

State Aviation Administration of Ukraine

SAA

TYPE CERTIFICATE DATA SHEET № TJI 0031

CL-600

Type Certificate Holder: **Bombardier Inc.**
800 Boul. René-Lévesque Ouest
Montreal, Quebec, Canada H3B 1Y8

Models: CL-600-2B16 (CL-601-3A Variant)
CL-600-2B16 (CL-601-3R Variant)
CL-600-2B16 (CL-604 Variant)

Issue 6, December 9, 2020

This Data Sheet which is integral part of Type Certificate № TJI 0031 prescribes the conditions and limitations under which the product(s) for which the Type Certificate was granted meet(s) the airworthiness requirements and environmental protection requirements, stated in Certification basis mentioned in this Data Sheet Chapter II.

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SECTION 1: GENERAL

1. **Data Sheet No:** TJI 0031
2. **Type Certificate Holder:** Bombardier Inc.
800 Boul. René-Lévesque Ouest
Montreal, Quebec, Canada H3B 1Y8
3. **Certifying Authority:** Transport Canada Civil Aviation
Aircraft Certification Branch (AARD) (TCCA)
159 Cleopatra Drive
Nepean, Ontario, Canada K2G 5X4
4. **Airworthiness Category:** Large Aeroplanes
5. **Aircraft designations:**

The following provides a table with all CL-600 models and their corresponding marketing / common designations. For reasons of keeping a historical background record check, the table below contains references to both the regional and business jets.

Model	Series or Variant	Marketing / Common Designation	Applicable Type Certificate Historical background record
CL-600-2B16	CL-601-3A	Challenger 601-3A	Business Jet (Challenger) aircraft variants, all covered by TCCA Type Certificate (TC) A-131 and SAA TC TJI 0031.
	CL-601-3R	Challenger 601-3R	
	CL-604	Challenger 604	
CL-600-2B19	Regional Jet 100	Regional Jet 200 / Challenger 850 / CRJ SE	Regional Jet aircraft models, all covered by TCCA TC A-276 and SAA TC TL 0075. All these Regional Jet aircraft models were previously recorded as follows: a) Under TCCA TC and TC Data Sheets (TCDSs) A-131 Issue 59 until 22 nd Nov 2019, when pursuant to Canadian Aviation Regulations CAR 521.357 they were administratively transferred to the new TCCA TC/TCDS A-276 Issue 1. Effective June 1, 2020, TCCA TC A-276 is transferred from Bombardier Inc. to MHI RJ Aviation ULC. b) See NOTE 16.
	Regional Jet 440	-	

SECTION 2: MODEL CL-600-2B16**I. General**

1. **Aircraft designation** Model CL-600-2B16
2. **Application Date for SAA Certification:**
CL-601-3A Variant 09 February 2005
CL-601-3R Variant 09 February 2005
CL-604 Variant 09 February 2005
3. **SAA Certification Date:**
CL-601-3A Variant 15 June 2006
CL-601-3R Variant 15 June 2006
CL-604 Variant 15 June 2006
4. **Airplanes serial number eligible:**
CL-601-3A Variant 5001 to 5134
CL-601-3R Variant 5135 to 5300
CL-604 Variant 5301 and subsequent



II. Certification Basis

1. Reference Application Date for TCCA Certification:

CL-601-3A Variant	01 November 1985
CL-601-3R Variant	21 December 1992
CL-604 Variant	14 June 1993

2. TCCA Certification Date:

CL-601-3A Variant	21 April 1987
CL-601-3R Variant	02 July 1993
CL-604 Variant	20 September 1995

3. TCCA Certification Basis:

Refer to Transport Canada TCDS A-131

4. SAA Certification Basis:

AR-25 "Airworthiness Standards for Transport Category Airplanes"

Equivalent Safety Findings:

AR 25.130	Landing and Go-around Speeds (ref. CRI F-3);
AR 25.147	Directional and Lateral Control (ref. CRI F-8);
AR 25.207	Stall Warning (ref. CRI F-11);
AR 25.415	Ground Gust Conditions (ref. CRI ST-4);
AR 25.519	Static Ground Load Conditions (ref. CRI ST-8);
AR 25.562	Emergency Landing Dynamic Conditions (ref. CRI ST-10);
AR 25.785 (b)	Seats, berths, safety belts, and harnesses (ref. CRI ST-10);
AR 25.651	Control Surfaces Proof of strength (ref. CRI ST-12);
AR 25.681	Control Systems. Ultimate Load Static Tests (ref. CRI ST-12);
AR 25.1181(b)	Fire Zones (ref. CRI P-3);
AR 25.1431	Electronic Equipment Protection Against HIRF Effects (ref. CRI A-4);
AR 25.125F.5.10.1.6	Electromagnetic Compatibility (ref. CRI A-7);

Environmental Standards:

Noise: ICAO Annex 16, Volume 1, Third Edition



III. Technical Characteristics and Operational Limitations

1. Model CL-600-2B16

1.1. Type Certificate Design Definition

Drawing List Canadair Publication RAL-601A-105
(for CL-601-3A Variant & CL-601-3R Variant)

Drawing List Canadair Publication RAL-604-0001 (for CL-604 Variant)

1.2. Maximum Certified Weights: (additionally see NOTE 2)

CL-601-3A Variant & CL-601-3R Variant

	kg	lbs
Maximum Taxi and Ramp Weight	19618	43250
Maximum Take-Off Weight	19550	43100
Maximum Landing Weight	16329	36000
Maximum Zero Fuel Weight	13381	29500
Minimum Flight Weight	11340	25000

* Certain aircraft are eligible for operation at different weights. See AFM as in approved publications. 601-3R Variant for aircraft S/N 5135 and subsequent

CL-604 Variant

	kg	lbs
Maximum Taxi and Ramp Weight	21636	47700
Maximum Take-Off Weight	21591	47600
Maximum Landing Weight	17236,5	38000
Maximum Zero Fuel Weight	14515	32000
Minimum Flight Weight	11793,4	26000

* For CL-604 Variant airplanes with SB 604-11-001 implemented Maximum Take-Off Weight is increased to 21863 kg (48200 lbs)

1.3. Airplane Limit Speeds:

CL-601-3A Variant & CL-601-3R Variant

V_{MO} (V_{max}) and M_{MO} (Maximum Operating)	km/hour	knots	mile/hour	Mach
Sea Level to 3048 m (10000 ft)	556	300	345	-
10000 ft (3048 m) to 6500 m (21330 ft)	676	365	420	-
6500 m (21330 ft) to 7815 m (25640 ft)	-	-	-	0.79
7815 m (25640 ft) to 8754 m (28720 ft)	620	335	385	
above 8754 m (28720 ft)	-	-	-	0.835



Airplane Limit Speeds (cont.):

	km/hour	knots	mile/hour	Mach
V_{FE} ($V_{max \delta}$) (Flaps extended)				
$\delta_f = 20^\circ$	426	230	265	-
$\delta_f = 30^\circ$	363	196	226	-
$\delta_f = 45^\circ$	346	187	215	-
V_A (maneuvering)	See Flight Manual for variation of V_A with altitude and aircraft weight			
V_{LO} (Landing gear operation)	365	197	227	-
V_{LE} (Landing gear extended)	463	250	288	-

CL-604 Variant

V_{MO} ($V_{max \delta}$) and M_{MO} (Maximum Operating)	km/hour	knots	mile/hour	Mach
Sea Level to 2438,4 m (8000 ft)	556	300	345	-
2438,4 m (8000 ft) to 6754,4 m (22160 ft)	645	348	400	-
6754,4 m (22160 ft) to 8098,5m (26570 ft)	-	-	-	0.78
8098,5m (26570 ft) to 9448 m (30997 ft)	589	318	366	
above 9448 m (30997 ft)	-	-	-	0.85
V_{FE} ($V_{max \delta}$) (Flaps extended)				
$\delta_f = 20^\circ$	428	231	266	-
$\delta_f = 30^\circ$	365	197	227	-
$\delta_f = 45^\circ$	350	189	217	-
V_A (maneuvering)	See Flight Manual for variation of V_A with altitude and aircraft weight			
V_{LO} (Landing gear operation)	365	197	227	-
V_{LE} (Landing gear extended)	463	250	288	-

1.4. Fluids (Fuel/Additives):

See AFM for Approved Fluids
Additionally See NOTE 7

1.5. Fuel Capacity:CL-601-3A Variant

Usable	Capacity		Weight	
	U.S. gal.	litres	lbs	kg
2 main tanks (each)	722	2733	4910	2227
Fuselage tanks	1010	3823	6867	3115
Total	2454	9289	16687	7569

See NOTE 3 for system fuel



Fuel Capacity (cont.):

CL-601-3R Variant

Usable	Capacity		Weight	
	U.S. Gal.	Litres	Lbs	Kg
2 main tanks (each)	722	2733	4910	2227
Fuselage tanks	1010	3823	6867	3115
Tail tank	187.7	711	1277	579
Total	2641.7	10000	17963	8148

See NOTE 3 for system fuel

CL-604 Variant

Usable	Capacity		Weight	
	U.S. Gal.	Litres	Lbs	Kg
2 main tanks (each)	722	2733	4910	2227
Fuselage tanks	1062	4020	7220	3275
Tail tank	466	1764	3168	1437
Total	2972	11250	20208	9166

