TYPE-CERTIFICATE DATA SHEET

No. EASA.IM.A.191

For

DHC-8

Type Certificate Holder:

De Havilland Aircraft of Canada Limited
123 Garratt Boulevard
Toronto, Ontario
CANADA M3K 1Y5

For models:	DHC-8-102	DHC-8-201	DHC-8-301	DHC-8-401
	DHC-8-103	DHC-8-202	DHC-8-311	DHC-8-402
	DHC-8-106		DHC-8-314	
			DHC-8-315	

TABLE OF CONTENT

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SECTION 1: GENERAL (ALL MODELS)

1. Data Sheet No:	EASA.IM.A.191
2. Airworthiness Category:	Large Aeroplanes
3. Performance Category:	A
4. Certifying Authority:	TCCA
5. Type Certificate Holder :	**De Havilland Aircraft of Canada Limited** 123 Garratt Boulevard Toronto, Ontario Canada M3K 1Y5

SECTION 2: DHC-8 SERIES 100

I. General

1. Aeroplane: DHC-8 Series 100

II. Certification Basis

1. Reference Application Date for EASA Certification: February 7, 1986

2. TCCA Certification Date:

DHC-8-102	June 12, 1986
DHC-8-103	July 20, 1987
DHC-8-106	November 20, 1992

3. TCCA Certification Basis: Refer to TCCA Type Certificate Data Sheet No. A-142

4. EASA Certification Date:

DHC-8-102	January 27, 1988 (ACG, Austria)
DHC-8-103	January 27, 1988 (ACG, Austria)
DHC-8-106	February 23, 1995 (ACG, Austria and NCAA, Norway)

5. EASA Certification Basis:

FAR Part 25 dated February 1, 1965, including amendments 25-1 through 25-51; plus:
FAR 25.832, Amendment 25-56, Cabin Ozone Concentration.

Additional Airworthiness Requirements:

Flight Manual Policy ref. DOT letter 5010-10-366 (ABP/L) dated June 1, 1984.

AMA 525/1 Stalls, Compliance dated July 9, 1984. Airworthiness Manual 525.207(b) Stall Warning, initial issue dated 1986. Airworthiness Manual 525.201(d) Stall Demonstration, initial issue dated 1986.

Low Temperature Operations ref. AAR Review Document September 10, 1984.

Spoiler Policy ref. DOT letter 5010-10-366 (ABE/L), dated September 20, 1984.

Compliance with the following additional optional requirements has been established:

FAR 25.1419, Ice Protection.

Compliance with FAR 25.801 has been established when the safety equipment requirements of FAR 25.1411 and the ditching equipment requirements of FAR 25.1415 are satisfied.

6. Special Conditions:

Automatic take-off power control system (ATPCS) (ref. FAA Special Conditions No. 25-ANM-3; TC letter 5010-10-366 (ABP/A), dated February 24, 1984).

Steep Approach and Short Landing (ref. TC letter 5010-10-366 (ABP/L), dated June 7, 1985).

SC H-01 Enhanced Airworthiness Programme for Aeroplane Systems – ICA on EWIS

Special Condition SCA No. 94-12, Operation on Narrow Runways, dated December 28, 1994.

7. Exemptions:

FAR 25.571(e)(2)	Propeller Debris (ref. FAA Exemption No. NM-102; TC letter 5010-10-366 (ABP/A) dated February 10, 1984).
FAR 25.807(c)(1)	40 Passenger Configuration (ref. TC letter 5010-10-366, dated March 14, 1986).

8. Equivalent Safety Findings:

FAR 25.773(b)(2) Pilot compartment view.

9. Environmental Standards:

Environmental requirements for noise:
See EASA TCDSN no. EASA.IM.A.191.

Environmental requirements for fuel venting and emissions:
SFAR 27 dated December 12, 1973, including Amendments 27-1 through 27-5.

III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Current issue of AEROC 8.1.AC.1 – Definition of Certified Airplanes

2. Description: Detail Specification No. DS8-100

3. Equipment: Equipment Register

4. Dimensions:

Span	25.91 m (85 ft)
Length	22.25 m (73 ft)
Height	7.49 m (24 ft 7 in)
Wing Area	54.35 m^2

5. Engines: Two (2) Pratt and Whitney of Canada engines as follows:

DHC-8-102	PW120A or PW121
DHC-8-103	PW121
DHC-8-106	PW121

Refer to EASA Engine Type Certificate Data Sheet IM.E.041

5.1 Engine Limits: For details refer to AFM – PSM 1-81-1A (Models 102, 103, 106)

6. Auxiliary Power Unit (APU): Options only. Refer to AFM – PSM 1-81-1A (Models 102, 103, 106)

6.1 APU Limits: For details refer to AFM – PSM 1-81-1A (Models 102, 103, 106)

7. Propellers: Hamilton Sundstrand Model 14SF-7, 14SF-15 or 14SF-23
Refer to FAA Propeller Type Certificate Data Sheet P7NE.

7.1 Propeller Limits :

Blade	SFA13 ( )-OA	
Diameter	3.96 m (13 ft) nominal	
Pitch settings at 0.75 radius:		
Feather		77.5°
Flight fine		10.5°
Ground fine		-5.5°
Full reverse		-18.5°
Propeller (Np)	- Take off	1212 rpm
	- Max. continuous	1212 rpm

The following Hamilton Sundstrand Propeller combinations are approved

14SF-7 & 14SF-7

Modification 8/2579 allows the following additional Hamilton Sundstrand Propeller combinations.

