DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

A-815
Revision 6
Viking Air Limited
(Otter)
DHC-3

October 3, 2007

AIRCRAFT SPECIFICATION NO. A-815

Type Certificate Holder

Viking Air Limited
9574 Hampden Road
Sidney, British Columbia
Canada V8L 5V5

Typee Certificate Holder Record

Bombardier Inc.
Regional Aircraft
123 Garratt Boulevard
Downsview, Ontario, Canada M3K 1Y5

de Havilland, Inc.
123 Garrett Boulevard
Downsview, Ontario, Canada M3K 1Y5

I - Model DHC-3, 16 PCL-SM (Normal Category) (U.S. Military Model U-1A, see Note 4)

Engine. P&W Wasp S3H1-G, S1H1-G, R-1340-59 or R-1340-61

Fuel. 80/87 Min. grade aviation gasoline - see Fluid Specification Part 1 DHC-3 Maintenance Manual

Oil. See Fluid Specification Part 1 DHC-3 Maintenance Manual

Engine limits.

S3H1-G, R-1340-59	HP	RPM	MP (IN. HG.)	ALT.
Takeoff (one minute)	600	2250	36.0	-
Maximum continuous	550	2200	33.5	S.L.
	550	2200	32.5	5000 ft.

S1H1-G, R-1340-61				
Takeoff (one minute)	600	2250	36.0	-
Maximum 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 degrees, High 33 degrees

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

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

Airspeed limits (TIAS).

	Landplane & Skiplane (mph)	Landplane & Skiplane (knot)	Seaplane (mph)	Seaplane (knot)
Never exceed	192	167	183	159
Maneuvering	126	110	126	110
Flaps extended	94	82	94	82

Center of Gravity (C.G.) range (In)

Landplane
(+131.9) to (+151.4) at 6600 lb. or less
(+135.8) to (+151.4) at 7600 lb.
(+135.8) to (+149.8) at 8000 lb.

Landplane with Mod. 3/746 (Item 104)
(+131.9) to (+152.2) at 6600 lb. or less
(+135.8) to (+152.2) at 7600 lb.
(+135.8) to (+152.2) at 8000 lb.

Skiplane
(+131.9) to (+151.4) at 6600 lb. or less

(+135.8) to (+151.4) at 7600 lb.
(+135.8) to (+149.8) at 8000 lb.

Seaplane
(+131.9) to (+148.3) at 6600 lb. or less
(+135.8) to (+148.3) at 7600 lb.
(+138.1) to (+148.3) at 8000 lb. (with items 104 and 105)

Straight line variation between points given

Datum — 60 in. fwd. of firewall

Leveling Means — Cabin floor level laterally and longitudinally

Maximum weight

Landplane:	7600 lb. 8000 lb. (With items 102, 103, 201, 400; or items 104 and 105)
Skiplane:	7600 lb. (With item 300(a), (b), (c), (d), or (e)) 8000 lb. (With item 300(a), (b), (c), or (e) and 102, 103, 201 and 400)
Seaplane:	7200 lb. (With item 100) 7967 lb. (With items 100,101, 102 and 103) 8000 lb. (With items 104 and 105)

Mean Aerodynamic Chord — 78 inches

Minimum Crew — 1 pilot

No. of seats — 16 including pilot. (See approved loading instructions in Flight Manual, Section 4.7, for various arrangements.)

Baggage and Cargo — See Approved Loading Instructions, Flight Manual, Section 4.7

Fuel capacity — 214 U.S. gal. (178 Imp. gal.) total (under cabin floor):
Front tank 61 U.S. gal. (51 Imp. gal.) (+121 in.)
Center tank 102 U.S. gal. (85 Imp. gal.) (+154 in.)
Rear tank 50 U.S. gal. (42 Imp. gal.) (+184 in.)

Oil capacity — 10.8 U.S. gal. (9 Imp. gal.) (+100 in.)

Control surface movements

Post-Mod. 3/744

Tailplane	Up 4 1/2° ± 1/2°	Down 3 1/2° ± 1/2°
Elevator (Tailplane neutral)	Up 23°, +2°, -1°	Down 15°, +2°, -1°
Elevator trim tab	Up 5° ± 1°	Down 5° ± 1/2°
Elevator servo tab	Up 10° ± 1°	Down 23° ± 1°
Ailerons	Up 26 1/2° ± 1°	Down 18 1/2° ± 1°
Flaps	Inboard leading	Down 35° ± 2°
	Inboard trailing	Down 60° ± 2°
	Outboard leading	Down 26° ± 2°
Rudder	Right 25° ± 1°	Left 25° ± 1°
Rudder trim tab	Right 19° ± 1°	Left 19° ± 1°

Serial Nos. eligible — 1 and subsequent. The Canadian Certificate of Airworthiness for Export must be submitted for each individual aircraft for which application for certification is made. (Not required for those surplus military aircraft certificated in accordance with NOTE 4.)