See NOTE 3 for system fuel

1.6. Centre of Gravity Range (additionally see Note 2)

CL-601-3A Variant & CL-601-3R Variant

Weight		Forward Limit % MAC (Sta.)	Aft Limit % MAC (Sta.)
lbs	kg		
25000 to 42250	11340 to 19164	16% (+502.848)	-
43250	19618	-	30% (+515.818)
31000	14060	-	35% (+520.450)
25000	11340	-	35% (+520.450)

Straight line variation between points given

CL-601-3R Variant

Weight		Forward Limit % MAC (Sta.)	Aft Limit % MAC (Sta.)
lbs	kg		
26000 to 38000	11793, 4 to 17236,5	20% (+506.553)	-
39500 to 44750	17917 to 20298	16% (+502.847)	-
47700	21636	20% (+506.553)	-
47700 to 43000	21636 to 19504,5	-	38% (+523.228)
38000 to 26000	17236,5 to 11793,4	-	35% (+520.449)

Straight line variation between points given



1.7. Datum (CL-601-3A Variant & CL-601-3R Variant & CL-601-3R Variant)

Fuselage station 0, located 9525 mm (375 inches) forward of weighing datum jig point

Mean Aerodynamic 2353,158 mm (92,644 inches)

Chord (MAC) (Leading edge of MAC from datum at +12395,835 mm (+488,025 in.))

1.8. Minimum Flight Crew:

Two (Pilot and Co-pilot)

1.9. Maximum Seating Capacity (additionally see Note 1):

22, including 3 crew (1 Pilot, 1 Co-Pilot, 1 Flight Attendant)

(19 Passengers as limited by number of exits provided)

1.10. Engines:

Appropriate Ukrainian Type Certificate No. ТД 0025 and associated Type Certificate Data Sheet

CL-601-3A Variant

Two - General Electric CF-34-3A or CF-34-3A2 or

One - General Electric CF-34-3A and One CF-34-3A2

CL-601-3R Variant

Two - General Electric CF-34-3A1

CL-604 Variant

Two - General Electric CF34-3B

1.11. Engine Limits:CL-601-3A Variant & CL-601-3R Variant

	SL Static Thrust (lbs)		Compressor RPM		Interturbine Temp.*		Time Limit
	lbs	kg	LP %N ₁	HP %N ₂	°C	°F	
Max. takeoff (APR operating)	9140	4146	98,6	99,4	871	1600	5 min.
Max. takeoff (APR not operating)	8650	3924	96,2	98,2	860	1580	5 min.
Max. continuous	8920	4046	98,6	99,2	860	1580	
Idle range				62,9-64			
Min. Idle in icing conditions				64			
Transient							
Takeoff (APR operating)					900	1652	2 min
Takeoff (APR not operating)					878	1612	2 min.
Start/relight					899	1650	25 sec.
					885	1625	50 sec.

* See Approved Flight Manual for CF-34-3A and CF-34-3A2 engines ITT limits



Engine Limits (cont.):CL-604 Variant

	SL Static Thrust		Compressor RPM		Interturbine Temp.*		Time Limit
	lbs	kg	LP %N ₁	HP %N ₂	°C	°F	
Max. takeoff (APR operating)	9220	4182	98,6	99,4	900	1650	5 min
Max. takeoff (APR not operating)	8729	3960	96,2	98,2	884	1623	5 min
Max. continuous	9140	4146	98,6	99,2	874	1605	
Idle range				62,9-64			
Min. Idle in icing conditions				64			
Transient							
Takeoff (APR operating)					928	1702	2 min
Takeoff (APR not operating)					900	1650	2 min
Start/relight					899	1650	25 sec.
					885	1625	50 sec.

NOTE:

1. Above 12200 m (40000 feet), engine anti-ice bleed or air conditioning unit must be selected ON for each engine.

2. Engine Limits with APR Operating are only applicable to Outside Air Temperatures of -20°C (-4°F) and above.

1.12. Auxiliary Power Unit (APU): (additionally see Note 8)

Honeywell GTCP-36-100E

(For the aircrafts up to and include Serial Number 5630 and Pre Service Bulletin 601-0568)

Honeywell 36-150(CL)

(For the aircrafts from Serial Number 5631 and subsequent, or post Service Bulletin 601-0568)

1.13. APU Limits:

Honeywell GTCP-36-100E

Maximum RPM	110%	
Maximum EGT	°C	°F
Starting (10 seconds)	974	1785
Running	731	1348

Below 60% RPM 870°C Maximum 20 seconds

Honeywell 36-150(CL)

Maximum RPM	110%	
Maximum EGT	°C	°F
Starting (10 seconds)	974	1785
Running	731	1348



1.14. Oil (engine, APU):

MIL-L-7808 (Type I) or MIL-L-23699 (Type II) or other approved oils as identified in the Aircraft Maintenance Manual

1.15. Oil Capacity:

(CL-601-3A Variant*)

