European Aviation Safety Agency

EASA

TYPE-CERTIFICATE
DATA SHEET
No. IM.A.023

Type Certificate Holder:
BOMBARDIER INC.
P. O. Box 6087
Station Centre-Ville
Montreal, Quebec
Canada H3C 3G9

For aircraft: CL-600-1A11 (600)
CL-600-2A12 (601 Variant)
CL-600-2B16 (601-3A Variant)
CL-600-2B16 (601-3R Variant)
CL-600-2B16 (604 Variant)
CL-600-2B19 (Regional Jet Series 100)
CL-600-2C10 (Regional Jet Series 700, 701 & 702)
CL-600-2D15 (Regional Jet Series 705)
CL-600-2D24 (Regional Jet Series 900)
CL-600-2E25 (Regional Jet Series 1000)

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SECTION 1: GENERAL (ALL MODELS)

1. Data Sheet No: IM.A.023

2. Airworthiness Category: Large Aeroplanes

3. Performance Category: A

4. Certifying Authority:

Transport Canada Civil Aviation
Aircraft Certification Branch (AARD)
330 Sparks street
Tower “C” Place de Ville
Ottawa, Ontario K1A 0N8
Canada

5. Type Certificate Holder:

Bombardier Inc.
P. O. Box 6087
Station Centre-Ville
Montreal, Quebec
Canada H3C 3G9

6. Aircraft designations

The following provides a matrix with all BA CL-600 models and their corresponding marketing / common designations.

Model	Series or Variant	Marketing / Common Designation
CL-600-1A11	600	Challenger 600
CL-600-2A12	601 Variant	Challenger 601
CL-600-2B16	601-3A Variant	Challenger 601-3A
CL-600-2B16	601-3R Variant	Challenger 601-3R
CL-600-2B16	604 Variant	Challenger 604 & 605
CL-600-2B19	Regional Jet 100	Regional Jet 200 / Challenger 850 / CRJ SE
CL-600-2B19	Regional Jet 440	-
CL-600-2C10	Regional Jet 700	-
CL-600-2C10	Regional Jet 701	-
CL-600-2C10	Regional Jet 702	-
CL-600-2D24	Regional Jet 900	-
CL-600-2D15	Regional Jet 705	-
CL-600-2E25	Regional Jet 1000	

SECTION 2: CL-600-2B19 (Regional Jet Series 100) See note 5

I. General

1. Aeroplane: Regional Jet Series 100

II. Certification Basis

1. Reference Application Date for TCCA Certification: 28 March 1988
2. TCCA Certification Date: 31 July 1992
3. EASA (JAA) Validation Application Date: 27 June 1989
4. EASA Certification Date: 15 January 1993
   (Date of first TC issuance within EU MS by LBA Germany)
5. TCCA Certification Basis:

   Refer to TCCA Type Certificate Data Sheet No: A-131
6. EASA Certification Basis:

   JAA Airworthiness Requirements:

   JAR 25 Large Aeroplanes, Change 13, 05 October 1989

   Compliance with the following optional requirements has been established:

   Ditching provisions of JAR 25.801 when the safety equipment requirements of JAR 25.1411 and the ditching equipment requirements of JAR 25.1415 are satisfied.

   Ice Protection of JAR 25.1419

   JAA Special Conditions:

SC C-10	Discrete Gust (ref. CRI C-10 and NPA 25C-205, issue Feb 1990)
SC D-2	Landing Gear Warning (ref. CRI D-2 and NPA 25D-162, Rev. 1)
SC D-3	Terminology “Resistant to Fire” (ref. CRI D-3 and NPA 25D-181, Rev. 3)
SC D-8	Cargo and Service Doors (ref. CRI D-8)
SC F-3	Effect of External Radiation upon Aircraft System (ref. CRI F-3)
SC F-4	Lightning Protection Indirect Effects (ref. CRI F-4)
SC F-8	Miscellaneous Electrical Requirements CRI F-9 and NPA 25D, F-191, Rev. 2)
SC F-9	Electrical Standby Power (ref. CRI F-9 and NPA 25F-179, Rev. 4)
SC H-1	Enhanced Airworthiness Programme for Aeroplane System – ICA on EWIS (ref. CRI H-1000-01) – see note 8

   JAA Exemptions:

JAR 25.785(h)	Location of Flight Attendant’s Seat (ref. CRI D-15)
JAR 25.562 (c)(5)	Head Injury Criterion (ref. CRI C-19)
JAR 25.1441(a)	Oxygen Requirements Cross-reference to National
JAR 25.1447(b)	Operational Regulations (ref. CRI F-14)
JAR 25.1447(c)	

JAA Equivalent Safety Findings:

JAR 25.783(f)	Doors (ref. CRI D-12)
JAR 25.813(c)(1)	Emergency Exit Access (ref. CRI D-13)
JAR 25.811(d)(2)	Emergency Exit (ref. CRI D-14)
JAR 25.677(b)	Trim Indication (ref. CRI D-7)
JAR 25.621	Critical Casting Factors (ref. CRI Post D-01)

JAA Elect to Comply Standards:

SC B-3	Accelerate Stop and Related Performance Matters (ref CRI B-3 and NPA 25B, D, G-244, March 1992)
SC B-4	Braking Performance (ref CRI B-4)
SC C-11	Discrete Source Damage (ref CRI C-11 & NPA 25C-213)
SC D-10	Flap Gates (ref. CRI D-10 and NPA 25B-238)
SC K-1	All Weather Operations (ref. CRI K-1)

JAA Environmental Standards:

Noise: Refer to Canadair Report RAU-601R-133, -ICAO Annex 16, Noise Certificate and Airplane Flight Manual CSP A-012

Additional National Design Requirements (ANDR):

Refer to CRI A-2 in Conjunction with CRI's A-2.1 through A-2.12

III. Technical Characteristics and Operational Limitations

The CL-600-2B19 Regional Jet, manufactured by Bombardier Aerospace, is a nominal 50 passenger, five crew member, twin turbofan passenger aircraft, developed from the CL-600-2B16 Challenger Aircraft.

The aircraft is certified for a maximum altitude of 41,000 feet and a maximum design airspeed of March 0.85. The maximum operating altitude for take-off and landing is 10,000 feet. Refer to the approved AFM for operating altitudes above 10,000 feet. The airframe is of a same monocoque design, using lightweight aluminum alloys, alloy steels, stainless steels, titanium and composite materials. It has a low, high swept airfoil, and tricycle landing gear.

1. EASA/JAA Type Design Definition:

   Report RAZ-601R-109, JAA Build Standard Definition.

2. Engines

   Two General Electric CF34-3A1 Turbofan Engines or two General Electric CF34-3B1.

   Appropriate National Authority Type Certificate or FAA Type Certificate E15NE and associated Type Certificate Data Sheet.

   Engine may be intermixed in accordance with AFM (CSP A-012).

Engine Limits:

Refer to the Airplane Flight Manual (CSP A-012)

3. Fuel

Type	SPECIFICATION		
	Canada	USA	UK
Kerosene JET A, A-1 JP8	 CAN 2 – 3.23 3-GP-23	 ASTM D1655 MIL-DTL-83133	 Def Stan 91-91 Def Stan 91-87
High Flash JP5	 3-GP-24	 MIL-DTL-5624	 Def Stan 91-86

Note: Fuel additives - See AFM as listed in Approved Publications
For additional approved fuel grades see AFM
Use of wide-cut fuels is prohibited except for non-revenue ferry flights.
For fuel temperature limitations see applicable AFM.

Fuel Capacity (usable)

	Load		Weight	
Usable	U.S. Gal.	Litres	lb.	kg
2 main tanks (each)	700	2650	4760	2159
1 Center Tank	735.0	2782	4998	2267
Total	2135.0	8082	14518	6585

	Load		Weight	
Unusable	U.S. Gal.	Litres	lb.	kg
Residual Fuel	7.35	27.8	46.9	21.3
Trapped Fuel	7.42	28.0	50.1	22.7
Unusable Fuel	14.3	54.1	97.0	44.0

4. Oil

Engine, APU, IDG: MIL-L-7808 (Type I) or MIL-L-23699 (Type II) or Castrol 4000.

Oil Capacity:

	Load		Weight	
Usable	U.S. Quart	Litres	lb.	kg.
2 Engines (each)	5.5	5.2	11.19	5.09
Total	11.0	10.4	22.38	10.18

5. Airplane Limit Speeds

Airspeed Limits (IAS) *			Knots	Mach
	V_{MO} and M_{MO}	(Maximum Operating)		
		Below 8000 feet	330*	*
		*See Flight Manual for variations of V_{MO} and M_{MO} at or above 8000 ft		
	V_{FE}	(Flaps extended)		
		8°	230	
		20°	230	
		30°	196	
		45°	191	
		Or for Airplanes 7904 and subsequent; and Airplanes incorporating Canadair Service Bulletin: SB601R-11-080, Flight Compartment, Placards and markings – Installation of the New Airspeed Limitation Placard and Removal of Flap Inspection Placard:		
	V_{FE}	(Flaps extended)		
		8°	230	
		20°	230	
		30°	185	
		45°	170	
	V_A	(Manoeuvring) (Refer to Flight Manual for variations of V_A with altitude and aircraft weight)		
	V_{LO}	(Landing Gear Operating)		
		Extending	250	
		Retracting	200	
	V_{LE}	(Landing Gear Extended)	250	

Max. tyre ground speeds:	m.p.h.	knots
Nose Gear Tyre	210	182
Main Gear Tyre	210	182

6. Centre of Gravity Range

Centre of Gravity Range: See AFM, CSP A-012

Datum: FS 0.0 located at 100 in. Fwd of the aircraft nose

Mean Aerodynamic Cord (MAC): 2.53 m (99.43 in.)
(MAC leading edge at fuselage station 493.793.1 in.)

Leveling Means: A leveling targets are installed in the aft equipment bay, for use with a plumb bob to level the aircraft in the lateral and longitudinal planes.

7. Maximum Certified Weights kg (lbs)

Max. Taxi and ramp	23,247 kg	(51,250 lb.)
Max. Take-off	23,133 kg	(51,000 lb.)
Max. Landing	21,319 kg	(47,000 lb.)
Max. Zero fuel	19,958 kg	(44,000 lb.)

With option <0004 (JAA) > incorporated, weight limits change to:

Max. Taxi and ramp	24,154 kg	(53,250 lb.)
Max. Take-off	23,995 kg	(52,900 lb.)
Max. Landing	21,205 kg	(46,750 lb.)

NOTE: See AFM (CSP A-12) for other weight limitations and aircraft eligibility.

8. Minimum Flight Crew

Minimum Flight Crew: 2 (Pilot and co-pilot)

9. Maximum Seating Capacity:

50 pax plus 5 crew members
48 pax plus 5 crew members if Forward Wardrobe is installed (TC601R12721).
For CL-600-2B19 in the “Green Configuration”, refer to Note (6).