14SF-15 & 14SF-15

14SF-15 & 14SF-7

14SF-15 & 14SF-23

14SF-23 & 14SF-23

14SF-23 & 14SF-7

8. Fluids (Fuel/Oil/Additives): For details refer to AFM – PSM 1-81-1A (Models 102, 103, 106)

8.1 Eligible Fuels

Kerosene	JET A, A-1, JP-5, JP-8
Wide Cut	JET B, JP-4

For other approved fuel types refer to AFM – PSM 1-81-1A (Models 102, 103, 106)

8.2 Eligible Oils Oils conforming to Specification MIL-L-23699

9. Fluid Capacities:

9.1 Fuel Capacity:

Main Fuel System

	Kg.	lbs.	Liters	Imp. Gals.
Usable	2575	5678	3160	695
Unusable	40	87	48	11
Total	2615	5765	3208	706

Optional Auxiliary Fuel System (SOO 8061 or 828SO08061 or 828CH00044)

	Kg.	lbs.	Liters	Imp. Gals.
Usable	2072	4566	2543	559
Unusable	46	102	55	13
Total	2118	4668	2598	572

9.2 Oil Capacity per Engine:

	Liters	Imp. Gals.
Usable	3.8	0.83
Total	17.7	3.90

10. Air Speeds:

			Knots
IAS	V_{MO} (Maximum Operating)	0 to 14000 ft	242
		15000 ft	239
		20000 ft	223
		25000 ft	207
	V_{FE} (Flap extended)	Flap 5° & 15°	148
		Flap 35°	130
	V_A (Maneuvering)	(Models 102, 103)	163
	V_A (Maneuvering)	(Model 106)	164
	V_{LO} (Landing gear operation)		158
	V_{LE} (Landing gear extended)		172

For other airspeeds refer to AFM – PSM 1-81-1A (Models 102, 103, 106)

11. Maximum Operating Altitude: 7,620 m (25,000 ft) (Pressure Altitude)

12. All Weather Capability: Cat II

13. Maximum Weights:

DHC-8-102

	Basic	Mod 8/1335	AFM Supplement 57	AFM Supplement 87
Taxi and ramp	15,740 kg (34,700 lb)	15,740 kg (34,700 lb)	15,740 kg (34,700 lb)	15,740 kg (34,700 lb)
Take-off	15,649 kg (34,500 lb)	15,649 kg (34,500 lb)	15,649 kg (34,500 lb)	15,649 kg (34,500 lb)
Landing	15,377 kg (33,900 lb)	15,377 kg (33,900 lb)	15,377 kg (33,900 lb)	15,377 kg (33,900 lb)
Zero fuel	14,061 kg (31,000 lb)	14,179 kg (31,300 lb)	14,243 kg (31,400 lb)	14,515 kg (32,000 lb)

DHC-8-103

	Basic	Mod 8/1335	MS8Q420649	AFM Supplement 57	AFM Supplement 87
Taxi and ramp	15,740 kg (34,700 lb)	15,740 kg (34,700 lb)	16,057 kg (35,400 lb)	15,740 kg (34,700 lb)	15,740 kg (34,700 lb)
Take-off	15,649 kg (34,500 lb)	15,649 kg (34,500 lb)	15,966 kg (35,200 lb)	15,649 kg (34,500 lb)	15,649 kg (34,500 lb)
Landing	15,377 kg (33,900 lb)	15,377 kg (33,900 lb)	15,377 kg (33,900 lb)	15,377 kg (33,900 lb)	15,377 kg (33,900 lb)
Zero fuel	14,061 kg (31,000 lb)	14,179 kg (31,300 lb)	14,515 kg (32,000 lb)	14,243 kg (31,400 lb)	14,515 kg (32,000 lb)

DHC-8-106

Taxi and ramp	16,556 kg (36,500 lb)
Take-off	16,466 kg (36,300 lb)
Landing	15,377 kg (33,900 lb)
Zero fuel	14,515 kg (32,000 lb)

14. Center of Gravity Range: For details refer to AFM – PSM 1-81-1A (Models 102, 103, 106)

15. Datum: Plate located on centerline at “Station 423.0 in”

(1074.4 cm) on underside of fuselage.

16. Mean Aerodynamic Chord (MAC): 87.0 in

17. Leveling Means: Plumb bob and target in RH emergency exit opening.

18. Minimum Flight Crew: 2 (Pilot and Copilot)

19. Maximum Passenger Seating Capacity: 40 passengers (see Note 1)

20. Exits:

No.	Type	Size
1	I	0.762 m x 1.65 m (30 in x 65 in)
1	II	0.508 m x 1.37 m (20 in x 54 in)
2	III	0.508 m x 0.914 m (20 in x 36 in)

21. Baggage/Cargo Compartments:

	Class	Volume	Max. Allowable Load
Rear	B	8.48 m^3 (300 ft^3)	907 kg (2,000 lb)

Refer to Weight & Balance Manual PSM 1-8-8 for mixed passenger-cargo configurations.

22. Wheels and Tires: Tricycle landing gear, retractable, dual side by side wheel type.
Main wheel sized to accept 26.5 × 8.0−13 or 31.0 × 9.75−13 tubeless tires.
Nose gear sized to accept 18 × 5.50−8 tubeless tires or with S.O.O. 8009, 22.0 × 6.5−10 flotation type tire.

IV. Operating and Service Instructions

1. Airplane Flight Manual	PSM 1-81-1A (Models 102, 103, 106)
2. Airplane Maintenance Manual	PSM 1-8-2
3. Weight and Balance Manual	PSM 1-8-8
4. Maintenance Program Manual - Maintenance Review Board Report (MRB Report)	PSM 1-8-7, Part 1
5. Maintenance Program Manual – Airworthiness Limitations (AWL)	PSM 1-8-7, Part 2
6. Maintenance Task Cards Manual	PSM 1-8-7TC
7. Service Letters and Service Bulletins	Refer to Publications Index

V. Notes

1. Cabin Interior and Seating Configurations must be approved and are listed in AEROC 8.1.AC.1 Section 100 current issue.
2. DHC-8 Series 100 (Models 102/103) incorporating optional Modsum 8Q310027, through Service Bulletin (SB) 8-05-03, is required to comply with tasks and intervals of Supplement 1 “Extended Service Program” to Part 3 of the Maintenance Program Manual (PSM 1-8-7).

SECTION 3: DHC-8 SERIES 200

I. General

1. Aeroplane: DHC-8 Series 200

II. Certification Basis

1. Reference Application Date for EASA Certification: August 1, 1997

2. TCCA Certification Date:

DHC-8-201	August 24, 1995
DHC-8-202	March 9, 1995

3. TCCA Certification Basis: Refer to TCCA Type Certificate Data Sheet No. A-142

4. EASA Certification Date:

DHC-8-201	February 17, 1998 (LBA, Germany)
DHC-8-202	February 17, 1998 (LBA, Germany)

5. EASA Certification Basis:

FAR Part 25 dated February 1, 1965, including amendments 25-1 through 25-66; plus:

FAR 25.963(e), Amendment 25-69,	Fuel Tank Access Covers
FAR 25.361, Amendment 25-72,	Engine Torque
FAR 25.729(e), Amendment 25-75,	Retraction Mechanism

With the following exceptions:
(The DHC-8 Series 200 was certificated as a derivative of the Series 100 aircraft. The applicable basis of certification is the same as the Series 100, but the manufacturer elected to demonstrate compliance with FAR Part 25, up to Amendment, 25-66, less the exceptions shown under Basis of Certification, Series 200.)

