## **DEPARTMENT OF TRANSPORTATION** FEDERAL AVIATION ADMINISTRATION

A9EA Revision 10 Bombardier (Twin Otter) DHC-6-1 DHC-6-100 DHC-6-200 DHC-6-300 June 26, 1998

# **TYPE CERTIFICATE DATA SHEET NO. A9EA**

This data sheet which is a part of type certificate No. A9EA prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Civil Air Regulations.

Type Certificate Holder Bombardier Inc.

Regional Aircraft 123 Garratt Boulevard

Downsview, Ontario, Canada M3K 1Y5

I - Model DHC-6-1 (Prototype and four Pre-Production A/C) (Normal Category),
Approved June 22, 1966 by the FAA and April 7, 1966 by the Canadian Department of Transport (DOT)

2 United Aircraft of Canada, Limited PT6A-20 **Engines** 

MIL-J-5624E, Grades JP-1, JP-4, JP-5, or Arctic Diesel Fuel to UACL Specification CPW 46. (MIL-G-5572C Avgas (all grades) for emergency use Fuel

only limited to 150 hours use in any one overhaul cycle.)

Oil Synthetic types conforming to CPWA 202, latest issue,

(UACL PT6 Engine Service Bulletin No. 1 lists approved brand oils.)

RATING Take-off (5 min.) E.S.H.P. \*579 Engine rating

Max. continuous

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

Temperature Limits (Inter-Turbine) **Engine limits** 

Take-off 1380° F (750° C)

(750°C) 1380°F Max. Continuous (1090° Ć) Starting (2 sec.) 1994°F

**Torque Limits** 

Take-off 42.5 p.s.i. (1315 ft. lb.)

42.5 p.s.i. (1315 ft. lb.) Max. Continuous

Gas Generator

38,100 r.p.m. (101.5%) 38,100 r.p.m. (101.5%) Take-off Max. Continuous

Oil Temperature

-40°C Min. Starting 10°C to 99°C Take-off Max. Continuous 10°C to 99°C

Oil Pressure

Normal (28,000 r.p.m. & above) 65 to 85 p.s.i.g. Min. (below 28,000 r.p.m.) 40 p.s.i.g.

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Propeller Hartzell Hub HC-B3TN-3, -3B, -3BY T10173+1, T10173E+1 Blades Diameter 8 ft. 6 in. nominal (8 ft. 4 in. minimum after repairs) Pitch Settings at 30" Station Feather +87° Take-off Low Pitch +17° Idle Blade Angle +12° - 9° Reverse Blade Angle Propeller (Np) - Take-off 2200 r.p.m. (100%) Propeller limits 2200 r.p.m. (100%) Max. Continuous Airspeed limits Skiplane (CAS) & Floatplane Landplane M.P.H. Knots M.P.H. Vne (Never exceed)
Vno (Max. structural cruising)
Vp (Maneuvering)
Vmc (Minimum control) Knots 232.7\* 202\* 210.8\* 183\* 160\*\* 160\*\* 184.3\*\* 184.3\*\* 130\*\*\* 130\*\*\* 149.8\*\*\* 149.8\*\*\* mc, (Minimum control) 73.7 64 73.7 64 V<sub>fe</sub> (Flaps extended) 100 100 115.2 115.2 0° to 20° V<sub>fe</sub> (Flaps extended) 97.9 85 97.9 85 20° to 40° \* Reduce Vne 4.6 m.p.h. (4K) per 1000 ft. above 10000 ft. \*\* Reduce Vno 3.5 m.p.h. (3K) per 1000 ft. above 10000 ft. \*\*\* Reduce Vp - Vno above 20000 ft. Landplane and Skiplane C.G. range (Landing gear fixed) Forward Limit 20% M.A.C. (STA. 203.84) at all weights up to max. of 11000 lb. 36% M.A.C. (STA. 216.32) at all weights up to max. Aft Limit of 11000 lb. Floatplane Forward Limit 25% M.A.C. (STA. 207.74) at all weights up to max. of 11000 lb. 32% M.A.C. (STA. 213.20) at all weights up to max. Aft Limit of 11000 lb. Empty weight C.G. range None Maximum weights Landplane Take-off 11000 lb. Landing 11000 lb. <u>Skiplane</u> Take-off 11000 lb. (with Item 201(a) and (b)) Landing 11000 lb. (with Item 201(a) and (b)) Floatplane Take-off 11000 lb. (with Item 202(a)) Landing 11000 lb. (with Item 202(a)) Minimum Crew One (pilot). (+95.0 in.) 16 (including two at Stn. +95.0 in.) - Limited by approved seating No. of seats arrangement. (See Weight and Balance Handbook). Max. 17 (including two at Stn. +95.0 in.) -Limited by emergency exit requirements. (Approval of seating arrangement is required). See Weight and Balance Handbook PSM 1-6-8 Cargo loading conditions 200 lb. max. in forward compartment (arm +41.0 in.) Maximum baggage 500 lb. max. in rear compartment (arm +354.0 in.) See Weight and Balance Handbook.

