European Union Aviation Safety Agency

RESTRICTED TYPE-CERTIFICATE DATA SHEET

No. EASA.IM.A.643

for

CL-215

Type Certificate Holder:

De Havilland Aircraft of Canada Limited

4100 WESTWINDS DR NE

CALGARY AB T3J 4L2

Canada

For Models: CL-215-1A10
CL-215-6B11 (variant CL-215T)
CL-215-6B11 (variant CL-415)

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SECTION 1: MODEL CL-215-1A10

I. General

This data sheet, which is part of the Restricted Type Certificate No. EASA.IM.XXXX, prescribes conditions and limitations under which the product for which the restricted Type Certificate was issued meets the airworthiness requirements of the European Aviation Safety Agency.

1. Type/ Model/ Variant

CL-215-1A10 Amphibious Flying Boat

Aircraft configured such that water or Chemical/Water Mix may be loaded and promptly jettisoned.

The CL-215-1A10 has been produced in five groups: Serial Numbers 1001 to 1030, 1031 to 1050, 1051 to 1065, 1066 to 1080, and 1081 and subsequent. Data in this TCDS that contains no specific reference to any group of serial numbers applies to all groups. (See NOTE 4).

2. Performance Class

A

3. Certifying Authority

TCCA

4. Manufacturer

De Havilland Aircraft of Canada Limited
4100 Westwinds Drive NE, Calgary, AB
T3J 4L2Canada

5. State of Design Authority Certification Application Date

12 March 1965

6. EASA Type Certification Application Date

Unknown

7. State of Design Authority Type Certificate Date

Model CL-215-1A10 Approved 7 March 1969, by the Canadian Department of Transport

8. EASA Type Certification Date

9 September 2003, by ENAC

SECTION 1: MODEL CL-215-1A10- continued

II. Certification Basis

[Note: in the case that there is an Explanatory Note to this TCDS, please insert the following text] "Non-proprietary data contained in selected Special Conditions that are part of the Certification Basis are published in an Explanatory Note to the TCDS with the number: 01. The document is not exhaustive and will be gradually updated. An update of the Explanatory Note will not cause an update of the TCDS."

1. Reference Date for determining the applicable requirements
   15 January 1966

2. State of Design Airworthiness Authority Type Certification Data Sheet No.
   Transport Canada A-86

3. State of Design Airworthiness Authority Certification Basis
   CL-215-1A10 S/N 1001 to 1030

   FAR Part 25, dated February 1, 1965 plus amendment 25-18 dated September 29, 1968 with the deviations recorded in the following documents.

   Canadair Report No. RAO-215-100, Issue 2, dated 15 January 1966, including Revision "A" dated 28 February, 1969, and Revision "B" dated 21 May, 1970, and modified by D.O.T. letter dated 26 February, 1971.

   CL-215-1A10 S/N 1031 to 1125*

   FAR Part 25, dated February 1, 1965 plus amendment 25-18 dated September 29, 1968 with the deviations recorded in the following documents. Canadair Report No. RAO-215-100, Issue 2, dated 15 January 1966, including Revision "A" dated 28 February 1969, Revision "B" dated 21 May, 1970, Revision "C' dated 13 September, 1973 and Revision "C", Addendum 1 dated 27 May, 1974, modified by DOT letter dated 23 April 1974, and by DOT letter dated 9 December 1981.

   * For Aircraft S/N 1058, 1059, 1062 and 1063, following note applies.

      Aircraft S/N 1058 and 1059 are not eligible for Canadian Certificate of Airworthiness until compliance has been shown with requirements FAR 25.813(a) and 25.815. (Reference DOT Telex LIAE 120 dated 17 June 1978).

      Aircraft S/N 1062 and 1063 are not eligible for Canadian Certificate of Airworthiness until compliance has been shown with requirements FAR 25.803,25.809, 25.813(a) and 25.875(b). (Reference DOT Telex LIAE 10 dated 22 January 1979).

SECTION 1: MODEL CL-215-1A10- continued

4. EASA Airworthiness Requirements

CL-215-1A10 S/N from 1001 to 1030
FAR Part 25, dated February 1, 1965 plus amendment 25-18 dated September 29, 1968 and including the deviations recorded in, the following document:

Canadair Report RAO-215-100, Issue 2 dated 15th of January 1966, Revision A dated 28th of February 1969 and Revision B dated 21st of May 1970 modified with D.O.T. letter dated 26th of February 1971.

Compliance with the following requirements has been established:

Ditching provisions of FAR Part 25.801(b) through (e), and 25.807(d). (The requirements of 25.1415(a) through (d) are not applicable, per Report RAO-215-100, Appendix 11, item RU.801).

CL-215-1A10 S/N from 1031 to 1125
FAR Part 25, dated February 1, 1965 plus amendment 25-18 dated September 29, 1968 and including the deviations recorded in, the following document:

Canadair Report RAO-215-100, Issue 2 dated 15th of January 1966, Revision A dated 28th of February 1969, Revision B dated 21st of May 1970, Revision C dated 13th of September 1973 and Revision C Addendum 1 dated 27th of May 1974 with the modifications added with D.O.T. letter dated 23th of April 1974 and with D.O.T. letter dated 9th of December 1981.

