Japan Civil Aviation Bureau
Ministry of Land, Infrastructure, Transport and Tourism

No. 44
Rev.7
Bombardier
CL-600-2B19
CL-600-2C10
June 25, 2020

Type Certificate Data Sheet

No. 44

This data sheet, which is part of Type Certificate No. 44, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Japan Civil Aeronautics Law and Regulations.

Type Certificate Holder: MHI RJ Aviation ULC
12655 Boul. Henri-Fabre O, Mirabel, Québec, J7N1E1
CANADA

Type Certificate Holder Record

Type Certificate Holder	**Period**
Bombardier Inc. 800 Boul. René-Lévesque Ouest, Montréal, Québec, H3B 1Y8 Canada	Until 31 May 2020
MHI RJ Aviation ULC 12655 Boul. Henri-Fabre O, Mirabel, Québec, J7N1E1 Canada	Since 1 June 2020

1.Model CL-600-2B19 (Transport Category) Approved May 19, 2000

Engines Two (2) General Electric CF-34-3A1 or
Two (2) General Electric CF-34-3B1
Engine may be intermixed in accordance with AFM as listed in Approved Publications.

Airspeed Limits (IAS)

			Knots	Mach
V_{MO} and M_{MO}(Maximum Operating)				
	Below 8,000 feet		330*	*

* See Flight Manual for variations of V_{MO} and M_{MO} at or above 8,000 feet

V_{FE}	(Flaps extended)	8°	230
		20°	230
		30°	185
		45°	170
V_A	(Maneuvering)		
	See AFM 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

Maximum Weight (Mass)

	Kg	lbs
Take - off*	21,523	47,450

* See AFM, as listed in Approved Publications, for other weight limitations and aircraft eligibility.

Oil Capacity

	Per Engine Total (Usable)	APU Total
Litres	6.43 (5.2)	6.00*
Imperial Quarts	5.66 (4.58)	5.28

* Includes 4 Litres in sump plus 2 litres to service oil cooler and lines.

Page No.	1	2	3	4	5	6	7	8	9
Rev. No.	7	5	5	5	5	5	5	5	7

Serial Numbers Eligible	7001 and subsequent
Placard	Basic markings and placards are listed in the following Canadair drawings: 601R47500, 601R47600, 601R47602, and 601R47700 or any drawing which replaces and supersedes any or all of these drawings
Model Definition	Document RAD-601R-112 records the type design approved for CL-600-2B19 aircraft. The approved type design appropriate to the "as delivered" configuration of a particular CL-600-2B19 airplane is defined in the document RAL-601R-0001 Rev. B-1 and RAL-601R-xxxx. (xxxx denotes the serial number for the aircraft concerned) CL-600-2B19 Green Configuration For CL-600-2B19 Green Configuration and associated modifications refer to NOTE 3.
Instructions for Continued Airworthiness	Aircraft Maintenance Manual CSP A-001 defines the scope of the Instructions for Continued Airworthiness as required for compliance with FAR 25.1529
Approved Publications	a) Airplane Flight Manual, Canadair Publication CSP A-012. b) Structural Repair Manual, Canadair Publication CSP A-008, Repair Data Section. c) Maintenance Program – Airworthiness Limitation Items (See NOTE 11) Maintenance Requirements Manual, Publication CSP A-053, Part 2, Airworthiness Limitations

2.Model CL-600-2C10 (Transport Category) Approved June 15, 2009

Engines	Two (2) General Electric CF-34-8C1 or Two (2) General Electric CF-34-8C5B1 Engine may be intermixed in accordance with AFM as listed in Approved Publications.			
Airspeed Limits (IAS)			Knots	Mach
	V_{MO} and M_{MO} (Maximum Operating)			
	Below 8,000 feet		330*	*
	* See AFM for Variations of V_{MO} and M_{MO} at or above 8,000 feet			
	V_{FE} (Flaps extended)	1°	230	
		8°	230	
		20°	230	
		30°	185	
		45°	170	
	V_A (Maneuvering)			
	See AFM 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	
Maximum Weight (Mass)			Kg	lbs
	Take - off*		32,999	72,750

* See AFM, as listed in Approved Publications, for other weight limitations and aircraft eligibility.

