the following requirements of the 14 CFR Part 25 (FAR 25) up to and including Amdt. 25-23 apply:

§§ 25.105, 25.107, 25.109, 25.111, 25.113, 25.115, 25.119, 25.121, 25.123, and 25.125

4. Findings of Equivalent Safety

FAR §§ 23.1357(b); 23.1397(c); 23.1545(b)(4); and 23.1549(b) and (c).

Additional  
Special  
Requirements

Additional Special Requirements considered necessary by the UK CAA (ARB) are included with the details of Series 110, 210 and 310 aircraft.

Additional Airworthiness Requirements necessary for importation into Australia in either the Normal or the Transport Category are included with the details of the Series 320 aircraft.

Approved  
Installations  
(See NOTE 10)

Item 201 - Ski Installations

a) Wheel/Ski

Bristol Model 3000 nose-wheel/ski and Model 5500 main-wheel/ski installed to Viking Drawing C6-US-1000, G.A. Ski Installation. Applicable to Series 1, 100, 200 and 300 aircraft.

Aircraft to be operated in accordance with appropriate DOT Approved DHC Flight Manual Supplement.

b) Spring Skis.

Skis installed to Viking Installation Drawing C6-US-1001. Applicable to Series 1, 100, 200 and 300 aircraft.



# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

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DATA PERTINENT TO ALL MODELS EXCEPT AS INDICATED (Cont'd)

Approved  
Installations  
(Cont'd)  
(See NOTE 10)

Item 202 - Float Installation

- a) CAP Model 12000 Floats on Series 1, 100 and 200 aircraft, up to 5,262 kg (11,600 lb), or CAP Model 12000A and 12000B Floats on Series 300 aircraft up to 5,670 kg (12,500 lb) installed to Viking Drawing C6-UF-1000 G.A. Floatplane. Ref. DOT Float Type Approval F-10.
- b) CAP Models 12000, 12000A or 12000B Floats modified in accordance with Field Aviation Company Limited Drawing No. 84193 to provide capability of loading and dropping water. Water Bomber aircraft are to be operated in accordance with DOT Approved Flight Manual Amendment contained in Field Aviation company Report No. 6035. Water Bomber equipment is to be maintained in accordance with Field Aviation Company Report No. 4889. The operation of water bomber aircraft is within the following limitations.
- i) Series 100 and 200 Aircraft  
CAP 12000 Floats  
Aircraft Gross Weight 5,262 kg (11,600 lb) at C.G. Limits of 25% to 32% M.A.C. with Viking Mod. 6/1020 embodied.  
Maximum Water Capacity in Two Floats 1,932 L (425 Imp. Gal.) Total.  
Maximum Fuselage Cargo 227 kg (500 lb).
- ii) Series 300 Aircraft  
CAP 12000A or 12000B Floats Aircraft Gross Weight 5,670 kg (12,500 lb) at C.G. Limits of 25% to 32% M.A.C.  
Maximum Water Capacity in Two Floats 2,046 L (450 Imp. Gal) Total.  
Maximum Fuselage Cargo 227 kg (500 lbs).

Item 203 - Intermediate Floatation Gear

Viking Intermediate Floatation Gear installed to Viking Drawing C6-U-1000. Applicable to Series 1, 100, 200, 300 and 400 aircraft. Aircraft to be operated in accordance with appropriate DOT approved Viking Flight Manual Supplement.

Item 204 - Aircraft Ice Protection

- a) Series 1, 100, 200 and 300 Aircraft  
Approved for operation in icing when equipped with following Viking Modifications:
- Mods 6/1043, 6/1066 & 6/1089; plus S.O.O. 6004, S.O.O. 6005, S.O.O. 6006, S.O.O. 6009, and S.O.O. 6007 or S.O.O. 6008.



# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

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DATA PERTINENT TO ALL MODELS EXCEPT AS INDICATED (Cont'd)

Approved  
Installations  
(Cont'd)  
(See NOTE 10)

- b) Series 400 Aircraft  
Approved for operation in icing when equipped with following Viking  
Modifications:  
  
Mods 6/2022, 6/2042 and 6/2045; plus S.O.O. 6004, S.O.O. 6005, S.O.O. 6187  
and S.O.O. 6202 or S.O.O. 6237.