Compliance with the following requirements has been established:

Ditching provisions of FAR Part 25.801(b) through (e), and 25.807(d). (The requirements of 25.1415(a) through (d) are not applicable, per Report RAO-215-100, Appendix 11, item RU.801).

5. Special Conditions
See state of origin Airworthiness Authority Certification Basis, Transport Canada TCDS A-86.

6. Exemptions
See state of origin Airworthiness Authority Certification Basis, Transport Canada TCDS A-86.

7. Deviations
See state of origin Airworthiness Authority Certification Basis, Transport Canada TCDS A-86.

8. Equivalent Safety Findings
See state of origin Airworthiness Authority Certification Basis, Transport Canada TCDS A-86.

9. Environmental Protection
ICAO Annex 16, Volume I. For details, see TCDSN EASA.IM.A.643

SECTION 1: MODEL CL-215-1A10- continued

III. Technical Characteristics and Operational Limitations

1. Type Design Definition

D.O.T. Approved Drawing List, Canadair Report No. RAL-215-101.

Eligible Serial Number	S/N 1001 to 1125 with S/N 1058, 1059, 1062, 1063 excluded.
Placards	Placards are listed in the following Canadair Drawings: 215-40053, 215-40440, 215-40443, 215-51004, 215-51137, 215-51311, 215-51312, 215-51314, 215-51317, 215-51387, 215-51402, 215-66000, (See NOTE 3).
Approved Publications	D.O.T. Approved Airplane Flight Manual, Canadair Product Support Publication No. 191 for S/N 1001 to 1030 and Publication No. 291 for S/N 1031 and subsequent. D.O.T. Approved Maintenance Specification, Canadair Product Support Publication No. 295. D.O.T. Approved Drawing List, Canadair Report No. RAL-215-101. D.O.T. Approved Loading Instructions. (See NOTE 1).

2. Description

High wing Amphibious flying boat.

3. Equipment

All Equipment required by the airworthiness requirements as reported in the certification basis must be installed on each delivered aircraft.
In addition, it is required to bring on board the approved AFM

4. Dimensions

Model CL-215		
Span	28.6 m	(93 ft. 11 in.)
Length	19.82 m	(65 ft.)
Height	8.9 m	(29 ft. 3 in.)
Wing Area	100 m2	(1080 sq ft)

5. Engines

Two Pratt & Whitney Canada Double Wasp CA3

6. Auxiliary Power Unit

GPU-2: Andover Motors, Model 204

SECTION 1: MODEL CL-215-1A10- continued

7. Propellers

Manufacturer Hamilton Standard

On aircraft S/N 1001 to 1030 and 1039 to 1125: Intermix in any combination of four types listed below:

Propeller Types 43E60-581 P1
43E60-581 P2
43E60-701
43E60-583 S/N 1001-1125

Blades - Number and Type
Three 6093A-10S (for -581P1 or P2)
or Three 6901S-10 (for -701)
or Three 6903A-10 (for -583) S/N 1001-1125

Diameter Limits Maximum 14 ft. 3 in (4.34 m)
Minimum 13 ft. 11 1/2 in. (4.25 m)

Pitch setting at 72-inch station

For Propeller Type 43E60-581P1, 43E60-581P2, or 43E60-701:
Low pitch stop 9.5 degrees (±0.2 degrees)
Constant speed range 9.5 degrees to 30 degrees
Feathered 81 degrees (±0.5 degrees)

For Propeller Type 43E60-583:
Low pitch stop 9.0 degrees (±0.2 degrees)
Constant speed range 9.0 degrees to 30 degrees
Feathered 81 degrees (±0.5 degrees)

Except for transients, propeller must not be operated in the 1550 to 1750 RPM range.

8. Fluids (Fuel, Oil, Additives, Hydraulics)

Fuel CL-215-1A10
Avgas Grade 100/130 as per CAN 2-3.25-M77 or MIL-G-5572
Avgas Grade 100 LL as per ASTM D910

GPU-2 Same as Aircraft

Oil CL-215-1A10
Engine: All oils reported in PW service Bulletin N. 1183 rev P or subsequent
Auxiliary Unit: MIL-0-6082 grade 1065 or SAE 10W30 Automotive Oil

GPU-2 MIL-0-6082 grade 1065 or SAE 10W30 Automotive Oil

SECTION 1: MODEL CL-215-1A10- continued

9. Fluid Capacities

Fuel Capacity Usable Fuel
4337 L (1146 US Gal) S/N 1001 to 1030
5914 L (1562 US Gal) S/N 1031and subs

Oil Capacity Engines (Each)

	L	US Gal
Total	136,4	36,0
Usable*	116,4	30,7

* Excluding propeller feathering reserve of 7,7 L (2 US Gal.) each engine.