Fuel capacity	*USABLE FUEL U.S. GALS. IMPERIAL GALS.
, ,	Forward Tank (+162.5 in.) 176 147 Rear Tank (+240.0 in.) 182 152 TOTAL 358 299 *See NOTE 1(b) for Weight and Balance.
Oil capacity	*USABLE OIL U.S. GALS. IMPERIAL GALS. WEIGHT LB.
	Port (+177.0 in.)       1.5       1.2       11         Starboard (+177.0 in.)       1.5       1.2       11         TOTAL       3.0       2.4       22         * See NOTE 1(c) for Weight and Balance.
Maximum Operating Altitude	25000 ft. (when supplementary breathing equipment is provided for all occupants).
Control surface movements	Aileron (with flaps up)  (with flaps in landing position)  Trim Tab  Geared Tab (flap up)  Flaps (inboard forward)  (outboard trailing)  (outboard trailing)  Elevator  Tab  Up 20°  Flap interconnect  (flap up)  (flap landing)  Up 20°  Flap interconnect  Up 20°  Flap interconnect  Up 20°  Flap interconnect  (flap up)  Ceared Tab  Up 12°  Rudder  Geared Tab  Trim Tab  See Maintenance Manual PSM-1-6-2 for procedure to rig control surface movements from stop to stop.
Serial Nos. eligible	1 to 5 inclusive. The Canadian Department of Transport Certificate of Airworthiness for export endorsed as noted under "Import Eligibility" must be submitted for each individual aircraft for which application for certification is made.
Import eligibility	A U.S. Airworthiness Certificate may be issued on the basis of the Canadian Department of Transport "Certificate of Airworthiness for Export" signed by or for the Minister of Transport. This form must contain the following statement: "This certifies that the aircraft described below has been manufactured in conformity with data forming the basis for D.O.T. Type Approval No. A-82, Issue 2, dated July 29, 1966. (FAA Type Certificate No. A9EA)."
Certification basis	CAR 3 dated May 15, 1956 and Amendments 3-1 to 3-8 inclusive, plus Special Conditions for Multi-Engine Turbine Powered Aircraft dated November 6, 1964. Type Certificate No. A9EA issued June 22, 1966. Not approved for use in operations under FAR Part 135 after May 31, 1972, when FAR 135.144 becomes mandatory. (See NOTE 3). Date of application for Type Certificate April 2, 1964.
Equipment	The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification and is given in Bombardier Report A.E.R.O.C. 6.6.G.1. In addition, the following item of equipment are required:

(a) Canadian D.O.T. approved Airplane Flight Manual, PSM-1-61-1A.

Oil

# II - Model DHC-6-100 (Normal Category), Approved August 1, 1966 by the FAA and July 29, 1966 by the Canadian Department of Transport (DOT). (First Production Series)

**Engines** 2 United Aircraft of Canada, Limited PT6A-20

MIL-J-5624E, Grades JP-1, JP-4, JP-5, or Arctic Diesel Fuel to UACL Fuel

Specification CPW 46. (MIL-G-5572C Avgas (all grades) for emergency use

only limited to 150 hours use in any one overhaul cycle.) Synthetic types conforming to CPWA 202, latest issue,

(UACL PT6 Engine Service Bulletin No. 1 lists approved brand oils.)

RATING Take-off (5 min.) E.S.H.P. \*579 S.H.P. Engine rating \*550 \*579 \*550

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

**Engine limits** Temperature Limits (Inter-Turbine)

Take-off 1380°F 750°C) Max. Continuous 1380°F 750°C Starting (2 sec.) 1994°F (1090°C)

**Torque Limits** 

Take-off 42.5 p.s.i. (1315 ft.-lb.) 42.5 p.s.i. (1315 ft.-lb.) Max. Continuous

Gas Generator

38,100 r.p.m. Take-off (101.5%)Max. Continuous 38,100 r.p.m. (101.5%)

Oil Temperature

-40°C Min. 10°C to 99°C Starting Take-off Max. Continuous 10°C to 99°C

Oil Pressure

65 to 85 p.s.i.g. Normal (28,000 r.p.m. & above) Min. (below 28,000 r.p.m.) 40 p.s.i.g.