Aircraft to be operated in accordance with appropriate DOT Approved Viking  
Flight Manual Supplement.

Item 205 - Auto Pilot Installation

Bendix M-4C Automatic Flight Control System installed to Field Aviation  
Company Limited Drawing J-500 061 per STA SA67-7 for Series 100 DHC-6.  
Aircraft to be operated in accordance with the 22 April 1968 issue of the M-4C  
Supplement to the DHC-6 Flight Manual.

Item 206 - Interior Installation

- a) Series 1, 100, 200 and 300 Aircraft  
Commuter interior installation installed to Field Aviation Company  
Limited Report 4961 dated 25 September 1968.
- b) Series 400 Aircraft  
Commuter interior installed to Viking Mod. 6/2013.

Item 207 - Avionics Installation

- a) Avionics equipment installed to Field Aviation Company Limited Report  
4962 dated 26 September 1968.
- b) Avionics equipment installed in accordance with Technical Enterprise  
Limited Report TELAIR DHC-6.

Item 208 - Baggage Pod Installation

Baggage Pod when installed and operated in accordance with Field Aviation  
Ltd. Report No. 6093 dated 29 March 1971.



# Type Certificate Data Sheet

(Continuation Sheet)

Number: A-82 Issue: 15

DATA PERTINENT TO ALL MODELS EXCEPT AS INDICATED (Cont'd)

Approved  
Installations  
(Cont'd)  
(See NOTE 10)

Item 209 - Fire Bombing Membrane Tank

Field Aviation Fire Bombing Membrane Tank installed to Field Aviation Co.  
Drawing No. 85393.

Applicable to Series 300 aircraft with long nose only and, when installed,  
aircraft to be restricted to Fire Bombing operation with essential crew only.

To be operated in accordance with Flight Manual Supplement Report 6118 and  
maintained in accordance with Maintenance Manual Supplement Report 6114.

NOTE 1

- a) The current Weight and Balance Handbook, Part Number PSM 1-6-8, for the Series 1, 100 and 200, PSM 1-63-8 for the Series 300 and PSM 1-64-8 for the Series 400, giving the list of equipment included in the empty weight and loading instructions, must be in each aircraft except in the case of operators having an approved weight control system.
- b) The following amount of unusable fuel is included in the empty weight:

	<u>SERIES 1</u>			<u>ALL OTHER SERIES</u>		
	<u>Litres</u>	<u>Imp. Gal.</u>	<u>U.S. Gal.</u>	<u>Litres</u>	<u>Imp. Gal.</u>	<u>U.S. Gal.</u>
Unusable	27	6.0	7.25	13.6	3.0	3.5

- c) For weight and balance purposes the total oil including system and tank is included in the empty weight and equals 24.5 kg (54 lb) at +177 in.

NOTE 2

The following placards must be displayed in clear view of the pilot at all times:

- a) "This airplane must be operated as a Normal Category Airplane in compliance with the operating limitations stated in the form of placards, markings and manuals".
- b) "No acrobatic manoeuvres (including spins) are approved".
- c) "Day, Night, VFR".



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## DATA PERTINENT TO ALL MODELS EXCEPT AS INDICATED (Cont'd)

NOTE 2  
(Cont'd)

- d) 1) All models except Series 400  
"IFR" when the aircraft is equipped in accordance with the requirements for the operation intended, and the following equipment is installed, either:
- i) Vacuum system warning light installed to Viking Mod. 6/1014 to alert pilots of low vacuum pressure to flight instruments;
  - or
  - ii) Pressure Instrument System, Viking Mod. 6/1046;
  - or
  - iii) Electrical Directional Gyro and Attitude Indicators in list of approved equipment as defined in the Viking Report AEROC 6.6.G.1.
- 2) Series 400 (All aircraft)  
"IFR"
- e) "This airplane is equipped for operation in icing conditions" when the aircraft is fitted with Item 204.