Oil Capacity GPU-2

	L	Imp gal	US Gal
Total	3,4	0,75	0,9

10. Airspeed Limits

	IAS	CAS
	(knots)	(knots)
VMO (maximum Operating) S.L. to 12,000 ft	188	190
12,000 feet to 20,000 ft	158	160
VFE (Flaps Extended at 10°)	138	140
(Flaps Extended at 25° for land operation and overwater operation)	110	112
(Flaps Extended at 25°* For water operation)	114	116
* Applicable to A/C 1056 and subsequent		
VA (Maneuvering Speed)		
For MTOM = 16329 kg (36000 lb) water operation only	126	127
For MTOM = 17100 kg (37700 lb) water operation only**	128	129
For MTOM = 19731 kg (43500 lb) land operation only	149	150
For MTOM = 19731 kg (43500 lb) Lift off and flap extended at 15° water operation only	131	133
**Refers to Serial Numbers 1003, 1007, 1008, 1009, 1012, 1017, 1018, 1020, 1031 and subsequent, and aircraft Serial Number 1001 through 1030 fitted with additional buoyancy compartment in accordance with Canadair Service Bulletin Number CL215-124.		
VLE (Maximum Speed-Landing Gear Extended)	129	130

SECTION 1: MODEL CL-215-1A10- continued

VLO (Maximum Speed-Landing Gear Operation)	129	130
VMCA (Minimum Control Speed in the air with Automatic Propeller Feathering Operative)	86	85
VLL (Maximum speed at which Landing lights may be extended or used)***	129	130
*** not applicable to A/C 1081 and subsequent		
VWD (Maximum Speed at which water doors may be opened or operated in flight)	129	130
Maximum speed on Water with Probes extended (water speed)	80 90****	
**** Refers to aircraft S/N 1051 and subsequent and aircraft which embody Service bulletin CL215-203.		
See AFM as listed in Approved Publications.		

11. Flight Envelope

See Approved Airplane Flight Manual

12. Operating Limitations

12.1 Approved Operations

Maximum Operating Altitude (Pressure Altitude)	Take-off and Landing:	8000 feet
	Enroute:	20000 feet
	Water Pick-up:	5000 feet 8000 feet*

(*)Refers to aircraft S/N 1051 and subsequent and aircraft which embody Canadair Service bulletin CL215-203.

Control Surface Movements	Controls to be rigged in accordance with the following Canadair Drawings: (a) P215-90014 Diagram Aileron Controls. (b) P215-90015 Diagram Elevator Controls. (c) P215-90016 Diagram Rudder Controls.
Engine limitation:	see approved AFM

12.2 Other Limitations

Dispatch into known icing conditions is prohibited

SECTION 1: MODEL CL-215-1A10- continued

13. Maximum Certified Masses

	CL 215-1A010	
	kg	lbs
Ramp	19731	43500
(Land Operation)		
Ramp	16465	36300
(Water Operation)	17236*	38000*1*
Take off	19731	43500
(Land Operation)		
Take off	16329	36000
(Water Operation)	17100	37700*1*
Landing	15604	34400
(Land Operation)	16783	37000*2*
Landing	16103	35500
(Water Operation)	16783	37000*3*
Zero fuel	18597	41000
(Land Operation)		
Zero fuel	18597	41000
(Water Operation)		

[a] See AFM, maximum weights vary with serial numbers and modifications.

For water Bomber configuration, including Chemical Foam

	kg	lbs
Touch down for water pick-up	15195	33500
	16103	35500*4*
Lift off following water pick-up	19731	43500

[b] See AFM, maximum weights vary with serial numbers and modifications.

1 Refers to Serial Numbers 1003, 1007, 1008, 1009, 1012, 1017, 1018, 1020, 1031 and subsequent, and aircraft Serial Number 1001 through 1030 fitted with additional buoyancy compartment in accordance with Canadair Service Bulletin Number CL215-124.
*2*Refers to S/N 1056 to 1125 which incorporate Canadair Service Bulletin CL215-376
3 Refers to aircraft 1056 and subsequent.
4 Refers to aircraft Serial Numbers 1051 and subsequent, and aircraft which incorporate New Probe System to Canadair Service Bulletin CL215-203.

14. Centre of Gravity Range

See approved Airplane Flight Manual

15. Datum

The reference datum is located 300 inches (762 cm) forward of the keyhole slot in the chine angle on both sides of the fuselage at station 300.0.

SECTION 1: MODEL CL-215-1A10- continued

16. Mean Aerodynamic Chord (MAC)

The leading edge of the MAC is 366.57 inches (931.08 cm) aft of the reference datum.
The length of the MAC is 139.4 inches (354.07 cm).

17. Levelling Means

Longitudinal: Lugs on left hand nose wheel well sidewall at stations 170.0 and 182.5.
Lateral: Lugs on front face of nose wheel well rear bulkhead, station 222.50.

18. Minimum Flight Crew

2 (Pilot and Co-Pilot)

19. Minimum Cabin Crew
(in accordance with the emergency evacuation test)

0

20. Maximum Seating Capacity

10 (including two crew) see Note 4

21. Baggage/ Cargo Compartment

General Cargo
Load distribution must not exceed 150 lb./sq. ft. (732.36 kg/m2), nor 500 lbs. (226.8 kg) per running foot.
For compartment limitations, refer to the following Canadair Reports:
RAW-215-110 for S/N 1001 to 1030.
RAW-215-146 for S/N 1031 to 1055.
RAW-215-145 for SAR Aircraft S/N 1031 to 1038.
RAW-215-190 for S/N 1056 and subsequent.