FAR 25.365(e), Amendment 25-54,	Pressurized Cabin Loads
FAR 25.561, Amendment 25-64,	Emergency Landing Conditions
FAR 25.562, Amendment 25-64,	Emergency Landing Dynamic Conditions
FAR 25.783, Amendment 25-54,	Doors
FAR 25.785, Amendment 25-64,	Seats, Berths, Safety Belts and Harnesses
FAR 25.904, Amendment 25-62,	Automatic Takeoff Thrust Control System (replaced by ATPCS Special Condition)
FAR 25.1091(e), Amendment 25-57,	Air Intakes

Additional Airworthiness Requirements

Flight Manual Policy ref. DOT letter 5010-10-366 (ABP/L) dated June 1, 1984.

AMA 525/1, Stalls, Compliance dated July 9, 1984. Airworthiness Manual 525.207(b) Stall Warning, initial issue dated 1986. Airworthiness Manual 525.201(d) Stall Demonstration, initial issue dated 1986.

Low Temperature Operations ref. AAR Review Document September 10, 1984.

Spoiler Policy ref. DOT letter 5010-10-366 (ABE/L), dated September 20, 1984.

Compliance with the following additional optional requirements has been established:

FAR 25.1419, Ice Protection

Compliance with FAR 25.801 has been established when the safety equipment requirements of FAR 25.1411 and the ditching equipment requirements of FAR 25.1415 are satisfied.

6. Special Conditions:

Automatic take-off power control system (ATPCS) (ref. FAA Special Conditions No. 25-ANM-3; TC letter 5010-10-366 (ABP/A), dated February 24, 1984).

Steep Approach and Short Landing – (ref. TC letter 5010-10-366 (ABP/L), dated June 7, 1985).

SC H-01 Enhanced Airworthiness Programme for Aeroplane Systems – ICA on EWIS

Special Condition SCA No. 94-12, Operation on Narrow Runways, dated December 28, 1994.

7. Exemptions

FAR 25.571(e)(2),	Propeller Debris (ref. FAA Exemption No. NM-102; TC letter 5010-10-366 (ABP/A) dated February 10, 1984).
FAR 25.807(c)(1),	40 Passenger Configuration (ref. TC letter 5010-10-366, dated March 14, 1986

8. Equivalent Safety Findings:

FAR 25.773(b)(2), Pilot compartment view.

9. Environmental Standards:

Environmental requirements for noise:
See EASA TCDSN no. EASA.IM.A.191.

Environmental requirements for fuel venting and emissions:
ICAO Annex 16, Second Edition, Volume II

III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Current issue of AEROC 8.1.AC–1 – Definition of Certified Airplanes

2. Description: Detail Specification No. DS8-200

3. Equipment: Equipment Register

4. Dimensions:

Span 25.89 m (85 ft)

Length	22.25 m (73 ft)
Height	7.49 m (24 ft 7 in)
Wing Area	54.35 m^2

5. Engines: 2 Pratt and Whitney of Canada engines as follows:

	Original	Optional
DHC-8-201	PW123C	PW123, PW123B, PW123D, PW123E
DHC-8-202	PW123D	PW123, PW123B, PW123E

Refer to EASA Engine Type Certificate Data Sheet IM.E.041.

Any combination of original engines and/or optional engines within each aircraft model is permitted. Optional engines must incorporate modification 8/2735.

5.1 Engine Limits: For details refer to AFM – PSM 1-82-1A (Models 201, 202)

6. Auxiliary Power Unit (APU): Options only. Refer to AFM – PSM 1-82-1A (Models 201, 202)

6.1 APU Limits: For details refer to AFM – PSM 1-82-1A (Models 201, 202)

7. Propellers: Hamilton Sundstrand Model 14SF-23

Refer to FAA Propeller Type Certificate Data Sheet P7NE.

7.1 Propeller Limits :

Blade	SFA13 ( )-OA	
Diameter	3.96 m (13 ft) nominal	
Pitch settings at 0.75 radius:		
Feather		77.5°
Flight fine		10.5°
Ground fine		-5.5°
Full reverse		-18.5°
Propeller (Np)	- Take off	1212 rpm
	- Max. continuous	1212 rpm

The following Hamilton Sundstrand Propeller combinations are approved: 14SF-23 & 14SF-23

Modification 8/2579 allows the following additional Hamilton Sundstrand Propeller combinations: 14SF-15 & 14SF-15; 14SF-15 & 14SF-23

8. Fluids (Fuel/Oil/Additives): For details refer to AFM – PSM 1-82-1A (Models 201, 202)

8.1 Eligible Fuels: Kerosene — JET A, A-1, JP-5, JP-8

Wide Cut JET B, JP-4

For other approved fuel types refer to AFM – PSM 1-82-1A (Models 201, 202)

8.2 Eligible Oils Oils conforming to Specification MIL-L-23699

9. Fluid Capacities:

9.1 Fuel Capacity:

Main Fuel System

	Kg.	lbs.	Liters	Imp. Gals.
Usable	2575	5678	3160	695
Unusable	40	87	48	11
Total	2615	5765	3208	706

Optional Auxiliary Fuel System (SOO 8061 or 828SO08061 or 828CH00044)

	Kg.	lbs.	Liters	Imp. Gals.
Usable	2072	4566	2543	559
Unusable	46	102	55	13
Total	2118	4668	2598	572

9.2 Oil Capacity per Engine:

	Liters	Imp. Gals.
Usable	8.0	1.6
Total	19.3	4.57

10. Air Speeds:

			Knots
IAS	V_{MO} (Maximum Operating)	0 to 14000 ft	242
		15000 ft	239
		20000 ft	223
		25000 ft	207
	V_{FE} (Flap extended)	Flap 5°& 15°	148
		Flap 35°	130
	V_A (Maneuvering)		164
	V_{LO} (Landing gear operation)		158
	V_{LE} (Landing gear extended)		172