Hartzell Propeller

Airspeed limits

(CAS)

HC-B3TN-3, -3B, -3BY T10173+1, T10173E+1 Hub Blades

8 ft. 6 in. nominal (8 ft. 4 in. minimum after repairs) Diameter

Pitch Settings at 30" Station +87°

Feather +16° Take-off Low Pitch +12° Idle Blade Angle -14° Reverse Blade Angle

Propeller (Np) - Take-off 2200 r.p.m. (100%) Propeller limits

Max. Continuous 2200 r.p.m. (100%)

			O.up	14110
	Landplane		& Floa	tplane
	M.P.H.	Knots	M.P.H.	Knots
V <sub>ne</sub> (Never exceed)	232.7*	202*	210.8*	183*
V <sub>no</sub> (Max. structural cruising)	184.3**	160**	184.3**	160**
V <sub>n</sub> (Maneuvering)	149.8***	130***	149.8***	130***
Vmc (Minimum control)	73.7	64	73.7	64
V <sub>fe</sub> (Flaps extended)	115.2	100	115.2	100
0° to 20°				
V <sub>fe</sub> (Flaps extended)	97.9	85	97.9	85
16 \ 20° to 40°				

Skiplane

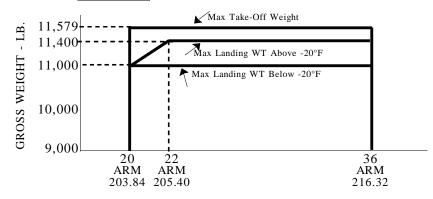
<sup>\*</sup>Reduce Vne 4.6 mph (4K) per 1000 ft. above 10000 ft. \*\*Reduce Vno 3.5 mph (3K) per 1000 ft. above 10000 ft.

<sup>\*\*\*</sup>Reduce Vp - Vno above 20000 ft.

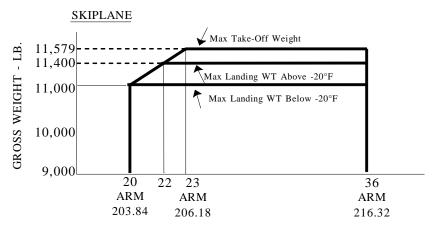
C.G. range (Landing gear fixed)

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

# LANDPLANE



HORIZONTAL C.G. LIMIT - % MAC



**FLOATPLANE** Forward Limit

25% M.A.C. (STA. 207.74) at all weights up to max.

Aft Limit

of 11,600 lb. 32% M.A.C. (STA. 213.20) at all weights up to max. of 11,600 lb.

Empty weight C.G. range

None

Maximum weights

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

Landplane (lb.)	Skiplane (lb.)	Floatplane (lb.)				
	(With Item 201(a)&(b))	(With Item 202(a)&(b))				
11579	11579	11600				
11400*	11400*	11600				
*See NOTE 5 - Temperature Limitations						
Without Mod 6/1020 - Same as Model 1						

Take-off Landing

One (pilot). (+95.0 in.)

No. of seats

Minimum Crew

21 (including two at Stn. +95.0 in.) - Limited by approved seating arrangement. (See Weight and Balance Handbook).

Max. 24 (including two at Stn. +95.0 in.) -Limited by emergency exit requirements. (Approval of seating arrangement is required).

Cargo loading limitations	See Weight and Balance Handbook PSM 1-6-8				
Maximum baggage	200 lb. max. in forward compartment (arm +41.0 in.) 500 lb. max. in rear compartment (arm +354.0 in.) See Weight and Balance Handbook.				
Fuel capacity	*USABLE FUEL U.S. GAL. IMPERIAL GAL.				
	Forward Tank (+162.5 in.) 181 151 Rear Tank (+240.0 in.) 197 164 TOTAL 378 315 *See NOTE 1(b) for Weight and Balance.				
Oil capacity	**USABLE OIL U.S. GAL. IMPERIAL GAL. WEIGHT LB.				
	Port (+177.0 in.)       1.5       11.2       11         Starboard (+177.0 in.)       1.5       1.2       11         TOTAL       3.0       2.4       22         ** See NOTE 1(c) for Weight and Balance.				
Maximum Operating Altitude	25000 ft. (when supplementary breathing equipment is provided for all occupants).				
Control surface movements	Aileron (with flaps up) Up 17.5° Down 16° (with flaps in landing position) Up 25° Down 17.5° Trim Tab - or + 15°				
	Geared Tab (flap up)  Flaps (inboard forward)				
	Tab Up 20° Down 25° Flap interconnect (flap up) Down 12°  (flap landing) Up 12°  Rudder Left 20° Right 21° * Geared Tab - or + 11°				
	Trim Tab - or + 25°  See Maintenance Manual Part No. PSM-1-6-2 for procedure to rig control surface movements from stop to stop.				
	*When Item 202(b) is incorporated then the rudder travel limits are: Left 17° Right 21°.				
Serial Nos. eligible	6 to 115 inclusive. The Canadian Department of Transport Certificate of Airworthiness for export endorsed as noted under "Import Eligibility" must be submitted for each individual aircraft for which application for certification is made.				
Import eligibility	A U.S. Airworthiness Certificate may be issued on the basis of the Canadian Department of Transport "Certificate of Airworthiness for Export" signed by or for the Minister of Transport. This form must contain the following statement: "This certifies that the aircraft described below has been manufactured in conformity with data forming the basis for D.O.T. Type Approval No. A-82, Issue 3, dated June 12, 1967. (FAA Type Certificate No. A9EA)."				
Certification basis	CAR 3 dated May 15, 1956 and Amendments 3-1 to 3-8 inclusive, plus Special Conditions for Multi-Engine Turbine Powered Aircraft dated November 6, 1964. Type Certificate No. A9EA issued June 22, 1966. Date of application for Type Certificate April 2, 1964.				