Jettisonable Liquid Cargo:
Water Bomber Configuration: Two tanks at Station 403.8, maximum water load of 6000 lb. (2722 kg) each. Volume 706 gallons (2673 L) each.

Additional Cargo Limitations
Carriage of general cargo in the cabin is prohibited when the water or chemical concentrate or chemical/water mix tanks are in use.
(b) Landing with jettisonable water or chemical/water load in the tanks is prohibited.

22. Wheels and Tyres

Nose Wheel Tyre: 6.50x10 Type III 10 ply,
Main Wheel Tyre: 15.00x16 Type III 16 ply,

23. ETOPS

Not applicable

SECTION 1: MODEL CL-215-1A10- continued

IV. Operating and Service Instructions

1. Airplane Flight Manual (AFM)

D.O.T. Approved Airplane Flight Manual, Canadair Product Support Publication No. 191 for S/N 1001 to 1030 and Publication No. 291 for S/N 1031 and subsequent.

2. Instructions for Continued Airworthiness and Airworthiness Limitations

D.O.T. Approved Standard Maintenance Specification, Canadair Product Support Publication No. 295.

3. Weight and Balance Manual (WBM)

Canadair Weight and Balance Reports RAW-215-xxx, for each individual aeroplane

V. Notes

See notes under section 2

SECTION 2: MODEL CL-215-6B11

I. General

1. Type/ Model/ Variant

Model CL-215-6B11 (CL-215T Variant) (Restricted Category)
The data in this Type Approval apply to Aircraft model CL-215-1A10 retrofitted with the Canadair Modification Kit described in Report RAD-215T-103 (Kit Specification for the Retrofit of CL-215-piston aircraft with turboprop engines). After embodiment of the kit, affected A/C shall be redesignated as model CL-215-6B11 (CL-215T Variant).

Model CL-215-6B11 (CL-415T Variant) (Restricted Category)
Turboprop engines since initial built

Restricted Category Aircraft configured such that water or Chemical/Water Mix may be loaded and promptly jettisoned.

2. Performance Class

A

3. Certifying Authority

TCCA

4. Manufacturer

De Havilland Aircraft of Canada Limited
4100 Westwinds Drive NE, Calgary, AB
T3J 4L2Canada

5. State of Design Authority Certification Application Date

Unknown

6. EASA Type Certification Application Date

March 16, 1994 for CL-215-6B11 (CL-215T and CL-415 variant) to ENAC

7. State of Design Authority Type Certificate Date

Model CL-215-6B11 (CL-215T Variant), Restricted Category, Approved March 28, 1991 by the Canadian Department of Transport (DOT)

Model CL-215-6B11 (CL-415T Variant), Approved June 24, 1994 by the Canadian Department of Transport (DOT)

8. EASA Type Certification Date

October 27, 1994 for CL-215-6B11 (CL-215T and CL-415 variant) issue by ENAC

SECTION 2: MODEL CL-215-6B11- continued

II. Certification Basis

[Note: in the case that there is an Explanatory Note to this TCDS, please insert the following text] "Non-proprietary data contained in selected Special Conditions that are part of the Certification Basis are published in an Explanatory Note to the TCDS with the number: 01. The document is not exhaustive and will be gradually updated. An update of the Explanatory Note will not cause an update of the TCDS."

1. Reference Date for determining the applicable requirements
   Unknown

2. State of Design Airworthiness Authority Type Certification Data Sheet No.
   TCCA A-86

3. State of Design Airworthiness Authority Certification Basis

   CL-215-1A10, and CL-215-6B11 (CL-215T & CL-415 Variants)
   Compliance with the following requirements has been established:

   Ditching provisions of FAR Part 25.801(b) through (e), and 25.807(d). (The requirements of 25.1415(a) through (d) are not applicable, per Report RAO-215-100, Appendix II, item RU.801).

   CL-215-6B11 (CL-415 Variant)
   Transport Canada Special Conditions (Airworthiness)
   a) SCA 93-4 High Intensity Radiated Fields (HIRF)
   b) SCA 93-5 Lightning Protection

4. EASA Airworthiness Requirements

   CL-215-6B11 (CL-215T Variant), and CL-215-6B11 (CL-415 Variant)
   FAR Part 25, dated February 1, 1965 plus amendment 25-18 dated September 29, 1968 and selected requirements of FAR Part 25 including amendments 25-1 through 25-61 and of Airworthiness Manual Chapters 525 and 516, as specified in, and including the deviations recorded in, the following document:

   Canadair Report RAO-215-100, Issue 2, Revision H, dated September 19, 1991 for CL-215-6B11 (CL-215T Variant) with S/N 1056, 1057, 1061, 1080, 1109, 1113 to 1122, 1124, 1125.

   Canadair Report RAO-215-100, Revision I-1, for CL-215-6B11 (CL-215T Variant) with S/N 1081 to 1090, 1092 to 1108, 1110 to 1112, 1123.