For other airspeeds refer to AFM – PSM 1-82-1A (Models 201, 202)

11. Maximum Operating Altitude: 7,620 m (25,000 ft) (Pressure Altitude)

12. All Weather Capability: Cat II

13. Maximum Weights:

DHC-8-201 & DHC-8-202

	Basic	AFM Supplement 57
Taxi and ramp	16,556 kg (36,500 lb)	16,556 kg (36,500 lb)
Take-off	16,466 kg (36,300 lb)	16,466 kg (36,300 lb)
Landing	15,650 kg (34,500 lb)	15,650 kg (34,500 lb)
Zero fuel	14,515 kg (32,000 lb)	14,696 kg (32,400 lb)

14. Center of Gravity Range: For details refer to AFM – PSM 1-82-1A (Models 201, 202)

15. Datum: Plate located on centerline at “Station 423.0 in” (1074.4 cm) on underside of fuselage.

16. Mean Aerodynamic Chord (MAC): 87.0 in

17. Leveling Means: Plumb bob and target in RH emergency exit opening.

18. Minimum Flight Crew: 2 (Pilot and Copilot)

19. Maximum Passenger Seating Capacity: 40 passengers (see Note 1)

20. Exits:

No.	Type	Size
1	I	0.762 m x 1.65 m (30 in x 65 in)
1	II	0.508 m x 1.37 m (20 in x 54 in)
2	III	0.508 m x 0.914 m (20 in x 36 in)

21. Baggage/Cargo Compartments:

	Class	Volume	Max. Allowable Load
Rear	B	8.48 m^3 (300 ft^3)	907 kg (2,000 lb)

Refer to Weight & Balance Manual PSM 1-82-8 for mixed passenger-cargo configurations.

22. Wheels and Tires: Tricycle landing gear, retractable, dual side by side wheel type.
Main wheel sized to accept 31.0 × 9.75−13 tubeless tires.
Nose gear sized to accept 18 × 5.50−8 tubeless tires or with S.O.O. 8009, 22.0 × 6.5−10 flotation type tire.

IV. Operating and Service Instructions

1. Airplane Flight Manual	PSM 1-82-1A (Models 201, 202) (See Note 2)
2. Airplane Maintenance Manual	PSM 1-82-2
3. Weight and Balance Manual	PSM 1-82-8
4. Maintenance Program Manual - Maintenance Review Board Report (MRB Report)	PSM 1-82-7, Part 1
5. Maintenance Program Manual – Airworthiness Limitations (AWL)	PSM 1-82-7, Part 2
6. Maintenance Task Cards Manual	PSM 1-82-7TC
7. Service Letters and Service Bulletins	Refer to Publications Index

V. Notes

1. Cabin Interior and Seating Configurations must be approved and are listed in AEROC 8.1.AC.1 Section 200 current issue.

2. DHC-8 Series 200 (Models 201, 202) incorporating optional Modification 827SO00022 (or equivalent design change) – Introduction of Flight Spoilers in Ground Mode, require the Flight Manual with the “S” reference, following the Model designation.

SECTION 4: DHC-8 SERIES 300

I. General

1. Aeroplane: DHC-8 Series 300

II. Certification Basis

1. Reference Application Date for EASA Certification: September 9, 1988

2. TCCA Certification Date:

DHC-8-301	February 14, 1989
DHC-8-311	July 31, 1990
DHC-8-314	February 20, 1992
DHC-8-315	June 2, 1995

3. TCCA Certification Basis: Refer to TCCA Type Certificate Data Sheet No. A-142

4. EASA Certification Date:

DHC-8-301	February 23, 1995 (NCAA, Norway)
DHC-8-311	August 15, 1990 (LBA, Germany)
DHC-8-314	May 3, 1993 (ACG, Austria)
DHC-8-315	March 22, 1996 (DGAC, Romania)

5. EASA Certification Basis:

FAR Part 25 dated February 1, 1965, including amendments 25-1 through 25-51; plus:

FAR 25.832,	Amendment 25-56 Cabin Ozone Concentration
FAR 25.812,	Amendment 25-58 Emergency Lighting
FAR 25.853,	Amendment 25-59 Compartment Interiors (Seat cushions)
FAR 25.853,	Amendment 25-66 Compartment Interiors (Materials) (Models 311, 314, and 315)

Additional Airworthiness Requirements

Flight Manual Policy ref. DOT letter 5010-10-366 (ABP/L), dated June 1, 1984.

AMA 525/1	Stalls, Compliance dated July 9, 1984. Airworthiness Manual 525.207(b) Stall Warning, initial issue dated 1986. Airworthiness Manual 525.201(d) Stall Demonstration, initial issue dated 1986.

Low Temperature Operations ref. AAR Review Document September 10, 1984.

Spoiler Policy ref. DOT letter 5010-10-366 (ABE/L) dated September 20, 1984.

Compliance with the following additional optional requirements has been established:

FAR 25.1419,	Ice Protection

Compliance with FAR 25.801 has been established when the safety equipment requirements of FAR 25.1411 and the ditching equipment requirements of FAR 25.1415 are satisfied.

6. Special Conditions:

Automatic take-off power control system (ATPCS) (Ref. FAA Special Conditions No. 25-ANM-3; TC letter 5010-10-366 (ABP/A), dated February 24, 1984).
Steep Approach and Short Landing – (ref. TC letter 5010-10-366 (ABP/L), dated June 7, 1985).

SC H-01 Enhanced Airworthiness Programme for Aeroplane Systems – ICA on EWIS.

Special Condition SCA No. 94-12, Operation on Narrow Runways, dated December 28, 1994.

7. Exemptions:

FAR 25.571(e)(2),	Propeller Debris (ref. FAA Exemption No. NM-102; TC letter 5010-10-366 (ABP/A) dated February 10, 1984).
FAR 25.785(h),	Exemption No. 89-2, dated February 3, 1989, Flight Attendants Seats

8. Equivalent Safety Findings:

FAR 25.773(b)(2),	Pilot compartment view.
FAR 25.807(d)(2),	Ditching emergency exits for passengers (Applies to Models -311, 314, and 315 with Change Request CR803SO00001 or CR803SO00002 incorporated).

9. Environmental Standards :

Environmental requirements for noise :

See EASA TCDSN no. EASA.IM.A.191.