Oil Capacity

	2 Engines – Total Quantity		APU
Litres	19.8	25.9*	4.83
U.S. Quarts	20.8	27.2*	5.10

* With Remote Oil Replenishment System Option

Serial Numbers Eligible: 10002 and subsequent

Placards: Basic markings and placards are listed in the following Bombardier drawings: BA670-47501, BA670-47506, 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 RAL-670-xxxxx or RAL-BA670-xxxxx. (xxxxx denotes aircraft Serial Number)

Japanese placards are listed in the RAQ-670-221.

Model Definition: Type design approved for CL-600-2C10 aircraft.

- RAL-670-0001, Rev.D, or later approved revision, Baseline Engineering Configuration Statement.
- RAL-670-0002, Rev.A, or later approved revision, Options Engineering Configuration Statement.
- RAZ-BA670-128, Rev.NC, or later approved revision, CL-600-2C10 Regional Jet Aircraft Definition of Transport Canada/FAA type design.

The approved type design appropriate to the "as delivered" configuration of a particular CL-600-2C10 airplane is defined in the document RAL-670-xxxxx for S/N 10002 to 10132 and RAL-BA670-xxxxx for S/N 10133 and subsequent. (xxxxx denotes the serial number for the aircraft concerned).

Instructions for Continued Airworthiness: Aircraft Maintenance Manual CSP B-001 defines the scope of the Instructions for Continued Airworthiness as required for compliance with FAR 25.1529

Approved Publications:

a) Airplane Flight Manual, Publication CSP B-012, dated December 22, 2000 or later approved revisions.
b) Structural Repair Manual, Bombardier Publication CSP B-008, Repair Data Section.
c) Maintenance Program – Airworthiness Limitation Items (See NOTE 11) Maintenance Requirements Manual, Publication CSP B-053, Part 2, Airworthiness Limitations

DATA PERTINENT TO ALL MODELS EXCEPT AS INDICATED

Fuel

ISSUING AUTHORITY	TYPE	SPECIFICATION		
		Canada	U.S.A.	UK
Commercial	JET A	CGSB-3.23	ASTM D1655	-----
	JET A-1		ASTM D1655	Def Stan91-91
Military	JP-5	CGSB-3.24	MIL-DTL-5624	Def Stan91-86
	JP-8		MIL-DTL-83133	Def Stan91-87

For additional approved fuel grades see applicable AFM
Fuel additives – See AFM as listed in Approved Publications

Use of wide-cut fuels is prohibited except for non-revenue ferry flights. For fuel Temperature limitations see applicable AFM.

Oil

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

Engine Operating Limits

See AFM as listed in Approved Publications.

Maximum Oil Pressure

See AFM as listed in Approved Publications.

Minimum Oil Pressure

See AFM as listed in Approved Publications.

APU

CL-600-2B19
Garrett GTCP-36-150RJ
Limits

Maximum RPM:		107 %
Maximum EGT:	Running	743°C
	Starting	974°C*

Below 60% RPM: 870°C Maximum 20 seconds

* Not to be exceeded under any operating condition.

CL-600-2C10
Allied Signal RE-220(RJ)
See AFM as listed in Approved Publications.

C.G. Limit

See AFM as listed in Approved Publications.

Reference Datum

CL-600-2B19
Fuselage station 0, located 952.5cm (375inches) forward of weighing datum jig point.

CL-600-2C10
Fuselage station 0, located at 1394.5cm (549.0inches) forward of weighing datum jig point.

Leveling Means

CL-600-2B19
Target Plate and plumb bob bracket within rear fuselage, at fuselage station 718.75.

CL-600-2C10
Target Plate and plumb bob bracket within rear fuselage, at fuselage station 1145.75.

Minimum Crew

Two (Pilot and co-pilot)

Maximum Occupants

CL-600-2B19 (Regional Jet Series 100)
55, including 5 crew members *
(50 passengers when fitted with an approved interior)

CL-600-2B19
Green Aircraft Configuration (See NOTE 4)

CL-600-2C10
Series 700- 73, including 5 crew members *
(68 passengers when fitted with an approved interior)
Series 701- 75, including 5 crew members *
(70 passengers when fitted with an approved interior)
Series 702- 83, including 5 crew members *
(78 passengers when fitted with an approved interior)

* “Crew Members” means 1 Pilot, 1 Co-Pilot, 1 Observer and 2 Flight Attendants.