   Canadair Report RAO-215-100, Issue 2 Revision I, for CL-215-6B11 (CL-415 Variant)

   Compliance with the following requirements has been established:

   SFAR 27-2, Environmental Protection Agency Final Venting and Exhaust Emission Requirements For Turbine Powered Aircraft.

SECTION 2: MODEL CL-215-6B11- continued

Noise requirements of FAR Part 36 with Amendments 36-1 through 36-17, change 22 Appendices A, B, and C and ICAO Annex 16, Chapter 3.

Findings of Equivalent Safety:
a) FAR Part 25.901(b)(1)(i) Installation
b) FAR Part 25.1045(e) Cooling Test Procedures

Ditching provisions of FAR Part 25.801(b) through (e), and 25.807(d). (The requirements of 25.1415(a) through (d) are not applicable, per Report RAO-215-100, Appendix II, item RU.801).

CL-215-6B11 (CL-415 Variant)
Transport Canada Special Conditions (Airworthiness)
SCA 93-4 High Intensity Radiated Fields (HIRF)
SCA 93-5 Lighting Protection

5. Special Conditions

See State of Origin Airworthiness Authority Certification Basis, Transport Canada TCDS A-86.

6. Exemptions

See State of Origin Airworthiness Authority Certification Basis, Transport Canada TCDS A-86.

7. Deviations

See State of Origin Airworthiness Authority Certification Basis, Transport Canada TCDS A-86.

8. Equivalent Safety Findings

See State of Origin Airworthiness Authority Certification Basis, Transport Canada TCDS A-86.

9. Environmental Protection

ICAO Annex 16, Volume I. For details, see TCDSN EASA.IM.A.643

III. Technical Characteristics and Operational Limitations

1. Type Design Definition

CL-215-6B11 (CL-215T Variant) Restricted Category

D.O.T.Approved Drawing List, Canadair Report No. RAL-215-xxx (for each individual aircraft) (CL-215-1A10) in addition to the following Canadair Modification Summaries (to achieve model CL-215-6B11):
215T001A, 215T001B, 215T001C, 215T001D, 215T003, 215T004, 215T011, 215T012, 215T013, 215T016, 215T017, 215T020A, 215T020B, 215T020C, 215T020D, 215T021, 215T024, 215T025, 215T026.

Eligible Serial Number S/N 1056 to 1125 with retrofitted turboprop engines

SECTION 2: MODEL CL-215-6B11- continued

Placards	Substitution and/or removal of existing placards on CL-215-1A10 in addition to new placards, as specified in Canadair Report MBS-215T-111 required to achieve model CL-215-6B11 aircraft (refer to Approved Publications).
Approved Publications	D.O.T. Approved Airplane Flight Manual, Canadair Product Support Publication No. 391. D.O.T. Approved Maintenance Specification, Canadair Product Support Publication No. 395. D.O.T. Approved Drawing List, Canadair Report No. RAL-215-xxx (for each individual aircraft) (CL-215-1A10) in addition to the following Canadair Modification Summaries (to achieve model CL-215-6B11): 215T001A, 215T001B, 215T001C, 215T001D, 215T003, 215T004, 215T011, 215T012, 215T013, 215T016, 215T017, 215T020A,215T020B, 215T020C, 215T020D, 215T021, 215T024, 215T025, 215T026. D.O.T. Approved Loading Instructions (see NOTE 1).

CL-415 Variant

Eligible Serial Number	Serial Number 2001 to 2999
Placards	Required placards are specified in Canadair report MBS-215T-105
Approved Publications	D.O.T. Approved Airplane Flight Manual Product Support Publication No. 491 D.O.T. Approved Airworthiness limitations, scheduled inspections and maintenance intervals sections of Product Support Publication No. 495. D.O.T. Approved Drawing List and Modification Summary listed in Canadair Report No. RAL-415-101 which defines the build standard of the production CL-415. D.O.T. Approved Loading Instructions (see NOTE 1).

2. Description

High wing Amphibious flying boat.

SECTION 2: MODEL CL-215-6B11- continued

3. Equipment

All Equipment required by the airworthiness requirements as reported in the certification basis must be installed on each delivered aircraft.
In addition it is required to bring on board the approved AFM

4. Dimensions

CL-415 Variant		
Span	28.6 m	(93 ft. 11 in.)
Length	19.82 m	(65 ft.)
Height	8.9 m	(29 ft. 3 in.)
Wing Area	100 m2	(1080 sq ft)

5. Engines

Model CL-215-6B11 (CL-215T and CL-415 variants) Restricted Category

Two Pratt & Whitney Canada
PW123AF (Turboprop) with P&WC SB 21211 incorporated. (see Note 5)

6. Auxiliary Power Unit

Not Applicable

7. Propellers

CL-215T Variant

Manufacturer: Hamilton Standard

Propeller Type: Two 14SF-17 (four-bladed) or
Two 14SF-19 (four-bladed)

Diameter: 13 feet, 1/4 inch (3.97m)

Pitch setting at 42-inch station (1.06 m):

Reverse: -10° ± 1.17°
Feathered: 86.0°

CL-415 Variant

Manufacturer: Hamilton Standard

Propeller Type: Two 14SF-17 (four-bladed) or
Two 14SF-19 (four-bladed)

Diameter: 13 feet, 1/4 inch (3.97m)

SECTION 2: MODEL CL-215-6B11- continued

Pitch setting at 42-inch station (1.06 m):

Reverse: -10° ± 1.17° (dynamic conditions)
-13.6° to -15.6° (reverse pitch stop position)
Feathered: 86.0°

8. Fluids (Fuel, Oil, Additives, Hydraulics)

CL-215-6B11 (CL-215T and CL-415 variants) Restricted Category

Fuels conforming to any of the following specifications are approved for use.