Environmental requirements for fuel venting and emissions:

DHC-8-301 DHC-8-311 DHC-8-314 DHC-8-315	SFAR 27 dated December 12, 1973, including Amendments 27-1 through 27-5. ICAO Annex 16, Second Edition, Volume II

III. Technical Characteristics and Operational Limitations

1. Type Design Definition:	Current issue of AEROC 8.1.AC.1 – Definition of Certified Airplanes
2. Description:	Detail Specification No. DS8-300
3. Equipment:	Equipment Register
4. Dimensions:	
	Span 27.43 m (90 ft)

Length	25.68 m (84 ft 3 in)
Height	7.49 m (24 ft 7 in)
Wing Area	56.1 m^2

5. Engines: Two (2) Pratt and Whitney of Canada engines as follows:

	Original	Optional
DHC-8-301 & DHC-8-311	PW123	PW123B, PW123E
DHC-8-314	PW123B	
DHC-8-315	PW123E	

Refer to EASA Engine Type Certificate Data Sheet IM.E.041.

Any combination of original engines and/or optional engines within each aircraft model is permitted. Optional engines must incorporate modification 8/2735.

5.1 Engine Limits: For details refer to AFM – PSM 1-83-1A (Models 301, 311, 314, 315)

6. Auxiliary Power Unit (APU): Options only. Refer to AFM – PSM 1-83-1A (Models 301, 311, 314, 315)

6.1 APU Limits: For details refer to AFM – PSM 1-83-1A (Models 301, 311, 314, 315)

7. Propellers:

DHC-8-301, DHC-8-311 & DHC-8-315: Hamilton Sundstrand Model 14SF-15

DHC-8-301, DHC-8-311, DHC-8-314 & DHC-8-315: Hamilton Sundstrand Model 14SF-23

Refer to FAA Propeller Type Certificate Data Sheet P7NE.

7.1 Propeller Limits :

Blade		SFA13 ( )-OA
Diameter		3.96 m (13 ft) nominal
Pitch settings at 0.75 radius:		
Feather		77.5°
Flight fine		11.5°
Ground fine		-7.5°
Full reverse		-18.5°
Propeller (Np)	- Take off	1212 rpm
	- Max. continuous	1212 rpm

The following Hamilton Sundstrand Propeller combinations are approved:

DHC-8-301, DHC-8-311 & DHC-8-315	14SF-15 & 14SF-15
	14SF-23 & 14SF-23

Modification 8/2579 allows the following additional Hamilton Sundstrand Propeller combinations :

DHC-8-301, DHC-8-311 & DHC-8-315	14SF-15 & 14SF-23

8. Fluids (Fuel/Oil/Additives): for details refer to AFM – PSM 1-83-1A (Models 301, 311, 314, 315)

8.1 Eligible Fuels	Kerosene	JET A, A-1, JP-5, JP-8
	Wide Cut	JET B, JP-4

For other approved fuel types refer to AFM – PSM 1-83-1A (Models 301, 311, 314, 315)

8.2 Eligible Oils: Oils conforming to Specification MIL-L-23699

9. Fluid Capacities:

9.1 Fuel Capacity:

Main Fuel System

	Kg.	lbs.	Liters	Imp. Gals.
Usable	2575	5678	3160	695
Unusable	40	87	48	11
Total	2615	5765	3208	706

Optional Auxiliary Fuel System (828SO00006 or 828CH00027)

	Kg.	lbs.	Liters	Imp. Gals.
Usable	2072	4566	2543	559
Unusable	46	102	55	13
Total	2118	4668	2598	572

9.2 Oil Capacity per Engine:

	Liters	Imp. Gals.
Usable	8.0	1.6
Total	19.3	4.57

10. Air Speeds:

			Knots
IAS	V_{MO} (Maximum Operating)	0 to 17000 ft	243
		20000 ft	232
		25000 ft	214
	DHC-8-301		
	V_{FE} (Flap extended)	Flap 5°	160
		Flap 10° & 15°	149
		Flap 35°	127
	V_A (Maneuvering)		176
	V_{LO} (Landing gear operation)		158
	V_{LE} (Landing gear extended)		173
	DHC-8-311, DHC-8-314 & DHC-8-315		
	V_{FE} (Flap extended)	Flap 5°	163
		Flap 10°	154
		Flap 15°	150
		Flap 35°	138
	V_A (Maneuvering)		177
	V_{LO} (Landing gear operation)		163
	V_{LE} (Landing gear extended)		173

For other airspeeds refer to AFM – PSM 1-83-1A (Models 301, 311, 314, 315)

11. Maximum Operating Altitude: 7,620 m (25,000 ft) (Pressure Altitude)

12. All Weather Capability: Cat II

13. Maximum Weights:

DHC-8-301, DHC-8-311, DHC-8-314, DHC-8-315

	Basic
Taxi and ramp	18,734 kg (41,300 lb)
Take-off	18,643 kg (41,100 lb)
Landing	18,144 kg (40,000 lb)
Zero fuel	16,874 kg (37,200 lb)

DHC-8-311, DHC-8-314, DHC-8-315

	CR 803SO00001	CR 803SO00002
Taxi and ramp	19,087 kg (42,080 lb)	19,595 kg (43,200 lb)
Take-off	18,997 kg (41,880 lb)	19,505 kg (43,000 lb)
Landing	18,597 kg (41,000 lb)	19,051 kg (42,000 lb)
Zero fuel	17,463 kg (38,500 lb)	17,917 kg (39,500 lb)

For other weights refer to AFM – PSM 1-83-1A (Models 301, 311, 314, 315)

14. Center of Gravity Range: for details refer to AFM – PSM 1-83-1A (Models 301, 311, 314, 315)

15. Datum: Plate located on centerline at “Station 423.0 in” (1074.4 cm) on underside of fuselage.

16. Mean Aerodynamic Chord (MAC): 85.5 in

17. Leveling Means: Plumb bob and target in RH emergency exit opening.

18. Minimum Flight Crew: 2 (Pilot and Copilot)

19. Maximum Passenger Seating Capacity: 56 passengers (see Note 1)

20. Exits:

No.	Type	Size
1	I	0.762 m x 1.65 m (30 in x 65 in)
1	I	0.508 m x 1.37 m (20 in x 54 in)
2	III	0.508 m x 0.914 m (20 in x 36 in)

21. Baggage/Cargo Compartments:

	Class	Volume	Max. Allowable Load
Rear	B	9.1 m^3 (320 ft^3)	1134 kg (2,500 lb)

Refer to Weight & Balance Manual PSM 1-83-8 for mixed passenger-cargo configurations.