For this Model airplane intended for use in operations under FAR Part 135, the additional airworthiness requirements of Special Federal Aviation Regulation (SFAR) 23, dated January 7, 1969, and Amendment 1 to SFAR 23, dated December 24, 1969, are also included. See NOTES 3 and 8.

## Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification and is given in Bombardier Report A.E.R.O.C. 6.6.G.1. In addition, the following item of equipment are required:

(a) Canadian D.O.T. approved Airplane Flight Manual, Part No. PSM-1-61-1A.

## III - Model DHC-6-200 (Normal Category), Approved April 1, 1968 by the FAA and March 29, 1968 by the Canadian Department of Transport (DOT).

This Series may be identified by:

Aircraft nose configuration, See NOTE 6 for optional BI Mod. 6/1077 - Extended Nose that Increases the Volume and Weight Capacity of the Forward Baggage Compartment; and,

(2) BI Mod. 6/1075 (Retrofit) or 6/1076 (New Production) -Increase in the Volume of the Rear Baggage Compartment.

2 United Aircraft of Canada, Limited PT6A-20 **Engines** 

Fuel

MIL-J-5624E, Grades JP-1, JP-4, JP-5, or Arctic Diesel Fuel to UACL Specification CPW 46. (MIL-G-5572C Avgas (all grades) for emergency use

only limited to 150 hours use in any one overhaul cycle.)

Oil Synthetic types conforming to CPWA 202, latest issue,

(UACL PT6 Engine Service Bulletin No. 1 lists approved brand oils.)

Engine rating RATING S.H.P.

E.S.H.P. \*550 Take-off (5 min.) \*579 \*550 Max. continuous \*Available to 70°F (21°C) Ambient Temperature

**Engine limits** Temperature Limits (Inter-Turbine)

750° C Take-off 1380° F 1380°F 750° C Max. Continuous (1090° Čĺ Starting (2 sec.) 1994°F

**Torque Limits** 

Take-off 42.5 p.s.i. (1315 ft.-lb.) Max. Continuous 42.5 p.s.i. (1315 ft.-lb.)

Gas Generator

Take-off 38,100 r.p.m. (101.5%)

38,100 r.p.m. (101.5%) Max. Continuous

Oil Temperature

-40°C Min. Starting Take-off 10°C to 99°C 10°C to 99°C Max. Continuous

Oil Pressure

Normal (28,000 r.p.m. & above) 65 to 85 p.s.i.g.

Min. (below 28,000 r.p.m.) 40 p.s.i.g.

Propeller Hartzell

HC-B3TN-3, -3B, -3BY T10173+1, T10173E+1 Hub Blades Diameter 8 ft. 6 in. nominal

(8 ft. 4 in. after repairs)

Pitch Settings at 30" Station

+87° Feather Take-off Low Pitch +16° Idle Blade Angle +12° Reverse Blade Angle

Propeller limits

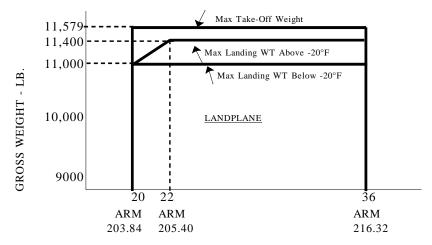
Propeller (Np) - Take-off 2200 r.p.m. (100%) Max. Continuous 2200 r.p.m. (100%)

	<u>La</u>	<u>ndplane</u>	SI	kiplane	Floa	<u>atplane</u>
Airspeed Limits (CAS)	Knots 202*	M.P.H.	Knots	M.P.H.	Knots	M.P.H.
Vne (never exceed)	202*	232.7*	183*	211*	183*	211*
Vno (max. structural cruising)	160**	184.3**	160**	184.3**	160**	184.3**
Vp (design maneuvering)	130***	149.8***	130***	149.8***	130***	149.8***
Vmc (minimum control)	68	78.3	68	78.3	64	78.3
Vfe (flaps extended) 0° to 20°	100	115.2	100	115.2	100	115.2
Vfe (flaps extended) 20° to 40°	85	97.9	85	97.9	85	97.9

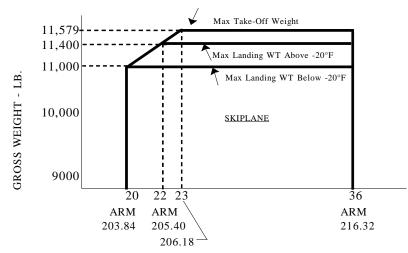
<sup>\*</sup>Reduce Vne 4.6 m.p.h. (4K) per 1000 ft. above 10000 ft. \*\*Reduce Vno 3.5 m.p.h. (3K) per 1000 ft. above 10000 ft. \*\*\*Reduce Vp - Vno above 20000 ft.