10. Cargo compartment loading

Aft Baggage Compartment

Class	Volume (m^3)	Max. Allowable Load (Kg)
C	6.48	1224.7
C	8.89*	1587.57*

* Note: Values marked with asterisk are obtained with the incorporation of Modification TC601R100914

11. Environmental Flight Envelope

Refer to approved Airplane Flight Manual

12. Other Limitations

Refer to approved Airplane Flight Manual.

13. Auxiliary Power Unit (APU)

Honeywell (formerly Allied Signal) GTCP-36-150 [RJ] APU P/N 3800488-2 or 3800488-3
Approved to TSO C-77A and JAR-APU.

APU Limits:

Maximum RPM	107%	
Maximum EGT for Starting *	974ºC**	1785ºF**
Maximum EGT Operating*	743℃	1369℉

* Dependent upon Altitude and Airspeed (Refer to AFM CSP A-012 for detail limitations).
** Not to be exceeded under any operating conditions.

14. Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) and defined in the Type Certificate Type Design Definition, (RAZ-601R-109) must be installed in the airplane for certification.

15. Interior Installations

Cabin interior and seating configurations must be approved.

16. All Weather Capabilities

Coupled Autopilot: CAT II

With the following Heads-Up Guidance System (HGS) Modifications installed:

TC601R60262	HGS Approach: CAT IIIA only
TC602R15068 (All phases of Flight)	HGS Approach: CAT II and CAT IIIA

17. Wheels and Tyres

Tyre	Size
Dual Nose Wheel and Tyre	H18 x 4.4-12– 12 ply
Dual Main Wheels and Tyres (L/H & R/H)	H29 x 9-15 – 16 ply

Landing Gear

Tricycle type (two main gear assemblies and one steerable nose gear assembly).
Track:
(Main gear) 10 ft 5” (3.175 m)
(Nose gear) 11.5” (29.2 cm)

18. Hydraulics

See AMM (CSP A-001) for approved fluid.

19. Maintenance Instructions

Airplane Flight Manual, Publication No.: CSP A-012
Flight Crew Operating Manual: CSP A-013
CSP A-041 Weight and Balance Manual

The Instructions for Continued Airworthiness consist of the following Publications:

CSP A-001 AMM, Aircraft Maintenance Manual
CSP A-053, Part II TLMC, Time Limits/Maintenance Checks Manual
CSP A-008 SRM, Structural Repair Manual
CSP A-010 NDT, Non-Destructive Testing Manual

Operating Limitations: Refer to AFM CSP A-012

CSP A-004 MMEL, Master Minimum Equipment List

20. Notes

1. JAA Approved Airplane Flight Manual: The airplane must be operated according to the appropriate JAA Approved Airplane Flight Manual.

2. All placards must be installed in accordance with Drawings.

3. JAA approved Airworthiness limitations for mandatory compliance retirement life or inspection are included in Time Limits/Maintenance Checks Manual CSP A-053, Part II TLMC.

4. Certification Maintenance Requirements (CMRs) are found in Time Limits/Maintenance Checks Manual, CSP A-053, Part II TLMC.

5. CRJ 200 is a marketing designation describing a CRJ Series 100 equipped with CF34-3B1 Engines installed at assembly.
   CRJ 100 is a CL-600-2B19 with CF34-3A1 Engines
   CRJ 200 is a CL-600-2B19 with CF34-3B1 Engines

   The Regional Jet Series 850 or the CRJ Special Edition “SE” are marketing designations for any CL-600-2B19 aircraft that is configured “green” and subsequently completed with an approved interior per note 6.

6. Major modifications which define the aircraft as the “Green Configuration” are recorded in document RAZ-601R-109 (Definition of type design for JAA type certification).

   The “Green Configuration” type design does not include passenger provisions. Carriage of persons in the cabin is permitted when an approved seating arrangement and related required passenger provisions are incorporated in accordance with the Basis of Certification. Aircraft delivered in the “Green configuration” and with the right service door and left overwing exit door blocked, are limited to carrying a maximum of twenty-two (22) occupants including the crew and no more than 19 passengers in accordance to FAR/JAR 25 requirements. As also referenced in Note 5, RJ aircraft of this configuration may be identified as “Series 850” for marketing purposes.

7. The CL-600-2B19 effectivity range spans from A/C SN 7001 & subsequent which includes the 100, 200, 440 and Challenger 850.

8. The Special Condition (i.e. CRI H-1000-01) that introduces requirements for EWIS-ICA’s makes CS-25 Appendix H paragraph H 25.5 and AMC Appendix H 25.5 paragraphs 1 and 6 applicable to the certification basis (note, BA demonstration of compliance against 14 CFR Part 26 requirements constitutes compliance with the EASA regulations related to EWIS).

SECTION 3: Model CL-600-2C10 (Regional Jet Series 700/701/702)

I. General

1. Aeroplane: Regional Jet Series 700/701/702

II. Certification Basis

1. Reference Application Date for TCCA Certification: 01 May 1996

2. TCCA Certification Date: 22 December 2000 (Series 700/701) 26 January 2005 (Series 702)

3. EASA (JAA) Validation Application Date: 01 May 1996 (Series 700/701) 12 January 2005 (Series 702)

4. EASA Certification Date: (Date of first TC issuance within EU MS by ENAC Italy & DGAC France) 29 January 2001 (Series 700/701) 28 January 2005 (Series 702)

5. TCCA Certification Basis:

   Refer to Transport Canada TCDS A-131

6. EASA Certification Basis:

   JAA Airworthiness Requirements:

   JAR 25 Large Aeroplanes, Change 14, 27 May 1994
   Amendment (OP) 96/1, 19 April 1996

   Note: This includes the optional requirements of JAR 25.1419, Ice Protection and JAR 25.801, Ditching Provisions.

   Reversions: None requested

   JAR AWO at change 2

   JAA Special Conditions:

INT/POL/25/2	HIRF Protection (ref. CRI D-17)
INT/POL/25/3	Lightning Strike Protection, Direct Effects (ref. CRI D-15)
INT/POL/25/4	Lightning Strike Protection, Indirect Effects (ref. CRI D-16)
INT/POL/25/6	Brake Performance (ref. CRI D-9)
INT/POL/25/8	Yawing Manoeuvring Conditions (ref. CRI C-3)
INT/POL/25/9	Fuel Tank Crashworthiness (ref. CRI C-5)

SC H-1	Enhanced Airworthiness Programme for Aeroplane System – ICA on EWIS (ref. CRI H-1000-01) – see note 5

JAA Exemptions: None

JAA Equivalent Safety Findings:

JAR 25.109	Accelerate Stop Distance (NPA 25B, D, G-244, July 1993, ref. CRI B-2)
JAR 25.677(b)	Trim Indication (ref. CRI D-5)
JAR 25.783(f)	Baggage and Avionics Compartment Door (ref. CRI D-2)
JAR 25.811(d)(2)	Main Door Exit Markings Sign (ref. CRI D-3)
JAR 25.813(c)(1)	Emergency Exit Access (ref. CRI D-4)
JAR 25.1435(b)(1)	Hydraulic Systems (ref. CRI-F-15)
JAR 25B.991(b)	Emergency Fuel Pumps (ref. CRI J-01)

JAA Elect to Comply Standards

NPA 25B.215	Reduced Minimum Operating Speed Factors (ref CRI-B-1) (Identical to FAR 25 NPRM 95-17)
NPA 25C-236	Vibration, Buffet and Aeroelastic Stability (ref. CRI C-6) (Identical to FAR 25 Amendment 77)
NPA 25C-282	Discrete Gust Load Design Requirements (ref CRI C-12) (Identical to FAR 25 Amendment 86)
NPA 25C-276	Braked Roll Conditions (ref. CRI C-13) (Identical to FAR 25 Amendment 97)

Additional National Design Requirements (ANDR).

Additional National Design Requirements (ANDR) as specified in JAA Administrative and Guidance Material, Section 3/Part 4 in effect at the time of Type Certification. Refer to CRI A-2

7. Environmental Standards:

Noise: ICAO Annex 16, Volume I, Third Edition.
Fuel Venting: ICAO Annex 16, Volume II, Second Edition.

III. Technical Characteristics and Operational Limitations

The CL-600-2C10 Regional Jet, manufactured by Bombardier Aerospace, is a nominal 70 passenger, five crewmember, twin turbofan passenger aircraft, developed from the CL-600-2B19 Regional Jet Aircraft. The certification of the CL-600-2C10 considers three basic aircraft variants defined as follows:

- Regional Jet Series 700: 68 passengers or less (plus 5 crewmembers)
- Regional Jet Series 701: 70 passengers configuration (plus 5 crewmembers)
- Regional Jet Series 702: 78 passengers configuration (plus 5 crewmembers)

The aircraft is certified for a maximum altitude of 41,000 feet and a maximum design airspeed of Mach 0.85. The airframe is a monocoque design, using lightweight aluminum alloys, alloy steels, stainless steels, titanium and composite materials. It has a low, high swept wing, T-tail with trimmable horizontal stabilizer and tricycle landing gear.

1. EASA/JAA Type Design Definition

   Reference CRI A-6 JAA Build Standard Definition, RAZ-BA670-120.

2. Engines

   Two General Electric CF34-8C1 Turbofan Engines, or two General Electric CF34-8C5B1 Turbofan Engines, JAA Executive Board recommendation letter 04/12/46/10/00-L162 dated 31 May 2000. Appropriate National Authority Type Certificate or FAA Type Certificate No. E00063EN, and associated Type Certificate Data Sheet.

   Engine may be intermixed in accordance with AFM (CSP B-012)

   Engine Limits:

   Refer to the Airplane Flight Manual (CSP B-012)

3. Fuel

Type	SPECIFICATION		
	Canada	USA	UK
Kerosene JET A, A-1 JP8	 CAN 2 – 3.23 3-GP-23	 ASTM D1655 MIL-DTL-83133	 Def Stan 91-91 Def Stan 91-87
High Flash JP5	 3-GP-24	 MIL-DTL-5624	 Def Stan 91-86

Note: Fuel additives - See AFM as listed in Approved Publications
For additional approved fuel grades see AFM.
For fuel temperature limitations see applicable AFM.

