



Type Certificate Data Sheet

Number: A-27

Issue No.: 10

Approval Date: Refer Below

Issue Date: January 31, 2006

This Data Sheet which is part of Type Certificate No. A-27 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
9574 Hampden Road
Sidney, British Columbia
V8L 5V5

Models

DHC-3

1. MODEL DHC-3 (Normal Category) Approved November 7, 1952

Engine Pratt & Whitney S3H1-G, S1H1-G, R-1340-59, or R-1340-61.

Fuel 80/87 Octane - minimum grade.
See Fluid Specifications Part 1 DHC-3 Otter Maintenance Manual, PSM1-3-2.

Oil See Fluid Specifications Part 1 DHC-3 Otter Maintenance Manual, PSM1-3-2.

Engine Limits

	HP	RPM	MP IN HG	ALT
<u>S3H1-G, R-1340-59</u>				
Take-off (one minute)	600	2250	36.0	-
Max. continuous	550	2200	33.5	S.L.
	550	2200	32.5	5000 ft.
<u>S1H1-G, R1340-61</u>				
Take-off (one minute)	600	2250	36.5	-
Max. continuous	550	2200	35.0	S.L.
	550	2200	33.0	8000 ft.

Propeller and Propeller Limits

Propeller - Hamilton Standard, Counterweight, Hub Model 3D40 (c/w 4.5 CTWT)

Blade Models - 6511A-9X, 6529A-9X or 6631A-9

Pitch Setting - Low 19°, High 33°



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Propeller and
Propeller Limits
(Cont'd)

Propeller - Hamilton Standard, Hydromatic
Hub Model 23D40
Blade Models - 6511A-9, 6529A-9 or 7035A-9
Pitch Setting - Low 18.5°, High 34.5°

Constant Speed Governor 1A2-G5 for Counterweight Propeller, and 4B2-1 for Hydromatic Propeller

Airspeed Limits
(IAS)

	<u>Landplane & Skiplane</u>	<u>Seaplane</u>
Never exceed	192 mph	183 mph
Manoeuvring	126 mph	126 mph
Flaps extended	94 mph	94 mph

Maximum
Weight

	Landplane	Skiplane	Seaplane
	3629kg (8000 lb.)	3629kg (8000 lb.)	(with items 102, 103, 201, 400; or items 104 and 105)
	3447kg (7600 lb.)	3447kg (7600 lb.)	(with item 300 (a), (b), (c) or (e) and items 102, 103, 201 and 400)
			(with item 300 (a), (b), (c), (d) or (e))
			(with item 100)
			(with items 100, 101, 102, and 103)
			(with items 104 and 105)

C.G. Limits

Landplane

+335cm (+131.9 in.) to +384.6cm (+151.4 in.) at 2994kg (6600 lb.) or less
+344.9cm (+135.8 in.) to +384.6cm (+151.4 in.) at 3447kg (7600 lb.)
+344.9cm (+135.8 in.) to +380.5cm (+149.8 in.) at 3629kg (8000 lb.)

Landplane with Mod. 3/746 (Item 104)

+335cm (+131.9 in.) to +386.6cm (+152.2 in.) at 2994kg (6600 lb.) or less
+344.9cm (+135.8 in.) to +386.6cm (+152.2 in.) at 3447kg (7600 lb.)
+344.9cm (+135.8 in.) to +386.6cm (+152.2 in.) at 3629kg (8000 lb.)

Skiplane

+335cm (+131.9 in.) to +384.6cm (+151.4 in.) at 2994kg (6600 lb.) or less
+344.9cm (+135.8 in.) to +384.6cm (+151.4 in.) at 3447kg (7600 lb.)
+344.9cm (+135.8 in.) to +384.6cm (+151.4 in.) at 3629kg (8000 lb.)



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C.G. Limits (Cont'd)	<u>Seaplane</u> +335cm (+131.9 in.) to +376.7cm (+148.3 in.) at 2994kg (6600 lb.) or less +344.9cm (+135.8 in.) to +376.7cm (+148.3 in.) at 3447kg (7600 lb.) +350.8cm (+138.1 in.) to +376.7cm (+148.3 in.) at 3629kg (8000 lb.) (with items 104 and 105) Straight line variation between points given.
Datum	152.4 cm (60 in.) forward of firewall.
Levelling Means	Cabin floor level laterally and longitudinally.
Mean Aerodynamic Chord	198.1 cm (78 in.)
Minimum Crew	1 Pilot
Maximum Occupants	16 (See Approved DHC-3 Otter Airplane Flight Manual, PSM1-3-1, Section 4.7)
Maximum Baggage and Cargo	See Approved DHC-3 Otter Airplane Flight Manual, PSM1-3-1, Section 4.7
Fuel Capacity	809.2 litres (178 Imperial Gallons total (under cabin floor) Front tank - 231.9 litres (51 Imp. gal.) Centre tank - 386.4 litres (85 Imp. gal.) Rear tank - 190.9 litres (42 Imp. gal.)
Oil Capacity	40.91 (9.0 Imperial gallons)
Control Surface Movements	See DHC-3 Otter Maintenance Manual, PSM1-3-2, Part 2, Table II-1
Basis of Certification	ICAO Annex 8, 2nd Edition (Transport Category D), and CAR Part 3 as amended to November 1, 1949.
Serial Numbers Eligible	1 and subsequent