C.G. range (Landing gear fixed)

With Mod. 6/1020 - "Fuselage Beam, Front Wing Spar Reinforcing" (All Model DHC-6-200 Aircraft Serial Nos. 116 to 230 inclusive have this Mod. embodied).



HORIZONTAL C.G. LIMIT - % MAC



HORIZONTAL C.G. LIMIT - % MAC

**Floatplane** 

Forward Limit

Aft Limit

25% M.A.C. (STA. 207.74) at all weights up to max. of 11,600 lb. 32% M.A.C. (STA. 213.20) at all weights up to max. OF 11,600 lb.

Empty weight C.G. range	None				
Take-off Landing	Landplane (lb.)  11579 11400*  *See NOTE 5 - Temperature Limitations    Skiplane (lb.)				
Minimum Crew	One (pilot). (+95.0 in.)				
No. of seats	21 (including two at Stn. +95.0 in.) - Limited by approved seating arrangement. (See Weight and Balance Handbook).				
	Max. 24 (including two at Stn. +95.0 in.) -Limited by emergency exit requirements. (Approval of seating arrangement is required).				
Cargo loading limitations	See Weight and Balance Handbook (PSM 1-6-8)				
Maximum baggage	Forward - Short Nose (+ 41.0 in.) 200 lb. Max. Forward - Long Nose				
	(Mod. 6/1077) (+25.0 in.) 300 lb. Max.  Rear (+354.0 in.) 500 lb. Max.*  Rear Extension (+391.0 in.) 50 lb. Max.*  *Total Rear + Rear Extension not to exceed 500 lb. maximum.				
Fuel capacity	*USABLE FUEL U.S. GALS. Forward Tank (+162.5 in.) 181 151 Rear Tank (+240.0 in.) 197 164 TOTAL 378 315 *See NOTE 1(b) for Weight and Balance.				
Oil capacity	**USABLE OIL U.S. GALS. IMPERIAL GALS. WEIGHT LB.				
	Port (+177.0 in.)       1.5       1.2       11         Starboard (+177.0 in.)       1.5       1.2       11         TOTAL       3.0       2.4       22         ** See NOTE 1(c) for Weight and Balance.				
Maximum Operating Altitude	25000 ft. (when supplementary breathing equipment is provided for all occupants).				
Control surface movements	Aileron (with flaps up)  (with flaps in landing position)  Trim Tab  Up 17.5°  Up 17.5°  Up 25°  Down 16°  Up 25°  Down 17.5°  Town 16°  Up 25°  Up 17.5°				
	Geared Tab (flap up)  Flaps (inboard forward)  (inboard trailing)  (outboard forward)  (outboard trailing)  (outboard trailing)  (outboard trailing)  (aileron)				
	Elevator Up 25° Down 16° Tab Up 20° Down 25° Flap interconnect (flap up) Down 12°				
	Rudder (Skiplane) Left 20° Right 21° * (Skiplane) Left 18° Right 21° * Geared Tab + or -11° Trim Tab + or -25°				
	See Maintenance Manual Part No. PSM-1-6-2 for procedure to rig control				

See Maintenance Manual Part No. PSM-1-6-2 for procedure to rig control surface movements from stop to stop.

<sup>\*</sup> When Item 202(b) is incorporated then the rudder travel limits are: Left 17° Right 21°.

Serial Nos. eligible

116 to 230 inclusive (except 130 and 210) plus any other Series aircraft that has been modified to embody the following significant Model

Mod. 6/1020, 1075 or 1076, 1077.

The Canadian Department of Transport Certificate of Airworthiness for export endorsed as noted under "Import Eligibility" must be submitted for each individual aircraft for which application for certification is made.

Import eligibility

A U.S. Airworthiness Certificate may be issued on the basis of the Canadian Department of Transport "Certificate of Airworthiness for Export" signed by or for the Minister of Transport. This form must contain the following statement: "This certifies that the aircraft described below has been manufactured in conformity with data forming the basis for D.O.T. Type Approval No. A-82, Issue 4, dated December 20, 1968 (FAA Type Certificate No. A9EA)."

Certification basis

CAR 3 dated May 15, 1956 and Amendments 3-1 to 3-8 inclusive, plus Special Conditions for Multi-Engine Turbine Powered Aircraft dated November 6, 1964. Type Certificate No. A9EA issued June 22, 1966. Date of application for Type Certificate April 2, 1964.

For this Model airplane intended for use in operations under FAR Part 135, the additional airworthiness requirements of Special Federal Aviation Regulation (SFAR) 23, dated January 7, 1969, and Amendment 1 to SFAR 23, dated December 24, 1969, are also included. See NOTES 3 and 8.