Fuel Capacity (usable)

	Load		Weight	
Usable	U.S. Gal.	Litres	lb.	kg
2 main tanks (each)	1110	4202	7493	3399
1 Center Tank	683	2585	4610	2091
Total	2903	10989	19596	8889

	Load		Weight	
	U.S. Gal.	Litres	lb.	kg
Unusable	23.1	87.4	155.9	70.7
Undrainable	2.0	7.6	13.5	6.1

4. Oil

Oil: Engine, APU: MIL-L-7808 (Type I) or MIL-L-23699 (Type II) or Castrol 4000

Mixing of different types of oils is prohibited

Oil Capacity:

	Load		Weight	
Usable	U.S. Quart	Litres	lb.	kg.
2 Engines (each)	7.2	6.8	14.6	6.6
Total	14.4	13.6	29.2	13.2

5. Airplane Limit Speeds

Airspeed Limits (IAS)			Knots	Mach
	V_{MO} and M_{MO}	(Maximum Operating)		
		Below 8000 feet	330*	*
		*See AFM (CSP B-012) for variations of V_{MO} and M_{MO} at or above 8000 ft		
	V_{FE}	(Flaps extended)		
		1°	230	
		8°	230	
		20°	230	
		30°	185	
		45°	170	
	V_A	(Manoeuvring) (Refer to Flight Manual for variations of V_A with altitude and aircraft weight)		
	V_{LO}	(Landing Gear Operating)		
		Extending	220	
		Retracting	200	
	V_{LE}	(Landing Gear Extended)	220	

Max. tyre ground speeds:	m.p.h.	knots
Nose Gear Tyre	210	182
Main Gear Tyre	210	182

6. Centre of Gravity Range

See AFM, CSP B-012

Datum: FS 0.0 located at 365.76cm (144.00 inches) forward of the aircraft nose.

Mean Aerodynamic Cord (MAC):

3.38 m (133.18 in.) (MAC leading edge at fuselage station 18.875 m (743.1 in.)

Leveling Means:

The aircraft is leveled in the longitudinal and lateral axis by the means of a plumb bob and target plate located at fuselage station 2910.2cm (1145.75 inches).

7. Maximum Certified Weights kg (lbs)

	Type Spec		Option	
Max. Taxi and ramp	33,113 kg	(73,000 lb.)	34,133 kg	(75,250 lb.)
Max. Take-off	32,999 kg	(72,750 lb.)	34,019 kg	(75,000 lb.)
Max. Landing	30,391 kg	(67,000 lb.)	30,391 kg	(67,000 lb.)
Max. Zero fuel	28,260 kg	(62,300 lb.)	28,260 kg	(62,300 lb.)

NOTE: See AFM (CSP B-012) for other weight limitations and aircraft eligibility.

8. Minimum Flight Crew

Two: Pilot and Co-pilot

9. Maximum Seating Capacity

Maximum Passenger Seating Capacity: Series 700 – 68 or fewer passengers
Series 701 – 70 passengers
Series 702 – 78 passengers

10. Cargo compartment loading

Class	Volume (m^3)	Max. Allowable Load (Kg)
C	10.60	1696
C	2.63	436

11. Environmental Flight Envelope

Refer to approved Airplane Flight Manual.

12. Other Limitations

Refer to approved Airplane Flight Manual.

13. Auxiliary Power Unit (APU)

Honeywell (formerly Allied Signal) RE-220 RJ.
Approved to TSO C-77A and JAR-APU Change 2.

APU Limits: ***

Maximum RPM	106%	
Maximum EGT for Starting *	1038ºC**	1900ºF**
Maximum EGT Operating Ground*	789℃	1452℉
Maximum EGT Operating in Flight	806ºC	1482ºF

* Dependent upon Altitude and Temperature or Airspeed (Refer to AFM CSP B-012 for detail limitations).
** Not to be exceeded under any operating conditions.
*** Refer to AFM (CSP B-012) for detail limitations

14. Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) and defined in the Type Certificate Type Design Definition, (see RAZ-BA670-120) must be installed in the airplane for certification.

15. Interior Installations

Cabin interior and seating configurations must be approved.

16. All Weather Capabilities

Coupled Autopilot: CAT II

17. Wheels and Tyres

Tyre	Size
Dual Nose Wheel and Tyre	20.5 x 6.75 – 10, 12 ply
Dual Main Wheels and Tyres (L/H & R/H)	H36 x 12 – 18, 18 ply

Landing Gear

Tricycle Type (Two main gear assemblies and one steerable nose gear assembly)

18. Hydraulics

See AMM (CSP B-001) for approved fluids

19. Maintenance Instructions

Airplane Flight Manual:	CSP B-012
Flight Crew Operating Manual:	CSP B-013
Weight and Balance Manual:	CSP B-041
Minimum Master Equipment List (MMEL):	CSP AB-044

The Instructions for Continued Airworthiness consist of the following Publications:

Aircraft Maintenance Manual (AMM):	CSP B-001
Maintenance Requirement Manual (MRM) Part II:	CSP B-053
Structural Repair Manual (SRM):	CSP B-008
Non-Destructive Testing Manual (NDT)	CSP B-010

20. Notes

1. JAA Approved Airplane Flight Manual: The airplane must be operated according to the appropriate JAA Approved Airplane Flight Manual.

2. All placards must be installed in accordance with Drawings BA670-47501, BA670-47506 and BA670-47800 or BA670-47537, BA670-47510 and BA670-47801. Self illuminated and electrical signs must be installed in accordance with BA670-47802 and BA670-47803 or BA670-47805.

   Drawings noted above are for basic type certification only. For as-delivered aircraft configurations, refer to customer options listed in RAL-670-300.

3. JAA approved Airworthiness limitations for mandatory compliance retirement life or inspection and Certification Maintenance Requirements (CMRs) are found in the Maintenance Requirements Manual, CSP B-053 - Part II.

4. The effectivity range for the CL-600-2C10 is 10002 & subsequent which includes the 700/ 701 and 702.

5. The Special Condition (i.e. CRI H-1000-01) that introduces requirements for EWIS-ICA's makes CS-25 Appendix H paragraph H 25.5 and AMC Appendix H 25.5 paragraphs 1 and 6 applicable to the certification basis (note, BA demonstration of compliance against 14 CFR Part 26 requirements constitutes compliance with the EASA regulations related to EWIS).

SECTION 4: CL-600-2D15 (Regional Jet Series 705)

I. General

1. Aeroplane: Regional Jet Series 705

II. Certification Basis

1. Reference Application Date for TCCA Certification: 03 Dec 2004
2. TCCA Certification Date: 03 May 2005
3. EASA (JAA) Validation Application Date: 11 February 2005
4. EASA Certification Date 03 November 2005
5. TCCA Certification Basis:

   Refer to TCCA Type Certificate Data Sheet No: A-131

6. EASA Certification Basis:

   JAA Airworthiness Requirements:

   JAR 25 Large Aeroplanes, Change 14, 27 May 1994
   Amendment (OP) 96/1, 19 April 1996

   Note: This includes the optional requirements of JAR 25.1419, Ice Protection and JAR 25.801, Ditching Provisions.

   Reversions: None requested

   JAR AWO at Change 2

   JAA Special Conditions:

   Novel Design Features: None.
   Unconventional Use: None.

   The following CL600-2C10 Special Conditions are also applicable to the CL600-2D15:-

INT/POL/25/2	HIRF Protection (CRI D-17)
INT/POL/25/3	Lightning Strike Protection, Direct Effects (CRI D-15)
INT/POL/25/4	Lightning Strike Protection, Indirect Effects (CRI D-16)
INT/POL/25/8	Yawing Manoeuvring Conditions (CRI C-3)
INT/POL/25/9	Fuel Tank Crashworthiness (CRI C-5)
SC H-1	Enhanced Airworthiness Programme for Aeroplane System – ICA on EWIS (ref. CRI H-1000-01) – see note 6

The following Special Conditions are specific to the CL600-2D15 & CL-600-2D24:

INT/POL/25/5	Accelerate-Stop Distances and Related Performances (CRI B-900-03)
INT/POL/25/6	Worn Brakes (CRI D-900-01)
INT/POL/25/12	Fuel Tank Safety-Ignition Prevention (CRI E-900-04)
INT/POL/25/13	Towbarless Towing (CRI C-900-06)

JAA Exemptions:

The following Temporary Exemption has been accepted for the CL-600-2D15 as it was for the CL-600-2C10 (CRI F-01).

JAR 25.1441 and 25.1447 Oxygen System Requirements (CRI F-900-01)

JAA Equivalent Safety Findings:

The following Equivalent Safety Findings (ESF) were agreed for the CL-600-2C10 and are applicable to the CL-600-2D15:

JAR 25.677(b)	Trim Indication (CRI D-5)
JAR 25.783(f)	Baggage and Avionics Compartment Door (CRI D-2)
JAR 25.811(d)(2)	Main Door Exit Markings Sign (CRI D-3)
JAR 25.813(c)(1)	Emergency Exit Access (CRI D-4)
JAR 25B.991(b)	Emergency Fuel Pumps (CRI J-1)
JAR 25.1435(b)(1)	Hydraulic Systems (CRI F-15)
NPA 25C-236	Vibration, Buffet and Aeroelastic Stability (CRI C-6) (Identical to FAR 25 Amendment 77)

The following ESF have been agreed for the CL-600-2D15:

JAR 25.341	Continuous Turbulence (CRI C-900-07)
JAR 25.361(b)	Engine and APU Load Conditions (CRI C-900-09)
JAR 25.307	Proof of Structure (CRI C-900-11)
JAR 25.1181(a)(b)	Designated Fire Zones (CRI E-900-02)

JAA Elect to Comply Standards

The following CL-600-2C10 Elect to Comply standards are applicable to the CL-600-2D15:

NPA 25B-215	Stall, Stall Warning Speeds and Manoeuvre Capability (CRI B-1) (Identical to FAR 25 NPRM 95-17)
NPA 25C-282	Discrete Gust Load Design Requirements (CRI C-12) (Identical to FAR 25 Amendment 86)
NPA 25C-276	Braked Roll Conditions (CRI C-13) (Identical to FAR 25 Amendment 97)

Bombardier have elected to comply with the following standards specifically for the CL-600-2D15 & CL-600-2D24:

NPA 25D-285	Allowable Carbon Dioxide Concentration in Aeroplane Cabins and Cabin Ozone Concentration. (CRI D-900-02)

Note: CRI B-900-03 includes NPA 25B, D, G-244 as an “Elect to Comply”.

Additional National Design Requirements (ANDR).

Additional National Design Requirements (ANDR) as specified in JAA Administrative and Guidance Material, Section 3/Part 4 in effect at the time of Type Certification. Refer to CRI A-900-02

7. Environmental Standards:

   Noise: ICAO Annex 16, Volume I, Third Edition. (CRI-A-900-03 refers).

III. Technical Characteristics and Operational Limitations

The CL-600-2D15 Regional Jet, manufactured by Bombardier Aerospace, is a nominal 75 passenger, five crewmember, twin turbofan passenger aircraft, developed from the CL-600-2C10 Regional Jet Aircraft. The certification of the CL-600-2D15 considers one basic aircraft model defined as follows:

- CL-600-2D15 (Regional Jet Series 705): 75 passengers configuration (plus 5 crewmembers)

The aircraft is certified for a maximum altitude of 41,000 feet and a maximum design airspeed of Mach 0.85. The Mach number must be decreased to Mach 0.84 above 34,000 feet. The airframe is a monocoque design, using lightweight aluminum alloys, alloy steels, stainless steels, titanium and composite materials. It has a low, high swept wing, T-tail with trimmable horizontal stabilizer and tricycle landing gear.