NOTE 3

Maximum continuous single generator load is limited to:

- a) 200 amps (1.0 on load meter) in Flight conditions up to 51.5°C (125°F).
- b) 200 amps (1.0 on load meter) in Ground conditions up to 7°C (45°F).
- c) 160 amps (0.8 on load meter) in Ground conditions from 7°C to 51.5°C (45°F to 125°F).

NOTE 4

Service Bulletins (SBs) are contained in PSM 1-6-SB/TAB.

NOTE 5

The landing weight is 5,171 kg (11,400 lb) if the airport temperature at which the landing is to be made is at or above -29°C (-20°F). If the airport temperature is below -29°C (-20°F), then the landing weight is restricted to 4,890 kg (11,000 lb).

NOTE 6

The Canadian DOT Approved Airplane Flight Manual applicable to the individual Series must be in the aircraft at all times. The previously approved Flight Manual, Part No. PSM 1-6-1A has been replaced by the Manuals listed with the data for the individual Series.





# Type Certificate Data Sheet

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## DATA PERTINENT TO ALL MODELS EXCEPT AS INDICATED (Cont'd)

- NOTE 7      The DHC-6 Series 1, 100, 200 or 300 aircraft may have either the long nose (Viking Mod. 6/1077) or the original short nose (as per the standard Series 100 aircraft) in any configuration, with the exception of the floatplane version which must have a short nose. The DHC-6 Series 400 must have a long nose (Viking Mod. 6/2020).
- NOTE 8      All models except Series 400  
For airplanes which must comply with SFAR 23 dated January 7, 1969 and Amendment SFAR 23-1 dated December 24, 1969, the applicable modifications recorded in Viking Report AEROC 6.1.G.11 DHC-6 Certified Airplane Basic Definition, must be accomplished.
- Series 400  
All aircraft are compliant with SFAR 23 and Amendment 23-1 as delivered.
- All models except the Series 300, 310, 320 and 400  
The appropriate DOT approved Viking Flight Manual Supplement is to be inserted in the Airplane Flight Manual.
- Series 300, 310, 320 and 400  
SFAR 23 and Amendment SFAR 23-1 information has been included in Airplane Flight Manuals PSM 1-63-1A and PSM 1-64-1A, respectively.
- All models  
Compliance with the service life limits specified in DHC-6 Twin Otter Structural Components Service Life Limits Manual, PSM 1-6-11 is required.
- NOTE 9      Reserved
- NOTE 10     Float model 12000A and 12000B can be used on DHC-6 Series 100, 200, 300. Float model 12000 cannot be used on DHC-6 Series 300 aircraft. See General Assembly Floatplane drawing C6UF1000 as referenced in Viking modification Mod. No. S.O.O. 6002.
- NOTE 11     Effective 31 January 2006, Type Certificate A-82 and the design responsibility for all models listed on this data sheet were transferred from Bombardier Inc. to Viking Air Limited.



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DATA PERTINENT TO ALL MODELS EXCEPT AS INDICATED (Cont'd)

NOTE 12

Series 400

Compliance has been shown to the following standards in AWM 551 at Change 551-2 for the installation of various equipment:

AWM 551.100; 551.101; 551.102; 551.103; 551.104; 551.105; 551.106; 551.200; and 551.201.

NOTE 13

Series 400

1. The electrical system upgrade consists of removing the AC system; replacing the starter-generator and the DC system wiring, connectors, lights (strobe, navigation, nose-wheel position indicator, and interior) and door proximity switches, and installing an increased capacity battery, 12V DC outlets in the cockpit and an optional pulsing landing light system.
2. The cockpit upgrade consists of replacing the conventional primary flight instruments, engine instruments and crew alerting system with an integrated Honeywell Primus Apex® EFIS avionics suite; the installation of / provisions for comm/nav equipment, radar altimeter, CVR, FDR, weather radar and cabin public address system; and related changes to the electrical system, circuit breakers and switches.

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