Mixing of fuels is permitted.

Tipo	Specifiche		
Kerosene	CANADA	U.S.A.	U.K.
Jet A, A1 JP8	 3-GP-23	ASTM D 1655 MIL-T-83133	D. Eng RD2494 D. Eng RD2453
Wide Cut* Jet B JP4	 CGSB 3.22 CGSB 3.22	 ASTM D 1655 MIL-T-5624	 D. Eng RD2486 D. Eng RD2486
High Flash JP5	 3-GP-24	 MIL-T-5624	 D. Eng RD2452

*NOTE: Refer to Flight Manual Limitations Section for operating limits for JP4/Jet B fuel.

Oil CL-215-6B11 (CL-215T and CL-415 variants)

Engine: All MIL-L-23699, type II oils and Castrol 4000

9. Fluid Capacities

CL-215-6B11 (CL-215T and CL-415 variants)

Fuel Capacity Usable Fuel

Pressure refueling:	5796 L (1530 US Gal (Total Capacity)
Gravity refueling:	5914 L (1562 US Gal) (Total Capacity)
Maximum refuel pressure:	50 psig.

Oil Capacity Engines: (Each)

	L	US Gal
Total	19,3	5,1
Usable	3,5	0,9

10. Airspeed Limits

SECTION 2: MODEL CL-215-6B11- continued

CL-215-6B11 (CL-215T and CL-415 variants) Restricted Category

	IAS (knots)	CAS (knots)
VMO (maximum Operating) S.L. to 20,000 feet	187	190
VFE (Flaps Extended at 10°)	138	140
(Flaps Extended at 15°)	138	140
(Flaps Extended at 25°)	114	116
(Flaps Extended at 25°*)	116	117
(Flaps Extended at 25°**)	119	120
* For CL-215-6B11 (CL-215T Variant) Refer to A/C S/N 1056 and subsequent incorporating Canadair SB 215-376		
** For CL-215-6B11 (CL-415 Variant).		
VA (Maneuvering Speed) See Flight Manual for variation of VA with aircraft weight.		
VLE (Maximum Speed-Landing Gear Extended)	129	130
VLO (Maximum Speed-Landing Gear Operation)	129	130
VMCA (Minimum Control Speed in the air with Automatic Propeller Feathering Operative)	84	84
VLL (Maximum speed at which Landing lights may be extended or used)***	129	130
*** not applicable to A/C S/N 1081 and subsequent		
VWD (Maximum Speed at which water doors may be opened or operated in flight)	129	130
Maximum speed on Water with Probes extended (water speed)	80 ****90	
**** Refers to aircraft S/N 1051 and subsequent and aircraft which embody Service Bulletin CL215-203.		
See AFM as listed in Approved Publications.		

11. Flight Envelope

See Approved Airplane Flight Manual

12. Operating Limitations

SECTION 2: MODEL CL-215-6B11- continued

12.1 Approved Operations
CL-215-6B11 (CL-215T and CL-415 variants)

Maximum Operating Altitude (Pressure Altitude)	Take-off and Landing:	10000 feet
	Enroute:	20000 feet
	Water Pick-up:	8000 feet*
		5000 feet

* A/C incorporating Canadair Service Bulletin CL215-203

Engine limitations

Model CL-215-6B11 (CL-215T and CL-415 variants) Restricted Category

CL-215T Variant

CL-215T Variant	Torque (1)	Np (2)	ITT	NH	Oil Temp (3)	Oil Press	NL
	(%)	(RPM)	(ºC)	(%)	(ºC)	(psig)	(%)
Take off	100 (5) (6)	1200 (5)	800	102.7	0 to 115	55 to 65	104.0
Max Continuous	90 (5) 96 (7)	1200 (5) 1125 (7)	800	102.7	0 to 115	55 to 65	104.0
Min in flight	N/A	N/A	N/A	(4)	-40 to 115	55 to 65	N/A
Min on ground	N/A	N/A	N/A	N/A	-40 to 115	55 to 65	N/A
Max reserve	N/A	1115	800	N/A	0 to 115	55 to 65	N/A
Transient	115.2 (8) (20 sec)	1320	840 (20 sec)	103.7 (20 sec)	125 (20 min)	200	104.3 (20 sec)
Start-up	N/A	N/A	950 (5 sec)	STARTER OFF BY 45.8	-40	40 to 200	N/A

NOTE:

1. Maximum torque with feathered propeller is 50%
   Torque meter gives a flickering value with control lever in IDLE/FEATHER position
2. Continuous operation with Np between 500 and 780 is prohibited
3. For correct operation of the de-ice air intake system oil temperature shall be kept above 45 ºC
   Oil temp must be above 0 ºC for engine operation modes higher than FLIGHT-IDLE
4. The use of HIGH CAM is restricted to ground operation.
5. Take off and MCP performances are limited by OAT and altitude (See Performance section, Engine Torque limits of the applicable AFM)
6. Operational Rating that are limited to 5 minutes in normal operation can be extended to 10 minutes in OEI condition. Considering the low occurrence of the OEI operation, specific limitation or special inspection are not required.
7. Maximum torque is 96% for Np equal or below 1125 RPM

SECTION 2: MODEL CL-215-6B11- continued

8. On airplanes incorporating Canadair Service Bulletin 215-3100: the transient torque limit is 122.4% (20 sec)

For further limitations refer to the approved AFM

CL-415 Variant

CL-415 Variant	Torque (1)	Np (2)	ITT	NH	Oil Temp (3)	Oil Press	NL
	(%)	(RPM)	(ºC)	(%)	(ºC)	(psig)	(%)
Take off	100 (5) (6)	1210 (5)	800	102.7	0 to 115	55 to 65	104.0
Max Continuous	90 (5) 96 (7)	1200 (5) 1125 (7)	800	102.7	0 to 115	55 to 65	104.0
Min in flight	N/A	N/A	N/A	(4)	-40 to 115	55 to 65	N/A
Min on ground	N/A	N/A	N/A	N/A	-40 to 115	55 to 65	N/A
Max reserve	N/A	1115	800	N/A	0 to 115	55 to 65	N/A
Transient	122 (20 sec)	1320	840 (20 sec)	103.7 (20 sec)	125 (20 min)	100	104.0 (20 sec)
Start-up	N/A	N/A	950 (5 sec)	STARTER OFF BY 48.0	-40	40 to100	N/A

NOTE:

1. Maximum torque with feathered propeller is 50%
   Torque meter gives a flickering value with control lever in IDLE/FEATHER position
2. Continuous operation with Np between 500 and 780 is prohibited
3. For correct operation of the de-ice air intake system oil temperature shall be kept above 45 ºC
   Oil temp must be above 0 ºC for engine operation modes higher than FLIGHT-IDLE
4. The use of HIGH CAM is restricted to ground operation.
5. Take off and MCP performances are limited by OAT and altitude (See Performance section, Engine Torque limits of the applicable AFM)
6. Operational Rating that are limited to 5 minutes in normal operation can be extended to 10 minutes in OEI condition. Considering the low occurrence of the OEI operation, specific limitation or special inspection are not required.
7. Maximum torque is 96% for Np equal or below 1125 RPM

For further limitations refer to the approved AFM

12.2 Other Limitations

Dispatch into known icing conditions is prohibited

SECTION 2: MODEL CL-215-6B11- continued

13. Maximum Certified Masses

	CL 215 T Variant		CL 415 T Variant	
	kg	lbs	kg	lbs
Ramp (Land Operation)	(a)	(a)	(a)	(a)
Ramp (Water Operation)	(a)	(a)	(a)	(a)
Take off (Land Operation)	19731	43500	19890	43850
Take-off (Water Operation)	17168	37850	17168	37850
Landing (Land Operation)	(a)	(a)	(a)	(a)
Landing (Water Operation)	(a)	(a)	(a)	(a)
Zero fuel f (Land Operation)	(a)	(a)	(a)	(a)
Zero fuel (Water Operation)	(a)	(a)	(a)	(a)

(a) See AFM, maximum weights vary with serial numbers and modifications.

For water Bomber configuration, including Chemical Foam

	CL 215 T Variant		CL 415 T Variant	
	kg	lbs	kg	lbs
Touch down for water pick-up	(b)	(b)	(b)	(b)
Lift off following water pick-up	(b)	(b)	(b)	(b)

(b) See AFM, maximum weights vary with serial numbers and modifications.

14. Centre of Gravity Range

See approved Airplane Flight Manual

15. Datum

The reference datum is located 300 inches (762 cm) forward of the keyhole slot in the chine angle on both sides of the fuselage at station 300.0.

16. Mean Aerodynamic Chord (MAC)

The leading edge of the MAC is 366.57 inches (931.08 cm) aft of the reference datum.
The length of the MAC is 139.4 inches (354.07 cm).

17. Levelling Means

Longitudinal: Lugs on left hand nose wheel well sidewall at stations 170.0 and 182.5.
Lateral: Lugs on front face of nose wheel well rear bulkhead, station 222.50.

SECTION 2: MODEL CL-215-6B11- continued

18. Minimum Flight Crew
2 (Pilot and Co-pilot)

19. Minimum Cabin Crew
0

20. Maximum Seating Capacity
Model CL-215-6B11 (CL-215T and CL-415 variants)
10 (including two crew). Limited by approved seating arrangements. In particular, see NOTE 4.

21. Baggage/ Cargo Compartment
Model CL-215-6B11 (CL-215T)
General Cargo
Load distribution must not exceed 150 lb./sq.ft. (732.36 kg/m2), nor 500 lbs. (226.8 kg) per running foot. For compartment limitations, refer to the following Canadair Report: RAW-215T-102

Jettisonable Liquid Cargo:
Water Bomber Configuration: Two tanks at Station 403.8, maximum water load of 6000 lb. (2722 kg) each. Volume 706 gallons (2673 L) each.