1. EASA/JAA Type Design Definition

   Reference CRI A-900-06 JAA/EASA Build Standard Definition, RAZ-BA690-120.

2. Engines

   Two General Electric CF34-8C5 or optional CF34-8C5A1 Turbofan Engines, with reverse thrust capability, are rear fuselage mounted on pylons; JAA Executive Board recommendation letter 04/12/91/10/02-L237 dated 20 September 2002. Appropriate National Authority Type Certificate or FAA Engine Type Certificate No. E00063EN Revision 2 or later, and associated Type Certificate Data Sheet.

   Engine Limits:

   Refer to the Airplane Flight Manual (CSP C-012).

3. Fuel

Type	SPECIFICATION		
	Canada	USA	UK
Kerosene JET A, A-1 JP8	CAN 2 – 3.23 3-GP-23	ASTM D1655 MIL-DTL-83133	Def Stan 91-91 Def Stan 91-87
High Flash JP5	3-GP-24	MIL-DTL-5624	Def Stan 91-86

Note: Fuel additives - See AFM as listed in Approved Publications
For additional approved fuel grades see AFM.
For fuel temperature limitations see applicable AFM.

Fuel Capacity:

	Load		Weight	
Usable	U.S. Gal.	Litres	lb.	kg
2 main tanks (each)	1,110	4,202	7,492	3,398
1 Center Tank	683	2,585	4,610	2,091
Total	2,903	10,989	19,595	8,888

	Load		Weight	
	U.S. Gal.	Litres	lb.	kg
Unusable	23.1	87.4	155.9	70.7
Undrainable	2.0	7.6	13.5	6.1

4. Oil

Oil: Engine, APU: MIL-L-7808 (Type I) or MIL-L-23699 (Type II) or Castrol 4000

Mixing of different types of oils is prohibited

Oil Capacity:

	Load		Weight	
Usable	U.S. Quart	Litres	lb.	kg.
2 Engines (each)	7.2	6.8	14.6	6.6
Total	14.4	13.6	29.2	13.2

5. Air Speeds:

Airspeed Limits (IAS)			Knots	Mach
	V_{MO} and M_{MO}	(Maximum Operating)		
		Below 8000 feet	330*	*
		*See AFM (CSP B-012) for variations of V_{MO} and M_{MO} at or above 8000 ft		
	V_{FE}	(Flaps extended)		
		1°	230	
		8°	230	
		20°	220	
		30°	185	
		45°	170	
	V_A	(Manoeuvring) (Refer to Flight Manual for variations of V_A with altitude and aircraft weight)		
	V_{LO}	(Landing Gear Operating)		
		Extending	220	
		Retracting	200	
	V_{LE}	(Landing Gear Extended)	220	

Max. tyre ground speeds:	m.p.h.	knots
Nose Gear Tyre	225	195
Main Gear Tyre	225	195

6. Centre of Gravity Range

   See AFM, CSP C-012.

   Datum: FS 0.0 located at 365.76cm (144.00 inches) forward of the aircraft nose

   Mean Aerodynamic Cord (MAC):
   3.38 m (133.18 in.) (MAC leading edge at fuselage station 21.161 m (833.1 in.)

   Leveling Means:
   The aircraft is leveled in the longitudinal and lateral axis by the means of a plumb bob and target plate located at fuselage station 2910.2cm (1146.75 inches).

7. Maximum Certified Weights kg (lbs)

	Type Spec	Option <2005>
Max. Taxi and ramp	36,628 kg (80,750 lb.)	38,555 kg (85,000 lb.)
Max. Take-off	36,514 kg (80,500 lb.)	38,329 kg (84,500 lb.)
Max. Landing	33,339 kg (73,500 lb.)	34,065 kg (75,100 lb.)
Max. Zero fuel	31,751 kg (70,000 lb.)	32,092 kg (70,750 lb.)

   NOTE: See AFM (CSP C-012) for other weight limitations and aircraft eligibility.

8. Minimum Flight Crew

   Two: Pilot and Co-pilot

9. Maximum Seating Capacity

   Maximum Passenger Seating Capacity: Series 705 – 75 or fewer passengers

10. Cargo compartment loading

Class	Volume (m3)	Max. Allowable Load (Kg)
C	12.39	1985
C	4.42	772

11. Environmental Flight Envelope

    Refer to approved Airplane Flight Manual.

12. Other Limitations

    Refer to approved Airplane Flight Manual.

13. Auxiliary Power Unit (APU)

Allied Signal RE-220 RJ.
Approved to TSO C-77A and JAR-APU Change 2
Appropriate National Authority Type Certificate and TCDS.

APU Limits: ***

Maximum RPM:	106%	
Maximum EGT:	℃	℉
Starting*	692-1038	1274-1900
Running–Ground **	789	1452
Running-Flight**	806	1482

* Dependant upon altitude and temperature (refer to AFM)
** Not to be exceeded under any operating conditions
*** Refer to AFM (CSP C-012) for detail limitations

14. Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) and defined in the Type Certificate Type Design Definition, (see RAZ-BA690-120) must be installed in the airplane for certification.

15. Interior Installations

Cabin interior and seating configurations must be approved.

16. All Weather Capabilities

Coupled Autopilot: CAT II

17. Wheels and Tyres

Tyre	Size
Dual Nose Wheel and Tyre	20.5 x 6.75 – 10, 12 ply
Dual Main Wheels and Tyres (L/H & R/H)	H36 x 12 – 18, 18 ply

Landing Gear:

Tricycle Type (Two main gear assemblies and one steerable nose gear assembly)

18. Hydraulics

See AMM (CSP B-001) for approved Fluids.

19. Maintenance Instructions

Airplane Flight Manual: CSP C-012
Flight Crew Operating Manual: CSP C-013
Weight and Balance Manual: CSP C-041
Minimum Master Equipment List (MMEL): CSP ABC-044

The Instructions for Continued Airworthiness consist of the following Publications:

Aircraft Maintenance Manual (AMM):	CSP B-001
Maintenance Requirement Manual (MRM) Part II:	CSP B-053
Structural Repair Manual (SRM):	CSP B-008
Non-Destructive Testing Manual (NDT)	CSP B-010

20. Notes

1. Current weight and balance report, loading instructions (when necessary), and the list of equipment included in the certificated empty weight must be provided for each aircraft at the time of original certification.

2. JAA Approved Airplane Flight Manual: The airplane must be operated according to the appropriate JAA Approved Airplane Flight Manual.

3. All placards must be installed in accordance with Drawings:
   a) Basic markings and placards: BA690-47500, BA690-47506 and BA690-47804.
   b) Self illuminated and electrical signs: BA690-47805 and BA690-47806.

   Note: Drawings noted above are for basic type certification only. For as delivered aircraft configuration, refer to CL-690-XXXXX or RAL-BA690-XXXXX. (XXXXX denotes aircraft serial number).

4. JAA approved Airworthiness limitations for mandatory compliance retirement life or inspection and Certification Maintenance Requirements (CMRs) are found in the Maintenance Requirements Manual, CSP B-053 - Part II

5. 15001 and subsequent serial number aircraft can be either CL-600-2D15 or CL-600-2D24 depending on the interior configuration

6. The Special Condition (i.e. CRI H-1000-01) that introduces requirements for EWIS-ICA's makes CS-25 Appendix H paragraph H 25.5 and AMC Appendix H 25.5 paragraphs 1 and 6 applicable to the certification basis (note, BA demonstration of compliance against 14 CFR Part 26 requirements constitutes compliance with the EASA regulations related to EWIS).

SECTION 5: CL-600-2D24 (Regional Jet Series 900)

I. General

1. Aeroplane: Regional Jet Series 900

II. Certification Basis

1. Reference Application Date for TCCA Certification: 01 November 1999
2. TCCA Certification Date: 09 September 2002
3. EASA (JAA) Validation Application Date: 01 November 1999
4. EASA Certification Date 18 December 2002
   (Date of first TC issuance within EU MS by ENAC Italy)
5. TCCA Certification Basis:

   Refer to TCCA Type Certificate Data Sheet No: A-131
6. EASA Certification Basis:

   JAA Airworthiness Requirements:

   JAR 25 Large Aeroplanes, Change 14, 27 May 1994
   Amendment (OP) 96/1, 19 April 1996

   Note: This includes the optional requirements of JAR 25.1419, Ice Protection and JAR 25.801, Ditching Provisions.

   Reversions : None requested

   JAR AWO at Change 2

   JAA Special Conditions:

   Novel Design Features: None.
   Unconventional Use: None.

   The following CL600-2C10 Special Conditions are also applicable to the CL600-2D24:

INT/POL/25/2	HIRF Protection (CRI D-17)
INT/POL/25/3	Lightning Strike Protection, Direct Effects (CRI D-15)
INT/POL/25/4	Lightning Strike Protection, Indirect Effects (CRI D-16)
INT/POL/25/8	Yawing Manoeuvring Conditions (CRI C-3)
INT/POL/25/9	Fuel Tank Crashworthiness (CRI C-5)
SC H-1	Enhanced Airworthiness Programme for Aeroplane System – ICA on EWIS (ref. CRI H-1000-01) – see note 6

The following Special Conditions are specific to the CL600-2D24:

INT/POL/25/5	Accelerate-Stop Distances and Related Performances (CRI B-900-03)
INT/POL/25/6	Worn Brakes (CRI D-900-01)
INT/POL/25/12	Fuel Tank Safety-Ignition Prevention (CRI E-900-04)
INT/POL/25/13	Towbarless Towing (CRI C-900-06)

JAA Exemptions:

The following Temporary Exemption has been accepted for the CL-600-2D24 as it was for the CL-600-2C10 (CRI F-01).