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification and is given in Bombardier Report A.E.R.O.C. 6.6.G.1. In addition, the following item of equipment is required:

(a) Canadian D.O.T. approved Airplane Flight Manual, PSM-1-62-1A.

## IV - Model DHC-6-300 (Normal Category), Approved May 8, 1969 by the FAA and April 25, 1969 by the Canadian Department of Transport (DOT).

This is the third production series of the Type DHC-6. This series is identified primarily on basis of:

- (1) PT6A-27 engine in place of -20 engine;
- Increase in All-Up-Weight to the maximum allowed by CAR 3 of 12,500 lb.:
- (3) Addition of two forward exits and deletion of roof exit; and,
- Aircraft nose configuration, See NOTE 6 for optional BI Mod. 6/1077 - Extended Nose that Increases the Volume and Weight Capacity of the Forward Baggage Compartment.

**Engines** 

2 United Aircraft of Canada, Limited PT6A-27

Fuel

MIL-J-5624E, Grades JP-1, JP-4, JP-5, or Arctic Diesel Fuel to UACL Specification CPW 46.

(MIL-G-5572C Avgas (all grades) for emergency use only - limited to 150 hours use in any one overhaul cycle.)

Oil

Synthetic types conforming to CPWA 202, latest issue. (UACL PT6 Engine Service Bulletin No. 1 lists approved brand oils.)

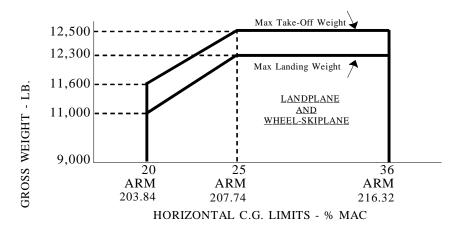
Engine rating

**RATING** Take-off Max. continuous

<sup>\*</sup>Available to 91°F (33°C) Ambient Temperature (S.L.)

Engine limits	Temperature Limits (Inte Take-off 1336°F Max. Continuous Starting (2 sec.)	er-Turbine) (725° C) 1336°F (725° C) 1994°F (1090° C)	
	Torque Limits Take-off Max. Continuous	50 p.s.i. (1536 ftlb.) 50 p.s.i. (1536 ftlb.)	
	Gas Generator Take-off Max. Continuous	38,100 r.p.m. (101.5%) 38,100 r.p.m. (101.5%)	
	Oil Temperature Starting Take-off Max. Continuous 5 Minute Limit	-40°C Minimum 10°C to 99°C 10°C to 99°C 104°C	
	Oil Pressure Normal (28,000 r.p.m. Min. (below 28,000 r		
Propeller	Blades T10282 Diameter 8 ft. 6 ir		
	Pitch Settings at 30" Sta Feather Take-off Low Pitch Idle Blade Angle Reverse Blade Angle	ution +87° +17° +11° -15°	
Propeller limits	Propeller (Np) - Take-off Max. Continue		
Airspeed limits (CAS)		<u>Landplane</u>	<u>Floatplane</u>
	Vmo (Max. Operating) S 5000 ft. 10000 ft. 15000 ft. 20000 ft. 25000 ft. V <sub>p</sub> (Design maneuverin V <sub>mc</sub> (Minimum control) V <sub>fe</sub> (Flaps extended)	Knots M.P.H. 160 184.3 155 179 150 173 145 167 130 149.8 115 132.5	Knots         M.P.H.           160         184.3           155         179           150         173           145         167           130         149.8           115         132.5           136*         156.7*           67         76
	0° to 20° 10 to 37-1/2° *Reduce Vp to Vmo abo	102 117.5 95 109.5 ove 18000 ft.	102 117.5 95 109.5

# C.G. range (Landing gear fixed)



Floatplane Forward Limit 25% M.A.C. (STA. 207.74) at all weights up to max. of 12500 lb.

Aft Limit 32% M.A.C. (STA. 213.20) at all weights up to max. of 12500 lb.

		weighte up to max. of	12000 15.		
Empty weight C.G. range	None				
Maximum weights	Landplane (lb.) (With Item 201(a) or (b))	Floatplane (lb.) (With Item 202(a)	Skiplane (lb.)		
Take-off Landing	12500 12300*	12500 12500	12500 12300*		
	* Main Wheel Tire Pressure (Below -20°F)	38 p.s.i.g. 34 p.s.i.g.			
Minimum Crew	One pilot. (+95.0 in.)				
No. of seats	22 (including two at Stn. +95.0 arrangement. (See Weight an	) in.) - Limited by approved ad Balance Handbook).	d seating		
Cargo loading limitations	See Weight and Balance Handbook (PSM 1-63-8)				
Maximum baggage	Forward - Short Nose (+ 41 Forward - Long Nose	1.0 in.) 200 lb. Max.			
	(Mod. 6/1077) (+25) Rear (+35)	5.0 in.) 300 lb. Max. 54.0 in.) 500 lb. Max. 11.0 in.) 150 lb. Max.	*		
	* Total Rear + Rear Extension See Item 208(a) for approved	not to exceed 500 lb. max	kimum.		
Fuel capacity	*USABLE FUEL	U.S. GAL. IM	PERIAL GAL.		
	Forward Tank (+162.5 in.) Rear Tank (+240.0 in.) TOTAL *See NOTE 1(b) for Weight and	181 <u>197</u> 378 nd Balance.	151 <u>164</u> 315		
Oil capacity	*USABLE OIL U.S	S. GAL. <u>IMPERIAL GA</u>	L. WEIGHT LB.		
	Port (+177.0 in.) Starboard (+177.0 in.) TOTAL * See NOTE 1(c) for Weight an	1.5 1.2 1.5 1.2 3.0 2.4 nd Balance.	11 <u>11</u> 22		