22. Wheels and Tires: Tricycle landing gear, retractable, dual side by side wheel type. Main wheel sized to accept 31.0 × 9.75−14 tubeless tires. Nose gear sized to accept 18 × 5.50−8 or 22.0 × 6.5−10 tubeless tires.

IV. Operating and Service Instructions

1. Airplane Flight Manual	PSM 1-83-1A (Models 301, 311, 314, 315)
2. Airplane Maintenance Manual	PSM 1-83-2
3. Weight and Balance Manual	PSM 1-83-8
4. Maintenance Program Manual - Maintenance Review Board Report (MRB Report)	PSM 1-83-7, Part 1
5. Maintenance Program Manual – Airworthiness Limitations (AWL)	PSM 1-83-7, Part 2
6. Maintenance Task Cards Manual	PSM 1-83-7TC
7. Service Letters and Service Bulletins	Refer to Publications Index

V. Notes

1. Cabin Interior and Seating Configurations must be approved and are listed in AEROC 8.1.AC.1 Section 300 current issue.

SECTION 5: DHC-8 SERIES 400

I. General

1. Aeroplane: DHC-8 Series 400

II. Certification Basis

1. Reference Application Date for EASA Certification: 31 January 1995

2. EASA Certification Date

DHC-8-401	December 01, 1999	(CAA Denmark)
DHC-8-402	December 01, 1999	(CAA Denmark)

3. EASA Certification Basis:

JAR 25 Change 14
JAR 25 Amendment 25/96/01
CS 25.831(b) Amendment 18, associated to post TC Mod introducing the Extra Capacity Configuration (see Note 3)
JAR AWO Change 2
JAR 1 Definitions Change 4
JAR 21 Change 1

Compliance with JAR 25.801 has been established when the safety equipment requirements of JAR 25.1411 and the ditching equipment requirements of JAR 25.1415 are satisfied

4. Special Conditions:

CRI C-01	Yawing Maneuvering Conditions INT/POL/25/8 Issue 1
CRI D-01	Worn Brakes INT/POL/25/6 Issue 1
CRI F-01	Protection from the Effects of HRIF INT/POL/25/2 Issue 1
CRI F-02	Protection from the Effects of Lightning Strike – Direct Effects INT/POL/25/3 Issue 1
CRI F-03	Protection from the Effects of Lightning Strike – Indirect Effects INT/POL/25/4 Issue 2
CRI G-07	Steep Approach Landing Capability (SAL)
SC H-01	Enhanced Airworthiness Programme for Aeroplane Systems – ICA on EWIS.
CRI F-18	Security protection of Aircraft systems and networks

5. Equivalent Safety Findings:

CRI B-04	Stall Warning and Stall Warning Speeds and Maneuver Capability (JAR 25.103, 107, 119, 125, 143 and 207)
CRI C-04	Flutter, Deformation and Failsafe Criteria (JAR 25.629)
CRI D-10	Nose-Wheel Steering System Protection (JAR 25x745(d))
CRI D-02	Hydraulic System Proof Testing (JAR 25.1435(b)(1))
CRI D-14	Ditching Emergency Exits for Passengers (JAR 25.807(e) associated to post TC Mod introducing the Extra Capacity

Configuration, see Note 3)

CRI G-04 Accelerate Stop Distance
INT/POL/25/5 Issue 1 (JAR 25.109)

6. Deviation:

CRI F-17 Continuity of function of ADS-B Out and ELS

7. Environmental Standards:

Environmental requirements for noise:

See EASA TCDSN no. EASA.IM.A.191.

Environmental requirements for fuel venting and emissions:
ICAO Annex 16, Second Edition, Volume II

8. Operational Suitability Data (OSD)

8.1 Cabin Crew Data (CCD)

Certification Specifications and Guidance Material for Cabin Crew Data CS-CCD Initial Issue dated 31 January 2014 (ref CRI CCD-01)

8.2 Master Minimum Equipment List (MMEL)

JAR MMEL/MEL Amendment 1, Section 1*

*Any new or revised MMEL items impacts due to future changes to the OSD approved Master Minimum Equipment List referenced within the Approved Manuals section of this TCDS, will comply with CS-MMEL Initial Issue 31 January 2014 (Book 1 only), where applicable (ref CRI MMEL-01)

8.3 Flight Crew Data (FCD)

Certification Specifications for Operational Suitability Data (OSD) Flight Crew Data CS-FCD Initial Issue dated 31 January 2014

III. Technical Characteristics and Operational Limitations

1. Type Design Definition: Current issue of AEROC 8.1.AC.1 – Definition of Certified Airplanes

2. Description: Detail Specification No. DS8-400

3. Equipment: Equipment Register

4. Dimensions:

Span	28.4 m (93 ft 3 in)
Length	32.8 m (107 ft 9 in)
Height	8.3 m (27 ft 4 in)
Wing Area	63.1 m^2 (679 ft^2)

5. Engines: Two (2) Pratt and Whitney of Canada engines Model PW150A

Refer to TCCA Engine Type Certificate Data Sheet No. E-29.

5.1 Engine Limits: for details refer to AFM – PSM 1-84-1A (Models 401 or 402)

6. Auxiliary Power Unit (APU): One Hamilton Sundstrand Power System
APS 1000 T-62T-46C12
TSO authorization, dated 23 July 1999
Note: Options only.