JAR 25.1441 and 25.1447 Oxygen System Requirements (CRI F-900-01)

JAA Equivalent Safety Findings:

The following Equivalent Safety Findings (ESF) were agreed for the CL600-2C10 and are applicable to the CL600-2D24:

JAR 25.677(b)	Trim Indication (CRI D-5)
JAR 25.783(f)	Baggage and Avionics Compartment Door (CRI D-2)
JAR 25.811(d)(2)	Main Door Exit Markings Sign (CRI D-3)
JAR 25.813(c)(1)	Emergency Exit Access (CRI D-4)
JAR 25B.991(b)	Emergency Fuel Pumps (CRI J-1)
JAR 25.1435(b)(1)	Hydraulic Systems (CRI F-15)
NPA 25C-236	Vibration, Buffet and Aeroelastic Stability (CRI C-6) (Identical to FAR 25 Amendment 77)

The following ESF have been agreed for the CL600-2D24:-

JAR 25.341	Continuous Turbulence (CRI C-900-07)
JAR 25.361(b)	Engine and APU Load Conditions (CRI C-900-09)
JAR 25.307	Proof of Structure (CRI C-900-11)
JAR 25.1181(a)(b)	Designated Fire Zones (CRI E-900-02)

JAA Elect to Comply Standards:

The following CL600-2C10 Elect to Comply standards are applicable to the CL600-2D24:

NPA 25B-215	Stall, Stall Warning Speeds and Manoeuvre Capability (CRI B-1) (Identical to FAR 25 NPRM 95-17)
NPA 25C-282	Discrete Gust Load Design Requirements (CRI C-12) (Identical to FAR 25 Amendment 86)
NPA 25C-276	Braked Roll Conditions (CRI C-13) (Identical to FAR 25 Amendment 97)

Bombardier have elected to comply with the following standards specifically for the CL600-2D24:

NPA 25D-285	Allowable Carbon Dioxide Concentration in Aeroplane Cabins and Cabin Ozone Concentration (CRI D-900-02)

Note: CRI B-900-03 includes NPA 25B, D, G-244 as an “Elect to Comply”.

Additional National Design Requirements (ANDR).

Additional National Design Requirements (ANDR) as specified in JAA Administrative and Guidance Material, Section 3/Part 4 in effect at the time of Type Certification. Refer to CRI A-900-02.

7. Environmental Standards:

Noise: ICAO Annex 16, Volume I, Third Edition. (CRI-A-900-03 refers).

III. Technical Characteristics and Operational Limitations

The CL-600-2D24 Regional Jet, manufactured by Bombardier Aerospace, is a nominal 86 passenger, five crewmember, twin turbofan passenger aircraft, developed from the CL-600-2C10 Regional Jet Aircraft. The certification of the CL-600-2D24 considers one basic aircraft model defined as follows:

- CL-600-2D24 (Regional Jet Series 900): 86 passengers configuration (plus 5 crewmembers)

The aircraft is certified for a maximum altitude of 41,000 feet and a maximum design airspeed of Mach 0.85. With the incorporation of M/S 690T002727 – Introduction of new winglet, the Mach number must be decreased to Mach 0.84 above 34,000 feet. The airframe is a monocoque design, using lightweight aluminum alloys, alloy steels, stainless steels, titanium and composite materials. It has a low, high swept wing, T-tail with trimmable horizontal stabilizer and tricycle landing gear.

1. EASA/JAA Type Design Definition

Reference CRI A-900-06 JAA/EASA Build Standard Definition, RAZ-BA690-120.

2. Engines

Two General Electric CF34-8C5 or optional CF34-8C5A1 Turbofan Engines, with reverse thrust capability, are rear fuselage mounted on pylons; JAA Executive Board recommendation letter 04/12/91/10/02-L237 dated 20 September 2002. Appropriate National Authority Type Certificate or FAA Engine Type Certificate No. E00063EN Revision 2 or later, and associated Type Certificate Data Sheet.

Engine Limits:

Refer to the Airplane Flight Manual (CSP C-012).

3. Fuel

Type	SPECIFICATION		
	Canada	USA	UK
Kerosene JET A, A-1 JP8	 CAN 2 – 3.23 3-GP-23	 ASTM D1655 MIL-DTL-83133	 Def Stan 91-91 Def Stan 91-87
High Flash JP5	 3-GP-24	 MIL-DTL-5624	 Def Stan 91-86

Note: Fuel additives - See AFM as listed in Approved Publications.
For additional approved fuel grades see AFM.
For fuel temperature limitations see applicable AFM.

Fuel Capacity:

	Load		Weight	
Usable	U.S. Gal.	Litres	lb.	kg
2 main tanks (each)	1,110	4,202	7,492	3,398
1 Center Tank	683	2,585	4,610	2,091
Total	2,903	10,989	19,595	8,888

	Load		Weight	
	U.S. Gal.	Litres	lb.	kg
Unusable	23.1	87.4	155.9	70.7
Undrainable	2.0	7.6	13.5	6.1

4. Oil

Oil: Engine, APU: MIL-L-7808 (Type I) or MIL-L-23699 (Type II) or Castrol 4000

Mixing of different types of oils is prohibited.

Oil Capacity:

	Load		Weight	
Usable	U.S. Quart	Litres	lb.	kg.
2 Engines (each)	7.2	6.8	14.6	6.6
Total	14.4	13.6	29.2	13.2

5. Air Speeds:

Airspeed Limits (IAS)			Knots	Mach
	V_{MO} and M_{MO}	(Maximum Operating)		
		Below 8000 feet	330*	*
		*See AFM (CSP B-012) for variations of V_{MO} and M_{MO} at or above 8000 ft		
	V_{FE}	(Flaps extended)		
		1°	230	
		8°	230	
		20°	220	
		30°	185	
		45°	170	
	V_A	(Manoeuvring) (Refer to Flight Manual for variations of V_A with altitude and aircraft weight)		
	V_{LO}	(Landing Gear Operating)		
		Extending	220	
		Retracting	200	
	V_{LE}	(Landing Gear Extended)	220	

Max. tyre ground speeds:	m.p.h.	knots
Nose Gear Tyre	225	195
Main Gear Tyre	225	195

6. Centre of Gravity Range

   See AFM, CSP C-012.

   Datum: FS 0.0 located at 365.76cm (144.00 inches) forward of the aircraft nose

   Mean Aerodynamic Cord (MAC):
   3.38 m (133.18 in.) (MAC leading edge at fuselage station 21.161 m (833.1 in.)

   Leveling Means:
   The aircraft is leveled in the longitudinal and lateral axis by the means of a plumb bob and target plate located at fuselage station 2910.2cm (1146.75 inches).

7. Maximum Certified Weights kg (lbs)

	Type Spec	Option <2004>	Option <2005>
Max. Taxi and ramp	36,628 kg (80,750 lb.)	37,535 kg (82,750 lb.)	38,555 kg (85,000 lb.)
Max. Take-off	36,514 kg (80,500 lb.)	37,421 kg (82,500 lb.)	38,329 kg (84,500 lb.)
Max. Landing	33,339 kg (73,500 lb.)	33,339 kg (73,500 lb.)	34,065 kg (75,100 lb.)
Max. Zero fuel	31,751 kg (70,000 lb.)	31,751 kg (70,000 lb.)	32,092 kg (70,750 lb.)

   NOTE: See AFM (CSP C-012) for other weight limitations and aircraft eligibility.

8. Minimum Flight Crew

   Two: Pilot and Co-pilot

9. Maximum Seating Capacity

   Maximum Passenger Seating Capacity: Series 900 – 90 or less passengers

10. Cargo compartment loading

Class	Volume (m3)	Max. Allowable Load (Kg)
C	12.39	1985
C	4.42	772

11. Environmental Flight Envelope

    Refer to approved Airplane Flight Manual.

12. Other Limitations

    Refer to approved Airplane Flight Manual.

13. Auxiliary Power Unit (APU)

Allied Signal RE-220 RJ.
Approved to TSO C-77A and JAR-APU Change 2
Appropriate National Authority Type Certificate and TCDS.

APU Limits: ***

Maximum RPM:	106%	
Maximum EGT:	℃	℉
Starting*	692-1038	1274-1900
Running–Ground **	789	1452
Running-Flight**	806	1482

* Dependant upon altitude and temperature (refer to AFM)
** Not to be exceeded under any operating conditions
*** Refer to AFM (CSP C-012) for detail limitations

14. Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) and defined in the Type Certificate Type Design Definition, (see RAZ-BA690-120) must be installed in the airplane for certification.

15. 15. Interior Installations

Cabin interior and seating configurations must be approved.

16. All Weather Capabilities

Coupled Autopilot: CAT II

17. Wheels and Tyres

Tyre	Size
Dual Nose Wheel and Tyre	20.5 x 6.75 – 10, 12 ply
Dual Main Wheels and Tyres (L/H & R/H)	H36 x 12 – 18, 18 ply

Landing Gear

Tricycle Type (Two main gear assemblies and one steerable nose gear assembly)

18. Hydraulics

See AMM (CSP B-001) for approved fluids.

19. Maintenance Instructions

Airplane Flight Manual:	CSP C-012
Flight Crew Operating Manual:	CSP C-013
Weight and Balance Manual:	CSP C-041
Minimum Master Equipment List (MMEL):	CSP ABC-044

The Instructions for Continued Airworthiness consist of the following Publications:

Aircraft Maintenance Manual (AMM):	CSP B-001
Maintenance Requirement Manual (MRM) Part II:	CSP B-053
Structural Repair Manual (SRM):	CSP B-008
Non-Destructive Testing Manual (NDT)	CSP B-010

20. Notes

1. Current weight and balance report, loading instructions (when necessary), and the list of equipment included in the certificated empty weight must be provided for each aircraft at time of original certification.

2. JAA Approved Airplane Flight Manual: The airplane must be operated according to the appropriate JAA Approved Airplane Flight Manual.

3. All placards must be installed in accordance with Drawings:
   a) Basic markings and placards: BA690-47500, BA690-47506 and BA690-47804.
   b) Self illuminated and electrical signs: BA690-47805 and BA690-47806.

   Note: Drawings noted above are for basic type certification only. For as delivered aircraft configuration, refer to CL-690-XXXXX or RAL-BA690-XXXXX. (XXXXX denotes aircraft serial number).

4. JAA approved Airworthiness limitations for mandatory compliance retirement life or inspection and Certification Maintenance Requirements (CMRs) are found in the Maintenance Requirements Manual, CSP B-053 - Part II.

5. 15001 and subsequent serial number aircraft can be either CL-600-2D15 or CL-600-2D24 depending on the interior configuration.

6. The Special Condition (i.e. CRI H-1000-01) that introduces requirements for EWIS-ICA's makes CS-25 Appendix H paragraph H 25.5 and AMC Appendix H 25.5 paragraphs 1 and 6 applicable to the certification basis (note, BA demonstration of compliance against 14 CFR Part 26 requirements constitutes compliance with the EASA regulations related to EWIS).

SECTION 6: CL-600-2E25 (Regional Jet Series 1000)

I. General

1. Aeroplane: Regional Jet Series 1000

II. Certification Basis

1. Reference Application Date for TCCA Certification: 23 February 2007
2. TCCA Certification Date: 02 November 2010
3. EASA Validation Application Date: 28 February 2007
4. EASA Certification Date 09 November 2010
5. TCCA Certification Basis:

   Refer to TCCA Type Certificate Data Sheet No: A-131

6. EASA Certification Basis:

   EASA Airworthiness Requirements:

   CS-25 Large Aeroplanes, Amendment 2, dated 02 October 2006
   Note: This includes the optional requirements of CS 25.1419, Ice Protection and CS 25.801, Ditching Provisions.