#### Maximum Operating Altitude

25000 ft. (when supplementary breathing equipment is provided for all occupants).

Control surface movements

Aileron (with flaps up) Up 17.5° Down 16° Up 25° Down 17.5° (with flaps in landing position) + or -15° Trim Tab Geared Tab (flap up) **Up 16°** Down 17.5° 0° to 40° (inboard forward) Flaps 0° to 62.5° (inboard trailing) 0° to 26° (outboard forward) (outboard trailing) (aileron) Ùp 25° Elevator Down 16° Up 20° Tab Down 25° Flap interconnect (flap up) Down 12°

(flap landing) Up 12°

Left 17° Right 21° Rudder Geared Tab Left -5.5° Right +10° Trim Tab + or -25°

See Maintenance Manual Part No. PSM-1-6-2 for procedure to rig control surface movements from stop to stop.

Serial Nos. eligible

130, 210, 231 and subsequent.

The Canadian Department of Transport Certificate of Airworthiness for export endorsed as noted under "Import Eligibility" must be submitted for each individual aircraft for which application for certification is made.

Import eligibility

A U.S. Airworthiness Certificate may be issued on the basis of the Canadian Department of Transport "Certificate of Airworthiness for Export" signed by or for the Minister of Transport. This form must contain the following statement: "This certifies that the aircraft described below has been manufactured in conformity with data forming the basis for D.O.T. Type Approval No. A-82, Issue 5, dated September 10, 1969. (FAA Type

Certificate No. A9EA).

Certification basis

CAR 3 dated May 15, 1956 and Amendments 3-1 to 3-8 inclusive, plus Special Conditions for Multi-Engine Turbine Powered Aircraft dated November 6, 1964.

Type Certificate No. A9EA issued June 22, 1966. Date of Application for Type Certificate April 2, 1964.

For this Model airplane intended for use in operations under FAR Part 135, the additional airworthiness requirements of Special Federal Aviation Regulation (SFAR) 23, dated January 7, 1969, and Amendment 1 to SFAR 23, dated December 24, 1969, are also included. See NOTES 3 and 8.

Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the aircraft for certification and is given in Bombardier Report A.E.R.O.C. 6.6.G.1. In addition, the following item of equipment is required:

(a) Canadian D.O.T. approved Airplane Flight Manual, PSM-1-63-1A.

# Data Pertinent to All Models

Datum

Station 0 is 109.32 inches forward of a jig point which is marked by a plate attached to the bulkhead between the cockpit and the cabin.

M.A.C.

78 inches. (The L.E. is at Station 188.24).

Leveling means

The cabin floor rails provide a surface for levelling the airplane both laterally and longitudinally. The cabin floor level is 15 inches below water line zero.

Equipment

The list approved equipment, including the basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) which must be installed in the aircraft for certification, is given in Bombardier Report A.E.R.O.C. 6.6.G.1.

# Approved Installations

# Item 201 - Ski Installations

Wheel/Ski Bristol Model 3000 nose-wheel/ski and Model 5500 main-wheel/ski installed to BI Drawing C6-US-1000, G.A. Ski Installation. Applicable to Model DHC-6-1, -100, -200, and -300 Aircraft. Aircraft to be operated in accordance with appropriate DOT Approved BI Flight Manual Supplement.

(b) Spring Skis

Skis installed to BI Installation Drawing C6-US-1001. Applicable to Model DHC-6-1 and -100 Aircraft.

Item 202 - Float Installations

- CAP Model 12000 Floats on Models 1, 100 and 200 Aircraft, up to 11600 lb., or CAP Model 12000A and 12000B Floats on Model 300 Aircraft up to 12500 lb. installed to BI Drawing C6-UF-1000 G.A. Floatplane. Ref. DOT Float Type Approval F-10.
- 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) Model 100 and 200 Aircraft: CAP 12000 Floats

Aircraft Gross Weight 11600 lb. at C.G. Limits of 25% to 32% MAC with DH Mod. 6/1020 embodied.

Maximum Water Capacity in Two Floats 425 Imperial Gal. Total. Maximum Fuselage Cargo 500 lb.