6.1 APU Limits: for details refer to AFM – PSM 1-84-1A (Models 401 or 402)

7. Propellers: Two (2) Dowty Aerospace Propellers
Model R408/6-123-F/17

Refer to EASA Type Certificate Data Sheet P.002 (previously covered under UK-CAA Propeller Type Certificate Data Sheet No. 117)

7.1 Propeller Limits:

Blade diameter		4.11 m (13.5 ft)
Pitch settings at 0.70 radius:		
Feather		84.5°
Flight fine (Electronic)		16.5°
Flight fine (Hydraulic)		16.0°
Ground fine		-3.5°
Full reverse		-19.0°
Propeller (Np)	- Take off	1020 rpm
	- Max. continuous	1020 rpm

8. Fluids (Fuel/Oil/Additives): for details refer to AFM – PSM 1-84-1A (Models 401 or 402)

8.1 Eligible Fuels

Kerosene	JET A, A-1, JP-5, JP-8
Wide Cut	JET B, JP-4

For other approved fuel types refer to AFM – PSM 1-84-1A (Models 401, 402)

8.2 Eligible Oils: Oils conforming to Specification MIL-L-23699

9. Fluid Capacities:

9.1 Fuel Capacity:

	Kg.	lbs.	Liters	Imp. Gals.
Usable	5318	11724	6526	1436
Unusable	73	160	89	20
Total	5391	11884	6615	1456

9.2 Oil Capacity per Engine:

	Liters	Imp. Gals.
Usable	5.6	1.23
Total	24.9	5.48

10. Air Speeds:

			Knots
IAS	V_{MO} (Maximum Operating)	0 to 8,000 ft	245
		10,000 ft	282
		18,000 ft	286
		20,000 ft	275
		25,000 ft	248
	V_{FE} (Flap extended)	Flap 5°	200
		Flap 10°	181
		Flap 15°	172
		Flap 35°	158
	V_A (Maneuvering)		204
	V_{LO} (Landing gear operation)		200
	V_{LE} (Landing gear extended)		215

For other airspeeds refer to AFM – PSM 1-84-1A (Models 401 or 402)

11. Maximum Operating Altitude: 7,620 m (25,000 ft) (Pressure Altitude)

12. All Weather Capability: Cat II

13. Maximum Weights:

DHC-8-401 & DHC-8-402

	Basic Gross Weight MS 4-201539	Intermediate Gross Weight MS 4-308807	High Gross Weight MS 4-308907	Enhanced High Gross Weight MS 4-309238
Taxi and ramp	28,077 kg (61,900 lb)	29,089 kg (64,130 lb)	29,347 kg (64,700 lb)	29,665 kg (65,400 lb)
Take-off	27,987 kg (61,700 lb)	28,998 kg (63,930 lb)	29,257 kg (64,500 lb)	29,574 kg (65,200 lb)
Landing	27,442 kg (60,500 lb)	28,009 kg (61,750 lb)	28,009 kg (61,750 lb)	28,123 kg (62,000 lb)
Zero fuel	25,174 kg (55,500 lb)	25,855 kg (57,000 lb)	25,855 kg (57,000 lb)	26,308 kg (58,000 lb)
Zero fuel – Supplement 87	26,308 kg (58,000 lb)	26,308 kg (58,000 lb)	26,308 kg (58,000 lb)	N/A

14. Center of Gravity Range: For details refer to AFM – PSM 1-84-1A (Models 401 or 402)

15. Datum: Plate located on centerline at “Station 428.0 in” (1087.1 cm) on underside of fuselage.

16. Mean Aerodynamic Cord (MAC): 94.512 in.

17. Leveling Means: Plumb bob and target in RH emergency exit opening.

18. Minimum Flight Crew: 2 (Pilot and Copilot)

19. Maximum Passenger Seating Capacity:

DHC-8-401	70 passengers
DHC-8-402	80 passengers (refer to Note 1)
DHC-8-402	90 passengers (refer to Note 1 and Note 3)

20. Exits:

No.	Type	Size
1	II / III*)**)	0.508 m x 1.42 m (20 in x 56 in)
1	I ***)	0.610 m x 1.37 m (24 in x 54 in)
1	I	0.762 m x 1.65 m (30 in x 65 in)
1	I	0.610 m x 1.37 m (24 in x 54 in)
1	I	0.610 m x 1.65 m (24 in x 65 in)

*) Type III exit for showing compliance with JAR 25.801 only
**) Applicable to Models -401/-402 non-Extra Capacity configurations
***) Applicable to Model -402 Extra Capacity configuration (refer to Note 1 and Note 3)

21. Baggage/Cargo Compartments:

	Class	Volume	Max. Allowable Load
Front*)	C	2.58 m^3 (91 ft^3)	413 kg (910 lb)
Aft	C	11.64 m^3 (411 ft^3)	1,669 kg (3,680 lb)

*) Applicable to Models -401/-402 non-Extra Capacity configurations
Refer to Weight & Balance Manual PSM 1-84-8 for individual airplane configurations.

22. Wheels and Tires: Tricycle landing gear, retractable, dual side by side wheel type.
Main wheels sized to accept 32 × 8.8−16 or 34 x 10.75-16 tubeless tires.
Nose gear sized to accept 22 × 6.5−10 tubeless tires.

IV. Operating and Service Instructions

1. Airplane Flight Manual	PSM 1-84-1A (Models 401 or 402)
2. Airplane Operating Manual	PSM 1-84-1
3. Weight and Balance Manual	PSM 1-84-8
4. Minimum Equipment List Procedures Manual	PSM 1-84-16
5. Airplane Maintenance Manual	PSM 1-84-2
6. Maintenance Requirements Manual	PSM 1-84-7

Part 1: MRB Report
Part 2: Airworthiness Limitation Items (ALIs)
a) Certification Maintenance Requirements

b) Structural Maintenance Program
c) System Safe Life Components

7. Service Letters and Service Bulletins	Refer to Publications Index
8. Structural Repair Manual	PSM 1-84-3
9. Cargo Loading Manual	PSM 1-84-8A
10. Illustrated Parts Manual	PSM 1-84-4
11. Task Cards Manual	PSM 1-84-7TC

V. Operational Suitability Data (OSD)

The Operational Suitability Data elements listed below are approved by the European Aviation Safety Agency under the EASA Type Certificate EASA.IM.A.191 as per Commission Regulation (EU) 748/2012 as amended by Commission Regulation (EU) No 69/2014.

1. Master Minimum Equipment List

a. Master Minimum Equipment List reference, PSM 1−84−16A, at the latest applicable revision as per the defined Operational Suitability Data Certification Basis recorded in CRI MMEL-01
b. Required for entry into service by EU operator.

2. Flight Crew Data

a. Flight Crew Data reference “Operational Suitability Data Flight Crew” DOC BAT-DHC-8-OSD-FC, at the latest applicable revision as per the defined Operational Suitability Data Certification Basis CS-FCD dated 31 January 2014.
b. Required for entry into service by EU operator.