   CS-AWO at Initial Issue

   Reversions:

   CS 25.772(c) reversion to JAR 25, Change 14
   CS 25.415(c) reversion to JAR 25, Change 14 (for Rudder Control System only)
   CS 25.981(c) is not applicable.

   EASA Special Conditions:

   Novel Design Features:

   D-1000-01 Command-by-Wire Control Systems Failure Criteria

   General Experience:

C-1000-01	Engine Imbalance
C-1000-02	Engine loads
C-1000-03	Emergency landings
C-1000-11	Design Stall Speed
D-1000-04	Application of heat release and smoke density requirements to seat materials
H-1000-01	EWIS/EAPAS – see note 5

The following CL-600-2C10/CL-600-2D24 Special Conditions are also applicable to the CL-600-2E25:

D-15	Lightning strike protection, direct effects
D-16	Lightning strike protection, indirect effects
D-17	HIRF protection
E-900-04	Fuel tank safety – Ignition prevention

Equivalent Safety Findings

D-1000-03	Seat Cushion protrusion

The following Equivalent Safety Findings were agreed for the CL-600-2C10/2D24 and are equally applicable to the CL-600-2E25:

D-5	Trim Indication
D-2	Baggage and Avionics Compartment Door
D-3	Main Entry Door Markings Sign
J-1	Emergency Fuel Pumps
E-900-02	Designated Fire Zones

Elect to Comply Requirements

The following sub-paragraphs of CS-25 at amendment 3 issued September 19th, 2007 are elected to be complied with by Bombardier Aerospace per their submission of the Changed Product Rule Analysis RAZ-BA698-004 at latest revision:

CS-25.811 (g)
CS-25.812 (b)
CS-25.812 (e)

7. Environmental Standards:

Fuel Venting and Emissions: ICAO Annex 16, 2nd edition, Volume 2, Part II and Part III, Chapter 2, Amendment 4.
Noise: ICAO Annex 16, Volume I, Part II, Chapter 4,Amendment 8.

III. Technical Characteristics and Operational Limitations

The CL-600-2E25 (Regional Jet Series 1000), manufactured by Bombardier Aerospace, is a nominal 104 passenger, six crewmember, twin turbofan passenger aircraft, developed from the CL-600-2D24/2D15 Regional Jet Aircraft.

The aircraft is certified for maximum altitude of 41,000 feet and maximum design airspeed of Mach 0.84. The airframe is a monocoque design, using lightweight aluminum alloys, alloy steels, stainless steels, titanium and composite materials. It has a low, high swept wing, T-tail with trimmable horizontal stabilizer and tricycle landing gear.

1. EASA Type Design Definition

   EASA Definition of Type design contained in document, RAZ-BA698-018.

2. Engines

   Two General Electric CF34-8C5 or optionals CF34-8C5A1 and CF34-8C5A2 Turbofan Engines, with reverse thrust capability, are rear fuselage mounted on pylons. Appropriate National Authority Type Certificate or FAA Engine Type Certificate No. E00063EN Revision 2 or later, and associated Type Certificate Data Sheet.

   Engine Limits:

   Refer to the Airplane Flight Manual (CSP D-012).

3. Fuel

SPECIFICATION					
Canada	USA	UK	China	CIS	NATO
CGSB-3.23	ASTM D1655 JET A				
	ASTM D1655 JET A-1	Def Stan 91-91	GB6537-94 No. 3 Jet	RT	F-35
CGSB-3.24	MIL-DTL-83133 JP-8	Def Stan 91-87			F-34
	MIL-DTL-5624 JP-5	Def Stan 91-86			F-44

Note: Fuel additives - See AFM as listed in Approved Publications.
For additional approved fuel grades see AFM.
For fuel temperature limitations see applicable AFM.

Fuel Capacity:

	Load		Weight	
Usable	U.S. Gal.	Litres	lb.	kg
2 main tanks (each)	1,114	4,217	7,517	3,410
1 Center Tank	710	2,688	4,795	2,175
Total	2,937	11,117	19,828	8,994

	Load		Weight	
	U.S. Gal.	Litres	lb.	kg
Unusable	37.5	141.9	252.8	114.6
Undrainable	13.1	49.6	88.3	40.1

4. Oil

Oil: Engine, APU: MIL-L-7808 (Type I) or MIL-L-23699 (Type II) or Castrol 4000

Mixing of different types of oils is prohibited.

Oil Capacity:

	Load		Weight	
Usable	U.S. Quart	Litres	lb.	kg.
2 Engines (each)	11	10.4	22.5	10.2
Total	22	20.8	44.8	20.3

5. Air Speeds

Airspeed Limits (IAS)			Knots	Mach
	V_{MO} and M_{MO}	(Maximum Operating)		
		Below 8000 feet	330*	*
		*See AFM (CSP D-012) for variations of V_{MO} and M_{MO} at or above 8000 ft		
	V_{FE}	(Flaps extended)		
		1°	230	
		8°	230	
		20°	220	
		30°	185	
		45°	170	
	V_A	(Manoeuvring) (Refer to Flight Manual for variations of V_A with altitude and aircraft weight)		
	V_{LO}	(Landing Gear Operating)		
		Extending	220	
		Retracting	200	
	V_{LE}	(Landing Gear Extended)	220	

Max. tyre ground speeds:	m.p.h.	knots
Nose Gear Tyre	225	195
Main Gear Tyre	225	195

6. Centre of Gravity Range

   See AFM, CSP D-012.

   Datum: FS 0.0 located at 365.76cm (144.00 inches) forward of the aircraft nose

   Mean Aerodynamic Cord (MAC):
   3.48 m (137.02 in.) (MAC leading edge at Xarm 22.866 m (900.257 in.)

   Leveling Means:
   The aircraft is leveled in the longitudinal and lateral axis by the means of a plumb bob and target plate located at fuselage station 2910.2cm (1146.75 inches).

7. Maximum Certified Weights kg (lbs)

	Type Spec	Option <3002>	Option <3003>	Option <3004>	Option <3005>
Max. Taxi and ramp	41,050 kg (90,500 lb.)	41,868 kg (92,300 lb.)	40,221 kg (88,673 lb.)	41,222 kg (90,878 lb.)	39,222 kg (86,469 lb.)
Max. Take-off	40,823 kg (90,000 lb.)	41,640 kg (91,800 lb.)	39,995 kg (88,173 lb.)	40,995 kg (90,378 lb.)	38,995 kg (85,969 lb.)
Max. Landing	36,968 kg (81,500 lb.)	36,968 kg (81,500 lb.)	36,968 kg (81,500 lb.)	36,968 kg (81,500 lb.)	36,968 kg (81,500 lb.)
Max. Zero fuel	35,153 kg (77,500 lb.)	35,153 kg (77,500 lb.)	35,153 kg (77,500 lb.)	35,153 kg (77,500 lb.)	35,153 kg (77,500 lb.)

   NOTE: See AFM (CSP D-012) for other weight limitations and aircraft eligibility.

8. Minimum Flight Crew

   Two: Pilot and Co-pilot

9. Maximum Seating Capacity

   Maximum Passenger Seating Capacity: 104 passengers

10. Cargo compartment loading

    See Weight & Balance Manual for cargo compartment loads for each configuration.

11. Environmental Flight Envelope

    Refer to approved Airplane Flight Manual.

12. Other Limitations

    Refer to approved Airplane Flight Manual.

13. Auxiliary Power Unit (APU)

    Allied Signal RE-220 RJ.
    Approved to TSO C-77A and JAR-APU Change 2
    Appropriate National Authority Type Certificate and TCDS.

APU Limits: ***

Maximum RPM:	106%	
Maximum EGT:	℃	℉
Starting*	692-1038	1274-1900
Running–Ground **	789	1452
Running-Flight**	806	1482

* Dependant upon altitude and temperature (refer to AFM)
** Not to be exceeded under any operating conditions
*** Refer to AFM (CSP D-012) for detail limitations

14. Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) are defined in the Type Certificate Type Design Definition, (see RAZ-BA698-018) must be installed in the airplane for certification.

15. Interior Installations

Cabin interior and seating configurations must be approved.

16. All Weather Capabilities

Reserved

17. Wheels and Tyres

Tyre	Size
Dual Nose Wheel and Tyre	20.5 x 6.75 – 10, 12 ply
Dual Main Wheels and Tyres (L/H & R/H)	H36 x 11.5 – 19, 20 ply

Landing Gear

Tricycle Type (Two main gear assemblies and one steerable nose gear assembly)

18. Hydraulics

See AMM (CSP B-001) for approved fluids

19. Maintenance Instructions

Airplane Flight Manual:	CSP D-012
Flight Crew Operating Manual:	CSP D-013
Weight and Balance Manual:	CSP D-041
Minimum Master Equipment List (MMEL):	CSP ABC-044

The Instructions for Continued Airworthiness consist of the following Publications:

Aircraft Maintenance Manual (AMM):	CSP B-001
Maintenance Requirement Manual (MRM) Part II:	CSP B-053
Structural Repair Manual (SRM):	CSP D-008
Non-Destructive Testing Manual (NDT)	CSP B-010

20. Notes

1. Current weight and balance report, loading instructions (when necessary), and the list of equipment included in the certificated empty weight must be provided for each aircraft at the time of original certification.

2. EASA Approved Airplane Flight Manual: The airplane must be operated according to the appropriate EASA Approved Airplane Flight Manual.

3. All placards must be installed in accordance with Drawings:
   a) Basic markings and placards: BA670-47850, BA670-47869, BA690-47504, BA690-47518, BA690-47525, BA690-47526, BA690-47528, BA690-47529, BA690-47530, BA698-47203, BA698-47502, BA698-47519, BA698-47800, BA698-47805 and CC698-47251.
   b) Self-illuminated and electrical signs: BA690-47805 and BA698-47801.

   Note: Drawings noted above are for basic type certification only. For as delivered aircraft configuration, refer to RAL-BA698-19XXX. (19XXX denotes aircraft serial number).

4. EASA approved Airworthiness limitations for mandatory compliance retirement life or inspection and Certification Maintenance Requirements (CMRs) are found in the Maintenance Requirements Manual, CSP B-053 - Part II.

5. The Special Condition (i.e. CRI H-1000-01) that introduces requirements for EWIS-ICA's makes CS-25 Appendix H paragraph H 25.5 and AMC Appendix H 25.5 paragraphs 1 and 6 applicable to the certification basis (note, BA demonstration of compliance against 14 CFR Part 26 requirements constitutes compliance with the EASA regulations related to EWIS).