Certification Basis — Type Certificate No. 815 issued under CAR 10. (ICAO Annex 8, 2nd Edition (Transport Category D), and CAR 3 as amended to November 1, 1949

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 Issue 1. Removable items are listed in the Flight Manual and the Weight and Balance Report contained therein must be corrected to show any changes.

Miscellaneous 100: Edo 55-7170A or Bristol Model 903 Float Installation to Edo Drawing 12700
101: Ventral Fin to Bombardier Modification 3/337
102: Wing Stall Plates to Bombardier Modification 3/272
103: Wing Stall Bar to Bombardier 3/544
104: Dual Wing Stall to Bombardier Modification 3/746
105: DHC-3 Amphibious Gear Installation to Bombardier Modification 3/700
200: 11.00 x 12 Main wheel tires and tubes
6.00 x 6 Tail wheel tire and tube

201: Tailwheel hydraulic shock absorber to Bombardier Modification 3/475

202: Canoe Carrying Installations

With items 100, 101, 102 and 103

(a) Bombardier Modification No. 3/456
Starboard Side (See Note 3)

(b) Ontario Provincial Air Services Universal Carrier Drawing No. 1561-0 with method of attachment to Drawing 1561-0-1. Canoe not to exceed 17'-0" in length, 3'-6" beam, and 160 lb. The aircraft gross weight is limited to 7647 lb. with the Aft C.G. Limit at 145 inches aft of the datum.

(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 300 lb. Boat position: C.G. of boat at station 130. The aircraft gross weight is limited to 7048 lb. with the Aft C.G. Limit at 145 inches aft of datum. The maximum flap angle is limited to the takeoff setting.

With items 104 and 105

(c) Dehavilland Drawing C3-M-70, Starboard side. Canoe not to exceed 17'- 0" in length, 3'-6" beam and 160 lb. The aircraft gross weight is limited to 7680 lb. Centre of canoe to be located at Station 196.

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 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 7863 lb. with the aft C.G. limit at 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) Bombardier Modification SOO/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 7967 lb. with the aft C.G. limit at 143.5 inches aft of datum.

With items 104 and 105

(a) Bombardier Drawing C3-M-153
The aircraft gross weight is limited to 8000 lb. with the aft C.G. limit at 141.0 inches aft of datum.

300: Ski Installations

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

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

NOTE 1. Refer to Approved Flight Manual for specific information. The Flight Manual shall include an approved Weight and Balance Report and shall be carried in the aircraft at all times.

NOTE 2. The following placards must be displayed as noted:

(a) Instruments shall be placarded to show all normal operating ranges and limitations.
(b) All doors shall be placarded on the inside: "Exit - Turn to Release".
(c) In front and in clear view of pilot: "THIS AEROPLANE MUST BE OPERATED IN COMPLIANCE WITH THE OPERATING LIMITATIONS SPECIFIED IN THE APPROVED DEHAVILLAND DHC-3 FLIGHT MANUAL."

NOTE 3. Canoe Carrying Installation on starboard side of aircraft to Bombardier Modification No. 3/456. Canoe not to exceed 16'6" length, 3'6" beam and 100 lb.

NOTE 4. Those surplus military Bombardier Model U-1A aircraft, identified by civil and military serial numbers in Bombardier Report QA/DHC-3/G13, are eligible for a U.S. Standard Airworthiness Certificate without requiring a Canadian Certificate of Airworthiness for Export when all of the following conditions have been atisfied:

(a) Aircraft records must indicate, or a determination must be made, that the aircraft has been subjected to FAA initial

screening inspection. The screening inspection record must show that the aircraft has a reasonable potential for standard certification. (Those aircraft dispositioned as having no reasonable potential for standard certification are not certifiable. These aircraft are sold by U.S.Department of Defense only for the purpose of "Recovery of Parts or Reduction to Scrap".)

(b) The aircraft must be converted to Bombardier Model DHC-3 in accordance with Bombardier Modification SOO-3028, Issue 6, and Bombardier Service Bulletin 3/21, Original Issue.

(c) The applicant shows and the FAA finds that the aircraft conforms to the type design and is in a condition for safe operation.

(d) A satisfactory "100 hour" type inspection has been accomplished and recorded.

(e) Any deviations to the type design must be appropriately approved by an FAA Supplemental Type Certificate or other methods acceptable to the FAA.

Upon satisfying all the foregoing conditions, and when all other pertinent U.S. regulatory requirements have been met, a U.S. Standard Airworthiness Certificate may be issued. (Certification basis is FAR 21.183(c) since these are import aircraft.)

Technical data needed for conversion purposes are available to the applicant through Bombardier of Canada Limited. Inquiries for this data should be submitted to The Product Support Department, Bombardier of Canada, Limited, Downsview, Ontario, Canada.

-END-