3. Cabin Crew Data

a. Cabin Crew Data reference, Doc #CC-E-BD500-402, at the latest applicable revision as per the defined Operational Suitability Data Certification Basis recorded in CRI CCD-01.
b. Required for entry into service by EU operator.
c. For the purpose of Cabin Crew training and operation, the DHC-8-400 non-Extra Capacity aircraft configuration (up to 80 passenger seats) is determined to be a new type.
d. For the purpose of Cabin Crew training and operation, the DHC-8-400 Extra Capacity aircraft configuration (more than 80 and up to 90 passenger seats) is determined to be a variant to the DHC-8-400 non-Extra Capacity aircraft configuration.

VI. Notes

1. Cabin Interior and Seating Configurations must be approved and are listed in AEROC 8.1.AC.1 Section 400 current issue.
2. None.
3. For DHC-8 Model -402 Extra Capacity configuration with passenger seating of up to 90, in addition to an approved Cabin Interior and Seating Configuration the aircraft must be equipped with the Type I FWD emergency exit as defined by the following ModSums,or equivalent:

   -) For aircraft MSN 4455 to MSN 4591: MS 4-458296, MS 4-459035, MS 4-458951 and MS 4-458968.

   -) For aircraft MSN 4592 and subsequent: MS 4-190614, MS 4-458951 and MS 4-458968.

SECTION 6: ADMINISTRATIVE

I. Change Record

Issue	Date	Changes	TC issue
Issue 01	14/03/07	- Page 25, Section 5 III Item 7- Reference to propeller TCDS added	14/03/2007 Initial Issue
Issue 02	22/05/07	- Page 27, Section 5 III Item 13- Take Off Weight for Intermediate Gross Weight option MS 4-308807 corrected	14/03/2007
Issue 03	14/01/10	- Page 1, List of Effective Pages updated - Page 4 – 5, Page number updated from Section 4 III Item 11 and onwards, Section 6 Change Record added - Page 9, Section 2 III Item 8.1 – Fuel Type reference added - Page 10, Section 2 III Item 10 – Model 106 Maneuvering Airspeed added - Page 12, Section 3 – Section number corrected from 2 to 3 - Page 14, Section 3 III Item 5 – Engine Part number Corrected - Page 15, Section 3 III Item 8.1 – Fuel Type reference added - Page 16, Section 3 III Item 10 – Maneuvering Airspeed corrected, Reference for Airspeeds corrected - Page 20, Section 4 III Item 5 – Engine part number corrected - Page 20, Section 4 III Item 7- Aircraft Model number corrected for propeller Model 14SF-15 - Page 21, Section 4 III Item 8.1 – Fuel Type reference added - Page 21-22, Section 4 III Item 10 – Air Speeds updated to include DHC-8-301, 311, 314 and 315 values, Fuel Type reference added - Page 22, Section 4 III Item 13 – Weights reference added - Page 23, Section 4 III Item 21 – Rear Class B baggage compartment Max. Allowable Load corrected - Page 25, Section 5 II Item 6 – “Refer to Note 2” added - Page 25, Section 5 III Item 4 – Height dimension corrected - Page 26, Section 5 III Item 8.1 – Fuel Type reference added - Page 27, Section 5 III Item 19 – Model 402 Maximum Passenger Seating Capacity increase from 78 to 80 - Page 28, Section 5 V – Note 2 added - Page 29 – 30 List of Revisions pages added	14/03/2007
Issue 04	14/12/10	- Page 1, List of Effective Pages deleted - Page 2-5, Page numbers revised - Page 8, Section II item 6 – SC H-01 added - Page 14, Section II renumbered, item 6 – SC H-01 added - Page 19 – Section II renumbered, item 6 – SC H-01 added - Page 24 – Section II renumbered, item 6 – SC H-01 added	14/03/2007
Issue 05	11/02/11	- Page 1, List of Effective Pages deleted - Page 2-5, Page numbers revised - Page 8, Section II item 6 – SC H-01 added - Page 14, Section II renumbered, item 6 – SC H-01 added - Page 19 – Section II renumbered, item 6 – SC H-01 added	14/03/2007

Issue	Date	Changes	TC issue
		- Page 24 – Section II renumbered, item 6 – SC H-01 added	
Issue 06	1/10/12	- Page 9, Special Condition SCA No. 94-12 added - Page 11, Fuel Capacity for Auxiliary Fuel System added - Page 13, Note 2 added - Page 15, Special Condition SCA No. 94-12 added - Page 17, Fuel Capacity for Auxiliary Fuel System added - Page 19, Note 2 added - Page 21, Special Condition SCA No. 94-12 added - Page 23, Fuel Capacity for Auxiliary Fuel System added	14/03/2007
Issue 07	26/02/13	- Page 31, main wheel tire dimension corrected	26/02/2013
Issue 08	18/12/15	- Page 28, para. 7. Operational Suitability Data (OSD) added - Page 32, para. V. Operational Suitability Data (OSD) added	
Issue 09	20/06/2016	- Page 27, para 6. Deviations added with CRI F-17 - Page 29, para 6 and 7 renumbered to 7 resp 8.	17/06/2016
Issue 10 & 11	12/10/2016	- Page 32, para 2. Typo corrected	
Issue 12	03/02/2017	- Page 27, Special Condition F-18 added	
Issue 13	25/09/2019	- Change of TC Holder to De Havilland	25/09/2019
Issue 14	23/03/2021	- Cover sheet and page 7, TC Holder designation updated to De Havilland Aircraft of Canada Limited - Pages 9, 14, 15, 21 typo mistakes on references to FAR 25 subparagraphs corrected - Pages 10, 16, 22 and 23 reference to Propeller type certificate holder updated - Page 27, Conditions for compliance with JAR 25.801 “Ditching” added - Page 27, Equivalent Safety Finding D-14 added - Page 32, DHC-8-402 extra Passenger capacity of 90 configuration added - Page 33, Note 3 added - Page 35, Typos corrected	23/03/2021
Issue 15	07/09/2021	- Pages 9, 15, 21, 29 and 33 Environmental Standards: content for Environmental Standards for Noise updated to refer to EASA Noise TCDSN No. EASA.IM.A.191	07/09/2021
Issue 16	03/02/2023	- Page 33 Cabin Crew Data: clarifications added concerning DHC-8-400 non-Extra Capacity and Extra-Capacity configuration to be considered new type and a variant, respectively, from the cabin crew training and operation point of view.	03/02/2023