SECTION 7: Challenger 600 Series (grandfathered)

I. General

1. Aeroplane:

Challenger CL-600-1A11 (600)
Challenger CL-600-2A12 (601 variant)
Challenger CL-600-2B16 (601-3A variant)
Challenger CL-600-2B16 (601-3R variant)
Challenger CL-600-2B16 (604 variant)

II. Certification Basis

1. TCCA Certification Date:

CL-600-1A11 (600)	10 August 1980
CL-600-2A12 (601 Variant)	25 February 1983
CL-600-2B16 (601-3A Variant)	21 April 1987
CL-600-2B16 (601-3R Variant)	02 July 1993
CL-600-2B16 (604 Variant)	20 September 1995

2. EASA Validation Application Date: 28 September 2003

3. EASA Certification Date:
(Date of first TC issuance within EU MS by LBA Germany)

CL-600-1A11 (600)	01 Aug 1991
CL-600-2A12 (601 Variant)	11 Apr 1986
CL-600-2B16 (601-3A Variant)	13 Mar 1991
CL-600-2B16 (601-3R Variant)	16 Sep 1996
CL-600-2B16 (604 Variant)	09 Jan 1997

The above constitutes EU members acceptance of the Challenger variant models prior to EASA formation on 28 Sept 2003. Other examples of EU member states acceptance of the Challenger models include:

Countries	CL-600	CL-601	CL-601-3A	CL-601-3R	CL-604
Austria	Dec 23; 1992	Dec 23, 1992	Dec 23, 1992	Dec 23, 1992	Dec 23, 1992
Denmark	Mar 19; 2001		N/A	N/A	Mar 06, 2000
Germany	Aug 01; 1991	Apr 11, 1986	Mar 13. 1991	Sep 16, 1996	Jan 09, 1997
Greece	N/A		N/A	N/A	Dec 06, 2002
Italy	May 28, 1996		May 28, 2006	Jul 22, 1996	Jul 22, 1996

4. TCCA Certification Basis:

Refer to TCCA Type Certificate Data Sheet No: A-131

5. EASA Certification Basis:

TCCA cert basis defined in Type data sheet A-131. EC 1702/2003 provides for grandfathering of pre-existing certificates compliant to TCCA cert basis that have shown to comply with the safety standards of EASA basic rule EC 1592/2002. Examples of grandfathered certificates are listed above (#3).

5.1 Models CL-600-1A11, -2A12, -2B16 (601-3A and 601-3R Variant)

a) FAR Part 25 dated February 1, 1965, including Amendments 25-1 through 25-37.
FAR Part 25, Amendment 25-38 paragraphs 675(a), 685(a), 733(c), 775(e), 787(c), 815, 841(b), 951(a), 979(d), and (e), 1041, 1143(e), 1303(a), 1322, 1385(c), 1557(b) and 1583(a); Amendment 25-40 paragraphs 901 (b) and (c), 903(c), and (e), 933(a), 943, 959, 1091(a) and (d), 1145(c), 1199(b) and (c), 1207, 1549 and 1585(a) (9); Amendment 25-41 paragraph 1309; Amendment 25-42, paragraph 1353(c); Amendment 25-45, paragraphs 571 and 629(d) (4) (v); Amendment 25-46, paragraphs 351 and 603.

b) DOT Airworthiness Requirements contained in DOT letter to Canadair Limited, 5010-10-326 (LIAP), 31 July 1980.

c) Equivalent safety has been established for the following requirements:
FAR 25.773 (b)(2) DV Window
FAR 25.955 (a)(4) Fuel Flow

d) Compliance with the following optional requirements has been established:
Ditching provisions of FAR 25.801
Ice Protection of FAR 25.1419

e) Special Conditions:

CL-600-2A12, -2B16, (only):
DOT Special Condition on stalls contained in DOT letter to Canadair Ltd. 5010-10-377 (ABP/A) dated 25 October 1982.
DOT Special Conditions on Automatic Take-off Thrust Control System contained in DOT letter to Canadair Ltd. 5010-10-377 (ABP/A) dated 8 November 1982.

CL-600-1A11, (only):
Adopted FAA Special Conditions Number 25-94-EA-12 (Docket number 16921) for the Canadair CL-600 airplane.

CL-600-2A12, -2B16:
FAA Special Condition 25-ANM-1, Issued in Federal Register 14 CFR Part 21 Docket NM-1 on March 24, 1983

f) Additional FAA Requirements

CL-600-1A11, -2A12, -2B16:
FAR Part 36 dated December 1, 1969, as amended through Amendment 36-9.
SFAR 27 dated February 1, 1974 as amended through Amendment SFAR 27-2.

g) Additional Airworthiness Requirements

CL-600-2B16 (601-3A) (First Edition) Chapter 3, ICAO Annex 16, Vol I, Aircraft Noise
CL-600-2B16 (601-3R) Airworthiness Manual, Chapter 516, Aircraft Noise at Change 516-03 and amendment 3 to Chapter 3, ICAO Annex 16, Vol I, Aircraft Noise

5.2 Model CL-600-2B16 (604 Variant)

a) FAR Part 25 dated February 1, 1965, including Amendment 25-1 through 25-78 except for the following:

FAR Part 25 at Amendment 25-37 for paragraphs 149, 365, 561, 625, 701, 727, 783 (except 783(f)), 785 (except 785 (g)), 789, 791, 801,803, 807, 809, 811, 812, 813, 831, 853, 855, 857, 1307, 1359, 1415, 1419

FAR Part 25 at Amendment 25-37 for existing installation and Amendment 25-78 for new installation for paragraph 963, 965, 994, 997 and 1438
FAR Part 25 at Amendment 25-38 for paragraphs 787 and 1439
FAR Part 25 at Amendment 25-40 for paragraph 25.973
FAR Part 25 at Amendment 25-42 for paragraph 25.109 (as amended by TC Issue Paper F2)
FAR Part 25 at Amendment 25-44 for paragraph 25.1413
FAR Part 25 at Amendment 25-54 for paragraph 851

b) DOT Airworthiness Requirements contained in DOT letter to Canadair Limited, 5010-10-377 (ABP/A), 25 October 1982, except paragraph 5.

c) Equivalent safety has been established for the following requirements:
FAR 25.955 (a)(4), Fuel Flow
FAR 25.103, .107, Reduced Operating Speed Factors
119, .121, 125, .143, (TC Issue Paper F-1)
(TC Issue Paper F-1) and 207.

d) Compliance with the following requirements has been established:
FAR 25.801 Ditching Provisions
FAR 25.1419 Ice Protection

e) Special Conditions:
94-2 High Intensity Radiated Fields (HIRF)
94-3 Lightning Protection
2007-01 Steep Approach and Landing Capability

f) New FAR Part 25 requirements 562, 810, 819, 832, 858, 869, (a) & (b), 1421, 1423 and 1450 are not part of the certification basis

g) Airworthiness Manual, Chapter 516, Aircraft Noise and Emission at change 516-04 and ICAO Annex 16, Vol I, Chapter 3 at Amendment 4

h) Airworthiness Manual, Chapter 511, Section 511.117, Function and Reliability Test Flying.

i) Additional Technical Conditions (Airworthiness Manual Chapter 525 Requirements):

525.105 (c)(l)	Take-off Performance, Unpaved Runways	Change 525-2
525.125 (b)	Landing Performance, Unpaved Runways	Change 525-2
525.201 (d)	Stall Demonstration	First Edition
525.207 (b)	Stall Warning	First Edition
525.697 (b)	Lift and Drag Devices	First Edition
525.699 (d)	Lift and Drag Devices, Indicator	First Edition
525.1301-1	Airplane Operation After Ground Soak	First Edition
525.1557 (b)(4)	Miscellaneous Markings and Placards	Change 525-3
525.1581 (e)(f)	Airplane Flight Manual	First Edition
525.1581 (g)	Wet and Contaminated Runways	Change 525-4

j) Compliance has been demonstrated with:
FAR Part 36 dated December 1, 1969, as amended through Amendment 36-20
FAR Part 34 dated August 25, 1990, as amended through Amendment 34-1

III. Technical Characteristics and Operational Limitations

1. EASA/JAA Type Design Definition
Major modifications which define the aircraft as the “Green Configuration” are recorded in document RAZ-604-142 at latest Revision (Definition of type design for JAA type certification).

2. Engines

Models	Engines
CL-600-1A11 (600)	Two Avco Lycoming ALF-502L or ALF-502L-2
CL-600-2A12 (601 Variant)	Two - General Electric CF34-1A or One - General Electric CF34-1A and One CF34-3A or One – General Electric C434-1A and one CF34A2 or * Two - General Electric CF34-3A or * Two - General Electric CF34-3A2 or * One - General Electric CF34-3A and One CF34-3A2
* Aircraft with two CF34-3A or CF34-3A2 engines installed, improved performance is not available until Canadair Service Bulletin 601-0238 - Modification - Engines - Use of 3A engines at 3A power settings, is incorporated.	
CL-600-2B16 (601-3A Variant)	Two - General Electric CF34-3A or CF34-3A2 or One - General Electric CF34-3A and One CF34-3A2
CL-600-2B16 (601-3R Variant)	Two - General Electric CF34-3A1
CL-600-2B16 (604 Variant)	Two - General Electric CF34-3B

3. Airplane Limit Speeds

CL-600-1A11 (600)				
Airspeed Limits (IAS)			Knots	Mach
	V_{MO} and M_{MO}	(Maximum Operating)		
		Sea Level to 10000 ft	301*	*
		*See Flight Manual for variations of V_{MO} and M_{MO} with altitude		
	V_{FE}	(Flaps extended)		
		20°	232	
		30°	198	
		45°	170**	
		45°	190**	
		**See Flight Manual as listed in Approved Publications		
	V_A	(SeeFlight Manual for variations of V_A with altitude and aircraft weight)		
	V_{LO}	(Landing Gear Operating)	197	
	V_{LE}	(Landing Gear Extended)	250	

CL-600-2A12 (601 Variant)				
Airspeed Limits (IAS)			Knots	Mach
	V_{MO} and M_{MO}	(Maximum Operating)		
		Sea Level to 10000 ft	301*	*
		*See Flight Manual for variations of V_{MO} and M_{MO} with altitude		
	V_{FE}	(Flaps extended)		
		20°	232	
		30°	198	
		45°	190	
	V_A	(SeeFlight Manual for variations of V_A with altitude and aircraft weight)		
	V_{LO}	(Landing Gear Operating)	197	
	V_{LE}	(Landing Gear Extended)	250	

CL-600-2B16 (601-3A Variant)				
Airspeed Limits (IAS)			Knots	Mach
	V_{MO} and M_{MO}	(Maximum Operating)		
		Sea Level to 10000 ft	301*	*
		*See Flight Manual for variations of V_{MO} and M_{MO} with altitude		
	V_{FE}	(Flaps extended)		
		20°	232	
		30°	198	
		45°	190	
	V_A	(SeeFlight Manual for variations of V_A with altitude and aircraft weight)		
	V_{LO}	(Landing Gear Operating)	197	
	V_{LE}	(Landing Gear Extended)	250	