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Equipment	Essential equipment, which may not be removed unless replaced by approved equivalent items, is listed in DH Canada Report AEROC 3.1.G.7. Removable items are listed in the Airplane Flight Manual, and the Weight and Balance Report contained therein must be corrected to show any changes.
Approved Equipment and Installations	<p>100: Edo 55-7170A or Bristol Model 903 Float Installation to Edo Drawing 12700</p> <p>101: Ventral fin to De Havilland Modification 3/337</p> <p>102: Wing Stall Plates to De Havilland Modification 3/272</p> <p>103: Wing Stall Bar to De Havilland Modification 3/544</p> <p>104: Dual Wing Stall to De Havilland Modification 3/746</p> <p>105: DHC-3 Amphibious Gear Installation to De Havilland Modification - 3/700</p> <p>200: 11.00 x 12 Main wheel tires and tubes 6.00 x 6 Tail wheel tire and tube</p> <p>201: Tailwheel hydraulic shock absorber to De Havilland Modification - 3/475</p> <p>202: Canoe Carrying Installations with Items 100, 101, 102 and 103</p> <p>a) De Havilland Modification No. T.I.3/456 Starboard Side</p> <p>b) Ontario Provincial Air Services Universal Carrier Drawing No. 1561-0 with method of attachment to Drawing No. 1561-0-1. Canoe not to exceed 17'-0" in length, 3'-6" beam, and 86kg (160-lb.). The aircraft gross weight is limited to 3469kg (7647 lb.) with the Aft C.G. Limit at 355.3cm (145 inches) aft of the datum.</p> <p>c) Ontario Provincial Air Services Universal Carrier Drawing No. 1561-0 with method of attachment to Drawing No. 1561-0-1. Boat not to exceed 14'0" in length, 5'0" beam and 136kg (300 lb.). Boat position: C.G. of boat at station 130. The aircraft gross weight is limited to 3197kg (7048 lb.) with the Aft C.G. Limit at 368.3cm (145 inches) aft of datum. The maximum flap angle is limited to the takeoff setting.</p> <p>With items 104 and 105</p> <p>a) De Havilland Drawing C3-M-70, Starboard Side. Canoe not to exceed 17'-0" in length, 3'-6" beam and 86kg (160 lb.). The aircraft gross weight is limited to 3483kg (7680 lb.). Centre of canoe to be located at Station 196.</p>



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and Installations
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203: Lumber and Freight Carrying Installation

- a) Ontario Provincial Air Services Universal Carrier Drawing No. 1561-0 with method of attachment to Drawing No. 1561-0-2. Lumber or freight must not exceed 18'- 0" in length; 12" in width, 2'0" in height and 726kg (1600 lb.) in weight. Lumber or freight must be symmetrically distributed by weight and dimensions on each side of the aircraft with the fore and aft distribution midway between the strut arms. The aircraft gross weight is limited to 3567kg (7863 lb.) with the aft C.G. limit at 367.8cm (144.8 inches) aft of the datum. The maximum flap angle is limited to the take-off setting.

204: Water Dropping Tank Installations
With items 100, 101, 102 and 103

- a) De Havilland Modification S00/3009 with drawings C3-M-153 and C3-M-154.
- b) Ontario Provincial Air Services Drawing No. 2436

The aircraft gross weight is limited to 3614kg (7967 lb.) with the aft C.G. limit at 364.5cm (143.5 inches) aft of datum.

With items 104 and 105

- a) De Havilland Drawing C3-M-153

The aircraft gross weight is limited to 3629kg (8000 lb.) with the aft C.G. limit at 358.1cm (141.0 inches) aft of datum.



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and Installations
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- 300: Ski Installations
- a) De Havilland Drawing No. C3-US-1
 - b) De Havilland Retractable Ski to Drawing No. C3-US-100, Issue 1
 - c) Federal AWB-8000 wheel-skis to Federal Aircraft Works' Drawing No. 11R 1010 change "C"
 - d) Ontario Provincial Air Services Drawing 1872
 - e) Ontario Provincial Air Services Drawing 1861-1
- Use
Actual
Weight
and
Balance
Change**

400: Rework Bulkhead at sta. 444.38 to De Havilland Modification No. 3/396

NOTE 1 This aircraft shall be operated in accordance with all sections of the Approved DHC-3 Otter Airplane Flight Manual, PSM1-3-1. The Airplane Flight Manual shall include an approved Weight and Balance Report and shall be carried in the aircraft at all times.

NOTE 2 The following placard must be displayed in front and in clear view of the pilot:

"THIS AEROPLANE MUST BE OPERATED IN COMPLIANCE WITH THE OPERATING LIMITATIONS SPECIFIED IN THE APPROVED DE HAVILLAND DHC-3 FLIGHT MANUAL".

NOTE 3 De Havilland Mod. S00 3028 is the conversion modification for the military U1A aircraft to civil DHC 3.

NOTE 4 Effective 31 January 2006, Type Certificate A-27 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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J.D. Turnbull
Acting, Chief Project Management
Aircraft Certification
for Minister of Transport