Additional Cargo Limitations
(a) Carriage of general cargo in the cabin is prohibited when the water or chemical concentrate or chemical/water mix tanks are in use.
(b) Landing with jettisonable water or chemical/water load in the tanks is prohibited.

Model CL-215-6B11(CL-415 variants)
General Cargo
Load distribution must not exceed 150 lb./sq. ft. (732.36 kg/m2), nor 500 lbs. (226.8 kg) per running foot. For compartment limitations, refer to the following Canadair Report: RAW-415-102

Jettisonable Liquid Cargo:
Water Bomber Configuration: water tank capacity

	Volume			Weight	
	L	Imp Gal	US Gal	kg	lb
Inboard tanks (2)	3173	698	838	3167	6980
Outboard tanks (2)	2964	652	783	2957	6520
All tanks (4)	6137	1350	1621	6124	13500

Additional Cargo Limitations
(a) Carriage of general cargo in the cabin is prohibited when the water or chemical concentrate or chemical/water mix tanks are in use.
(b) Landing with jettisonable water or chemical/water load in the tanks is prohibited.

SECTION 2: MODEL CL-215-6B11- continued

22. Wheels and Tyres

Nose Wheel Tyre:	6.50*10 Type III 10 ply,
Main Wheel Tyre:	15.00*16 Type II 16 ply,

23. ETOPS

Not applicable

IV. Operating and Service Instructions

1. Airplane Flight Manual (AFM)

CL-215T Variant

D.O.T. Approved Airplane Flight Manual, Product Support Publication No. 391

CL-415 Variant

D.O.T. Approved Airplane Flight Manual, Product Support Publication No. 491

2. Instructions for Continued Airworthiness and Airworthiness Limitations

CL-215T Variant

D.O.T. Approved Maintenance Specification, Product Support Publication No. 395.

CL-415 Variant

D.O.T. Approved Airworthiness limitations, scheduled inspections and maintenance intervals sections of Product Support Publication No. 495.

3. Weight and Balance Manual (WBM)

Canadair Weight and Balance Reports RAW-215T-xxx, for each individual aeroplane
Canadair Weight and balance Reports RAW-415-xxx, for each individual aeroplane

SECTION 2: MODEL CL-215-6B11- continued

V. Notes

Note 1: The current Weight and Balance Report, containing the list of equipment included in the approved empty weight and loading instructions, must be provided for each aircraft.

Note 2: All required placards must be installed in the specified locations

Note 3: The aircraft must be operated in accordance with all sections of the Approved Flight Manual as listed in the Approved Publications.

Note 4 Carriage of Persons

The carriage of persons in the cabin of Restricted Category Aircraft is only permitted when:

i. Such persons are Cargo Handlers or persons employed in support of the operation; and

ii. The water tanks are not in use.

For CL-215T and CL-415
Usage of Mirabel Aero Service Inc. Model 430 Flight Engineer Seat is permitted only by personnel supporting firefighting operations

Note 5 Every CL-415 manufactured and every CL215T conversion after June 1994 must have PW123AF engines with SB 21211 incorporated or later superseding SB. For CL215T converted before June 1994 if SB 21211 is not incorporated on both engines then both engines must have SB 21113 and the aircraft must have SB 215-A3030 until both engines incorporate SB 21211 or later superseding SB.

Note 6 Document RAO-215-100 describes the evolution of the certification basis with the following issues:
RAO-215-100, issue NC, dated 12 March 1965, with revision letter C, Add. 1
RAO-215-100, issue 2, revision H, dated September 1991, with supplement 1
RAO-215-100 issue 2, revision I, dated June 1994, with supplement 2

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

AFM	Airplane Flight Manual
APU:	Auxiliary Power Unit
APR:	Automatic Performance Reserve
AWO:	All Weather Operation|
CRI:	Certification Review Item
CS:	Certification Specification
EASA:	European Aviation Safety Agency
ENAC	Ente Nazionale per l'Aviazione Civilie
ESF:	Equivalent Safety Finding
FAA:	Federal Aviation Administration
GPU	Ground Power Unit
ICAO:	International Civil Aviation Organization
JAR:	Joint Aviation Requirement
MMEL:	Master Minimum Equipment List
MEL:	Minimum Equipment List|
NPA:	Notice of Proposed Amendment
OSD:	Operational Suitability Data|
INT/POL:	JAA Interim Policy
RVSM:	Reduced Vertical Separation Minima
SB:	Service Bulletin
SC:	Special Condition
S/N:	Serial Number
TCCA:	Transport Canada Civil Aviation
TCDS:	Type Certificate Data Sheet
TCDSN:	Type Certificate Data Sheet for Noise

II. Type Certificate Holder Record

Prior to 1st October 2016: Bombardier Inc.
Until 15 December 2024: Viking

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	29 June 2024	Initial Issue	Initial Issue, 29 June 2017
Issue 02	15 December 2024	Change of TC holder	15 December 2024

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