Maximum Operating Altitude	Take - off and Landing *	10,000 feet
	Enroute	41,000 feet

* See AFM, as listed in Approved Publications, for altitudes above 10,000ft.

CL-600-2C10

Take-off and Landing	8,000ft.(without Modsum670T82357 incorporated)
Take-off and Landing	9,600ft.(with Modsum670T82357 incorporated)
Enroute	41,000ft.

Fuel Capacity — See AFM as listed in Approved Publications.

Outside Air Temperature Limits — For temperature operating limits refer to Limitations Section of AFM

Certification Basis

1. Model CL-600-2B19

(1) Airworthiness Requirements:

a) - Civil Aeronautics Regulations Annex 1
- FAR Part 25 including amendments 25-1 through 25-62, with the following Exemptions / Additions:

Exemptions

1)	FAR 25.109	Accelerate-Stop Distance (at Amdt. 25-42 modified) (See NOTE 2)
2)	FAR 25.832	Cabin Ozone Concentration (not included)
3)	FAR 25.1401	Anti-Collision Light System (at Amdt. 25-40)
4)	FAR 25.1438	Pressurization and Pneumatics System (not included)

Additions

1)	FAR 25.773	Pilot Compartment View (at Amdt. 25-72)
2)	FAR 25.785(h)	Location of Flight Attendant Seat (at Amdt. 25-72)

b) Additional Airworthiness Requirements
Airworthiness Manual, Chapter 525 at Change 525-1, Sections:

1)	525.201(d)(1)	Stall demonstration
2)	525.207(b)	Stall Warning
3)	525.697(b)	Lift and Drag Devices, Controls
4)	525.699(d)	Lift and Drag Device Indicator
5)	525.807(c)(6)	Passenger Emergency Exits
6)	525.1301-1	Aeroplane Operations After Ground Cold Soak
7)	525.1557(b)(3)	Miscellaneous Markings and Placards
8)	525.1581(e) and (f)	Aeroplane Flight Manual, General
9)	525.1521(b)(6)	Powerplant Limitations

c) Special Conditions
1) SCA 91-8 dated December 10, 1991, High Intensity Radiated Fields (HIRF)
2) SCA 92-1 dated May 11, 1992, Lightning Protection
3) SCA 94-1 dated January 11, 1994, Flight Dynamics Head Up Guidance System (HGS2100)
4) SCA 2009-02 dated 2009-03-12, Seats with Non-Traditional, Large, Non-Metallic Panels

d) Findings of Equivalent Safety

1)	FAR 25.783(f)	Baggage and Avionics Compartment Doors
2)	FAR 25.811(d)(2)	Entry Door Exit Marking Sign
3)	FAR 25.813(c)(1)	Type Ⅲ Emergency Exit Access
4)	FAR 25.1322	Head Up Guidance System Display (Issue Paper F-16)
5)	FAR 25.103, .107, .119, .121, .125, .143 and .207	Reduced Minimum Operating Speed Factors (Issue Paper F-17)

6) AWM 525.1441(c) Oxygen Quantity Indication - Passenger – Lavatory – Oxygen Dispensing Unit
7) AWM 525.1443(c) Minimum Mass Flow of Supplemental Oxygen - Passenger – Lavatory Oxygen Dispensing Unit

e) Compliance with the following additional optional requirements has been established
1) FAR 25.1419 Ice Protection
2) FAR 25.801 Ditching (when the safety equipment requirements of FAR 25.1411 and the ditching equipment requirements of FAR 25.1415 are satisfied).

f) JCAB Additional Technical Conditions
1) Special requirement regarding "Sudden Release of Pressure" (Ref. JCAB letter KU-KI-392 dated April 12, 2000).
2) FAR 25.832 (Amdt.-56) Cabin Ozone Concentration

g) JCAB Additional Special Requirements
1) Markings and placards written in Japanese language, which are prescribed in JCAB Circular No.1-008. (See NOTE J2)
2) Airplane Flight Manual which are prescribed in Civil Aeronautics Regulations of Japan, Article 5-4 and JCAB Circular No.1-001.