Rudder travel Limits are: Left 17°, Right 21°.

(ii) Model 300 Aircraft:

CAP 12000A or 12000B Floats

Aircraft Gross Weight 12500 lb. at C.G. Limits of 25% to 32% MAC. Maximum Water Capacity in Two Floats 450 Imperial Gal. Total. Maximum Fuselage Cargo 500 lb.

Rudder travel Limits are: Left 17°, Right 21°.

# Item 203 - Intermediate Flotation Gear

BI Intermediate Flotation Gear Installed to BI Drawing C6-U-1000. Applicable to Models DHC-6-1, -100, -200 and -300 Aircraft. Aircraft to be operated in accordance with appropriate DOT Approved BI Flight Manual Supplement.

# Item 204 - Aircraft Ice Protection

Approved for operation in icing when equipped with following BI Modifications:

6/1043, 6/1066, 6/1089, S.O.O. 6004, S.O.O. 6005, S.O.O. 6006, S.O.O. 6009 and either S.O.O. 6007 or 6008.

Applicable to Model DHC-6-1, -100, -200 and -300 Aircraft. Aircraft to be operated in accordance with appropriate DOT Approved BI Flight Manual Supplement.

Item 205 - Auto-pilot Installation

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

Item 206 - Interior Installation

Commuter interior installation installed to Field Aviation Co., Ltd. Report 4961 dated September 25, 1968.

Item 207 - Avionics Installation

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

 Item 208 - Baggage Pod Installation
 (a) For Model DHC-6-300, baggage pod installation when installed and operated in accordance with Field Aviation Co., Ltd. Report No. 6093 dated 29 March 1971.

### **NOTES**

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

MODEL 1 OTHER MODELS IMPERIAL GAL. IMPERIAL GAL. Unusable

- For weight and balance purposes the total oil including system and tank is included in the empty (c) weight and equals 54 lb. at +177 in.
- NOTE 2. The following placards must be displayed in clear view of the pilot at all times:
  - "THIS AIRPLANE MUST BE OPERATED AS A NORMAL CATEGORY AIRPLANE IN (a) COMPLIANCE WITH THE OPERATING LIMITATIONS STATED IN THE FORM OF PLACARDS, MARKINGS AND MANUALS.
  - "NO ACROBATIC MANEUVERS (INCLUDING SPINS) ARE APPROVED." (b)
  - (c) "DAY, NIGHT, VFR."
  - "IFR" when the aircraft is equipped in accordance with the requirements for the operation (d) intended, and either -
    - Vacuum system warning light installed to BI Mod. 6/1014 to alert pilots of (1)low vacuum pressure to flight instruments:

- Pressure Instrument System, BI Mod. 6/1046, is installed; (2)
- or (3)Electrical Directional Gyro and Altitude Indicators in list of approved equipment as defined in Bombardier Report A.E.R.O.C. 6.6.G.1.
- "THIS AIRPLANE IS EQUIPPED FOR OPERATION IN ICING CONDITIONS" when the aircraft (e) is equipped with Item 204.
- NOTE 3. For Models DHC-6-1, -100, -200, and -300 airplanes the retirement times recorded in Bombardier Manual PSM 1-6-11 Revision 2, dated March 6, 1978, and approved by the Canadian Department of Transportation on August 29, 1978, must be complied with.
- Engine fire extinguisher installation accepted. System not approved until completion of NOTE 4. successful extinguisher tests.
- NOTE 5. The landing weight is 11400 lb. if the airport temperature at which the landing is to be made is at or above -20°F (-29°C). If the airport temperature is below -20°F, then the landing weight is restricted to 11000 lb.
- The Model DHC-6-200 or -300 aircraft may have either the long nose (BI Mod. 6/1077) or the NOTE 6. original short nose (as per the Model DHC-6-100 aircraft) in any configuration with the exception of the floatplane version which must have a short nose.

NOTE 7.

- Maximum continuous single generator load is limited to:
  (a) 200 amps (1.0 on loadmeter) in Flight conditions up to 125°F.
  (b) 200 amps (1.0 on loadmeter) in Ground conditions up to 45°F.
  (c) 160 amps (0.8 on loadmeter) in Ground conditions from 45°F to 125°F.
- NOTE 8. For Models DHC-6-100, -200 and -300 airplanes intended for use in operations under FAR Part 135, one of the following must be accomplished:
  - Modifications recorded in Bombardier Report AEROC 6.1.G.11-DHC-6 Certified Airplanes Basic Definitions. The appropriate DOT approved BI Flight Manual Supplement is to be inserted in the Airplane Flight Manual. (a)
  - Equivalent modifications to (a) above in compliance with SFAR 23 as approved by (b) the Regional Chief of an Engineering and Manufacturing Branch (Aircraft Engineering Division in Western Region) FAA.
  - Modifications in compliance with Appendix A to FAR 135. (c)

....END....