CL-600-2B16 (601-3R Variant)				
Airspeed Limits (IAS)			Knots	Mach
	V_{MO} and M_{MO}	(Maximum Operating)		
		Sea Level to 10000 ft	301*	*
		*See Flight Manual for variations of V_{MO} and M_{MO} with altitude		
	V_{FE}	(Flaps extended)		
		20°	232	
		30°	198	
		45°	190	
	V_A	(SeeFlight Manual for variations of V_A with altitude and aircraft weight)		
	V_{LO}	(Landing Gear Operating)	197	
	V_{LE}	(Landing Gear Extended)	250	

CL-600-2B16 (604 Variant)			
Airspeed Limits (IAS)		Knots	Mach
	V_{MO} and M_{MO} (Maximum Operating)		
	Sea Level to 8000 ft	300*	*
	*See Flight Manual for variations of V_{MO} and M_{MO} with altitude		
	V_{FE} (Flaps extended)		
	20°	231	
	30°	197	
	45°	189	
	V_A (SeeFlight Manual for variations of V_A with altitude and aircraft weight)		
	V_{LO} (Landing Gear Operating)	197	
	V_{LE} (Landing Gear Extended)	250	

4. Oil

Oil Capacity:

600-1A11 (600)				
	Per Engine Total (Usable)		APU Total (Usable)	
Litres	13.96	(7.33)	2.70	(1.55)
Imperial Quarts	12.28	(6.45)	2.40	(1.36)

600-2A12 (601 Variant)				
	Per Engine Total (Usable)		APU Total (Usable)	
Litres	6.43	(5.20)	2.70	(1.55)
Imperial Quarts	5.66	(4.58)	2.40	(1.36)

600-2B16 (601-3A Variant)				
	Per Engine Total (Usable)		APU Total (Usable)	
Litres	6.43	(5.20)	2.70	(1.55)
Imperial Quarts	5.66	(4.58)	2.40	(1.36)

600-2B16 (601-3R Variant)				
	Per Engine Total (Usable)		APU Total (Usable)	
Litres	6.43	(5.20)	2.70	(1.55)
Imperial Quarts	5.66	(4.58)	2.40	(1.36)

600-2B16 (604 Variant)				
	Per Engine Total (Usable)		APU Total (Usable)	
Litres	6.43	(5.20)	2.70	(1.55)
Imperial Quarts	5.66	(4.58)	2.40	(1.36)

5. Maximum Certified Weights kg. (lbs)

Max. Take-off	kg	lbs
600-1A11 (600)		
	18643	41100
	18711	41250
600-2A12 (601 Variant)		
	19550	43100
	20230	44600
	20457	45100
600-2B16 (601-3A Variant)		
	19550	43100
	20230	44600
	20457	45100
600-2B16 (601-3R Variant)		
	20457	45100
600-2B16 (604 Variant)		
604 Variant	21591	47600
604 Variant with SB 604-11-001 Or 604 Variant Serial Number 5640 and Sub	21863	48200

6. Placards

Placards are listed in the following Canadair Limited Drawings:

600-1A11 (600):
- 600-40402
- 600-40452
- 600-51000
- 600-51002
- 600-51004

600-2A12 (601 Variant)
- 601-40402
- 601-40452
- 600-51000
- 600-51002
- 601-51004

600-2B16 (601-3A Variant)
- 601-40402
- 601-40452
- 601A51000
- 601A51002
- 601A51004

600-2B16 (601-3R Variant)
- 601-40402
- 601-40452
- 601A51000
- 601A51002
- 601A51004

600-2B16 (604 Variant)
- 601-40402
- 601-40452
- 604-51000

7. Instructions for Continued Airworthiness:

The following publication defines the scope of the Instructions for Continued Airworthiness as required form compliance with FAR 25.1259

Models	AMM
CL-600-1A11 (600)	Aircraft Maintenance Manual PSP-602
CL-600-2A12 (601 Variant)	Aircraft Maintenance Manual PSP 601-2
CL-600-2B16 (601-3A Variant)	Aircraft Maintenance Manual PSP 601-2 Identification No. CH 601 MM
CL-600-2B16 (601-3R Variant)	Aircraft Maintenance Manual PSP 601-2 Identification No. CH 601 MM
CL-600-2B16 (604 Variant from S/N 5301 to 5699)	Aircraft Maintenance Manual Identification No. CH 604 MM
CL-600-2B16 (604 Variant from S/N 5701 & subs)	Aircraft Maintenance Manual Identification No. CH 605 MM

8. Approved Publications

CL-600-1A11 (600)	Airplane Flight Manual, Canadair Publication RAG-600-101 issue 2 (PSP 600 and PSP 600-1) and subsequent approved issues.
CL-600-2A12 (601 Variant)	a) Airplane Flight Manual, Canadair Publication (DOT) PSP-601-1A and subsequent approved issues. b) Airplane Flight Manual, Canadair Publication (DOT) PSP-601-1B and subsequent approved issues c) Airplane Flight Manual, Canadair Publication (DOT) PSP-601-1A-1 and subsequent approved issues. d) Airplane Flight Manual, Canadair Publication (DOT) PSP-601-1B-1 and subsequent approved issues

CL-600-2B16 (601-3A Variant) CL-600-2B16 (601-3R Variant)	a) Airplane Flight Manual, Canadair Publication (DOT) PSP-601A-1 and subsequent approved issues. b) Airplane Flight Manual, Canadair Publication (DOT) PSP-601A-1-1 and subsequent approved issues. c) Components, which are life limited, are listed in Time Limits/Maintenance Checks, PSP-601A-5.
CL-600-2B16 (604 Variant, S/N 5301 to 5699)	a) Airplane Flight Manual, Canadair Publication (DOT) PSP-604-1 and subsequent approved issues. b) Time Limits/Maintenance Checks Manual, Identification No. CH 604 TLMC, Section 5-10 or later approved revisions which consists of the Damage Tolerance Inspections, Certification Maintenance Requirements, and Life Limited Parts. This information is consistent with Canadair Documents RAS-604-990, RBR-604-167 and RBR-604-300, respectively.
CL-600-2B16 (604 Variant, S/N 5701 & subs)	a) Airplane Flight Manual, Canadair Publication (DOT) PSP-605-1 and later approved revisions. b) Time Limits/Maintenance Checks Manual, Identification No. CH 605 TLMC, section 5-10 or later approved revisions which consists of the Damage tolerance Inspections, Certification Maintenance requirements, and Life Limited Parts. This information is consistent with Canadair Documents RAS-604DX-990, RBR-604-167and RBR-604-300, respectively.

9. Minimum Flight Crew:

   Minimum Flight Crew: 2 (Pilot and Co-pilot)

10. Maximum Seating Capacity:

    22, including 3 crew (1 Pilot, 1 Co-Pilot, 1 Flight Attendant)
    (19 Passengers as limited by number of exits provided – see Note 2)

11. Auxiliary Power Unit (APU)

    CL-600-1A11, 2A12 (Pre Service Bulletin 601-0568, 2B16 (Up to and include Serial Number 5630 and Pree Service Bulletin 601-0568) Garret GTCP-36-100-E

    Honeywell 36-150(CL) (S/N 5631 and subsequent, or post
    Service Bulletin 601-0568)
    Approved to TSO C-77

APU Limits:

<table>
<tr><td>CL-600-1A11 (600)</td><td>Garrett GTCP 36100E</td><td><u>Limits</u>
Maximum RPM: 110%
Maximum EGT: Running 731℃
Starting 974℃
Below 60% RPM 870˚C Maximum 20 seconds</td></tr>
<tr><td>CL-600-2A12 (601 Variant)</td><td rowspan="3">Honeywell 36-150(CL)</td><td rowspan="3"><u>Limits</u>
Maximum RPM: 110%
Maximum EGT: Running 731℃
Starting 974℃
See AFM PSP-604-1 (for S/N 5301 to 5699) & AFM PSP-605-1 (for S/N 5701 & subs) for APU limitations</td></tr>
<tr><td>CL-600-2B16 (601-3A Variant)
CL-600-2B16 (601-3R Variant)</td></tr>
<tr><td>CL-600-2B16 (604 Variant)</td></tr>
</table>

12. Equipment

The basic required equipment as prescribed in the applicable airworthiness regulations (see Certification Basis) and defined in the Type Certificate Type Design Definition, (RAL-604-0001) must be installed in the airplane for certification.

13. Notes

1. EASA Approved Airplane Flight Manual: The airplane must be operated according to the appropriate EASA Approved Airplane Flight Manual.

2. This aircraft Type Certificate defines an aircraft that does not include passenger provisions. Carriage of persons in the cabin is permitted when an approved seating arrangement and related required passenger provisions are incorporated in accordance to the Basis of Certification.

3. CL-600-2B16 Variant (604 S/N 5301 to 5699):

   The airplane is equipped with a Cockpit Voice Recorder (CVR) and associated components. Satisfactory functioning of the microphone and recording facilities have not been demonstrated by Canadair, and cannot be completed until installation of an interior and completion of SB 604-23-001. This note does not apply for aircraft Serial Number 5701 and subsequent.

4. CL-600-2B16 Variant (604):
   For green aircraft, smoke goggles are provided with ferry kit and are stowed in side console compartments. For completed aircraft, dedicated storage shall be provided by the completion enter for pilot and co-pilot smoke goggles to ensure that goggles are protected from damage and are readily available to crew in an emergency.

5. CL600-2B16 Variant (604):
   FAR 25.109: The aircraft accelerate stop performance is established using the criteria specified in Issue Paper F-2, Accelerate-Stop Distance. The criteria used anticipate proposed changes to FAR 25.109.

6. Major modifications, which define the aircraft as the “Green Configuration”, are recorded in document RAZ-604-142 rev - - or later approved revisions (Definition of type design for EASA type certification).

7. The CL-605 is a marketing designation of the Challenger CL-600-2B16 (604 Variant) starting at aircraft serial number 5701.

8. The following includes the effectivity ranges for the Challenger 600 variant type models

CL600-1A11	- 1002, 1004 to 1999
CL600-2A12	- 1003, 3001 to 3999
CL600-2B16 (6013A variant)	- 5001 to 5134
CL600-2B16 (6013R variant)	- 5135 to 5300
CL600-2B16 (604 variant)	- 5301 to 5699, 5701 and subs

SECTION 8: CHANGE RECORD

Starting with Issue 9.0

TCDS Issue No	TCDS Date	TCDS Changes	TC Date
9.0	09/11/10	Introduction of Model CL-6002E25 (CRJ 1000) Introduction of SC H-01 for EWIS ICA Requirements	09/11/10
10.0	15/11/10	Correction of typographical errors: • Engine model number for CL-600-2B19; • MMEL publication numbers for CL-600-2C10/-2D15/-2D24/-2E25; • FAA Engine Type Certificate number for CL-600-2D15/-2D24; and • Fuel capacity tables for CL-600-2E25.	09/11/10