(2) Noise:
Civil Aeronautics Regulations Annex 2 Chapter 2 (equivalent to ICAO Annex 16 Volume 1 Chapter 3) for Noise Requirements

(3) Emission Requirements:
Civil Aeronautics Regulations Annex 3 for Fuel Venting and Exhaust Emission Requirements, effective on November 17, 2011 (equivalent to ICAO Annex 16 Volume II Amendment 7).

Note: The following engine models comply with the ICAO Annex 16, Volume II Part III, Chapter 2, paragraph 2.3.2d (CAEP/6).
General Electric CF-34-3A1 and General Electric CF-34-3B1

2. Model CL-600-2C10
(1) Airworthiness Requirements:
a) - Civil Aeronautics Regulations Annex 1
- TAIKUSEI-SHINSA-YORYO Part III (JCAB Airworthiness Inspection Manual (AIM)) dated February 26, 1991 (equivalent to FAR Part 25 including Amendment 25-1 through 25-71), plus FAR Part 25 Amendment 25-72 through 25-86 with the following Exemptions /Additions.

Exemptions
1) FAR 25.904 ATTCS(SCA2000-08 issued instead)

Additions
1) FAR 25.571 Damage Tolerance and Fatigue Evaluation of Structure (at Amendment 25-96)
2) FAR 25.493 Braked Roll conditions(at Amendment 25-97)

b) Additional Airworthiness Requirements
Airworthiness Manual, Chapter 525 at Change 525-6, Sections:
1) 525.105(c)(1) Takeoff
2) 525.125(b) Landing
3) 525.201(d)(1) Stall demonstration
4) 525.207(b) Stall Warning
5) 525.697(b) Lift and Drag Devices, Controls
6) 525.699(d) Lift and Drag Device Indicator
7) 525.951(d) Fuel System - General
8) 525.1301-1 Aeroplane Operations After Ground Cold Soak
9) 525.1521(e) Take-off Operation

10) 525.1557(b)(4) Miscellaneous Markings and Placards
11) 525.1581(a)(3) AFM – Noise Standards
12) 525.1581(e) Aeroplane Flight Manual, Units
13) 525.1581(f) Aeroplane Flight Manual, Operating on Wet and Contaminated Runways
14) 525.1581(g) Aeroplane Flight Manual, Operating Rules

c) Special Conditions
1) SCA 98-2 dated May 31, 1999, High Intensity Radiated Fields (HIRF)
2) SCA 2000-08 dated October 6, 2006, Automatic Performance Reset
3) SCA 2009-02 dated 2009-03-12, Seats with Non-Traditional, Large, Non-Metallic Panels

d) Findings of Equivalent Safety
1) FAR 25.103&Others Reduced Minimum Operating Speed Factors
2) FAR 25.107(e)(f) Take-off Speeds V_{lof} and V_{mu}
3) FAR 25.109 Accelerate-Stop Distance
4) FAR 25.783 Baggage and Avionics Compartment Doors
5) FAR 25.811(d)(2) Entry Door Exit Marking Sign
6) FAR 25.813(c)(2) Type Ⅲ Emergency Exit Access
7) FAR 25.933 Thrust Reverser System
8) FAR 25.1435(b)(1) Hydraulic System Testing
9) FAR 25.841(b)(6) Pressurized Cabins (See NOTE 9)
10) AWM 525.1441(c) Oxygen–Quantity Indication –Passenger–Lavatory–Oxygen Dispensing Unit
11) AWM 525.1443(c) Minimum Mass Flow of Supplemental Oxygen –Passenger–Lavatory–Oxygen Dispensing Unit

e) Compliance with the following additional optional requirements has been established
1) FAR 25.1419 Ice Protection
2) FAR 25.801 Ditching (when the safety equipment requirements of FAR 25.1411 and the ditching equipment requirements of FAR 25.1415 are satisfied).

f) JCAB Additional Special Requirements
1) Markings and placards written in Japanese language, which are prescribed in JCAB Circular No.1-008. (See NOTE J2)
2) Airplane Flight Manual which are prescribed in Civil Aeronautics Regulations of Japan, Article 5-4 and JCAB Circular No.1-001.

g) JCAB Equivalent Level of Safety
1) TAIKUSEI-SHINSA-YORYO Part III, 4-7-6A-2 Exit signs and Locator Lenses Deviations of Japanese Characters (JCAB issue paper E1)

(2) Noise:

Civil Aeronautics Regulations Annex 2 Chapter 2 (equivalent to ICAO Annex 16 Volume 1 Chapter 3) for Noise Requirements

(3) Emission Requirements:

Civil Aeronautics Regulations Annex 3 for Fuel Venting and Exhaust Emission Requirements, effective on November 17, 2011 (equivalent to ICAO Annex 16 Volume II Amendment 7).

Note: The following engine models comply with the ICAO Annex 16, Volume II Part III, Chapter 2, paragraph 2.3.2d (CAEP/6).
General Electric CF-34-8C1 and General Electric CF-34-8C5B1

Continued Airworthiness and Safety Improvements for Transport Category Airplanes	TAIKUSEI-SHINSA-YORYO (JCAB Airworthiness Inspection Manual (AIM)) Part III-2 Chapter 2 “Enhanced Airworthiness Program for Airplane Systems” and Part III-3 “Fuel Tank System Airplanes Fault Tolerance Evaluation Requirements” dated March 4, 2015 (equivalent to Part 26 of the Federal Aviation Regulations Subpart B §26.11 Amendments 26-0, and SFAR-88 dated December 9, 2002) are included in the certification basis.

Dates of Application for TCCA and JCAB Type Certification are as follows.

	TCCA TC No.A131	JCAB TC No.44
Model CL-600-2B19	March 29, 1988	January 19, 2000
Model CL-600-2C10	May 1, 1996	October 16, 2008

Required Equipment

a) The basic required equipment as prescribed in the applicable airworthiness requirements (See Basis of Certification) must be installed in the aircraft.
b) Aircraft Flight Manual as listed in Approved Publications.

NOTE 1 This Aircraft Type Certificate defines a configuration, which 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 Certification Basis.

NOTE 2 FAR 25.109. The aircraft accelerate stop performance is established using the criteria specified in Issue Paper F-1, Accelerate - Stop Distance. The criteria used anticipates proposed change to FAR 25.109.

NOTE 3 Major modifications which define the aircraft as the “Green Configuration” are recorded in document RAZ-601R-110 (Definition of Type Design for Transport Canada approval), as Part 2 to that document.

NOTE 4 The green aircraft 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 Certification Basis. Aircraft delivered in the “Green Configuration” and incorporating Mod. Summary TC601R60255 (Blocking of Emergency Exits) are limited to carrying a maximum of twenty - two (22) occupants including the crew and no more than 19 passengers in accordance with FAR/JAR 25 requirements.

NOTE 5 (No Use)

NOTE 6 For green aircraft, smoke goggles are provided with ferry kit and are stowed inside console compartments. For completed aircraft, dedicated storage shall be provided by the completion centre for pilot and co-pilot smoke goggles to ensure that goggles are protected from damage and are readily available to crew in an emergency.

NOTE 7 (No Use)

NOTE 8 (No Use)

NOTE 9 An Equivalent Safety finding against FAR25.841(b)(6), Pressurized Cabins, is issued for post type certification modification Modsum 670T82357.

NOTE 10 (No Use)

NOTE 11 Compliance with the tasks and intervals specified in the Airworthiness Limitations section of the Maintenance Program listed in Approved Publications is required to ensure continuing compliance with the Certification Basis.

NOTE 12 (No Use)

NOTE 13 (No Use)

NOTE 14 (No Use)

NOTE 15 (No Use)

NOTE 16 (No Use)

NOTE J1 This Type Certificate Data Sheet (TCDS) is based on TCCA TCDS No.A-276 issue No.3 dated June 9, 2020

NOTE J2 Placards and markings for the emergency evacuation, safety equipment and necessary matters to be notified to passengers in order to assure safe operation of airplane, must be indicated in Japanese in accordance with JCAB Circular No.1-008.

NOTE J3 Import Eligibility
To be considered eligible for operation in the Japan, each airplane manufactured under this Type Certificate must be accompanied by a Certificate of Airworthiness for Export or certifying statement endorsed by the exporting foreign civil airworthiness authority which states the following (in the English language)

"This airplane has been examined, tested and found to conform to the type design approved under JCAB Type Certificate No.44 and to be in a condition for safe operation."

… END …