	Capacity		Weight	
	U.S. gal.	litres	lbs	kg
2-engines (each)	1,70	6,435	13,09	5,94
Total	3,40	12,87	26,18	11,88

Usable

2-engines (each)	1,38	5,22	10,59	4,8
Total	2,75	10,41	21,18	9,6

Additionally See NOTE 4 for system oil

APU

	Capacity		Weight	
	U.S. gal.	litres	lbs	kg
Usable	0,408	1,54	3,144	1,43
Total	0,714	2,70	5,5	2,49
Unusable	0,306	1,16	2,356	1,06

* 601-3R Variant & 604 Variant - same as 601-3A, except as listed in the Approved Flight Manual

1.16. Maximum Operating Altitude:

En route – 12497 m (41000 ft)

Take off and landing – 3048 m (10000 ft)

1.17. Outside Air Temperature Limits:

At Sea level:

- Minimum – 40°C
- Maximum +35°C

For temperature operating limits refer to Limitations Section of AFM

1.19. Equipment: (additionally see Notes 10 - 14)

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

1.20. Baggage/Cargo Compartments:

The green aircraft does not include baggage/cargo compartments

1.21. Placards: (see also Note 9)CL-601-3A Variant & CL-601-3R Variant

A 601-3A and 601-3R Variants

Placards are listed in the following Canadair Limited Drawings:

601-40402, 601-40452, 601A51000, 601A51002, 601A51004.



Placards (cont.):CL-604 Variant

Placards are listed in the following Canadair Limited Drawings:
601-40402, 601-40452, 604-51000

IV. Operating and Service InstructionsCL-601-3A Variant & CL-601-3R Variant:

- Airplane Flight Manual, Canadair Publication (DOT) PSP-601A-1, *Revision 88* or subsequent approved revisions;
or Airplane Flight Manual, Canadair Publication (DOT) PSP-601A-1-1, *Revision 76* or subsequent approved revisions;
- Operating Manual, Canadair Publication (DOT) PSP-601A-6, *Revision 42* or subsequent approved revisions;
- Maintenance Manual, Canadair Publication (DOT) PSP-601-2, Identification No. CH 601 MM, *Revision 52* or subsequent approved revisions
- Components which are life limited are listed in Time Limits/Maintenance Checks, Canadair Publication (DOT) PSP-601A-5, *Revision 33* or subsequent approved revisions

CL-604 Variant

- Airplane Flight Manual, Canadair Publication (DOT) PSP-604-1, *Revision 70* or subsequent approved revisions;
- Operating Manual, Canadair Publication (DOT) PSP-604-6, *Revision 70* or subsequent approved revisions;
- Flight Planning and Cruise Control Manual, Canadair Publication (DOT) PSP 604-23, *Revision 3* or subsequent approved revisions;
- Aircraft Maintenance Manual, Canadair Publication (DOT) PSP 604, Identification No. CH 604MM, *Revision 36* or subsequent approved revisions.



V. Notes

- Note 1** 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
- Note 2** Current weight and balance report including the list of equipment included in the certificated empty weight, and loading instructions when necessary, must be provided for each aircraft at the time of original certification
- Note 3** System fuel, which must be included in the empty weight, is the amount of fuel required to fill the system plumbing and tanks to the undrainable level plus unusable fuel in the fuel tanks. The total amount of "system fuel" for the following Challenger variants is:

	Total Unusable (system fuel)
CL-601-3A Variant & CL-601-3R Variant	66.24 liters (17.5 gal. total), 54 kg (119 lbs)
CL-604 Variant	71.92 liters (19.0 gal. total), 58,5 kg (129 lbs)

- Note 4** System oil, which must be included in the empty weight, is the amount of oil necessary for engine lubrication. The total amount of "system oil" is as follows:

Capacity		Weight	
U.S. Gal.	liters	lbs	kg
6,1	23,1	47	21,32

- Note 5** The airplane is equipped with a Cockpit Voice Recorder (CVR) and associated components. For Challenger Model CL-600-2B16 (604 Variant) aircraft, Serial Numbers 5301 to 5699, 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 Numbers 5701 and subsequent.
- Note 6** For green aircraft (CL-604 Variant), 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 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** Ukrainian fuels RT (GSTU 320.00149943.007-97) & TS-1 (GSTU 320.00149943.011-99) are approved for CL-600-2B16 Model.
- Note 8** APU Models Honeywell GTCP-36-100E & Honeywell 36-150[CL] are comply with Airworthiness Standards AP-VD. Both APU models are approved as part of Model CL-600-2B16 Type design.
- Note 9** All markings and placards related to emergency procedures must be bilingual "Russian & English" or "Ukrainian & English". Placards translation must be agreed with SAA.
- Note 10** Flight Data Recorder (FDR) must be installed on airplane.
For 604 Variant FDR is available by SB 604-31-002, or SB 604-31-005, or SB 604-31-010 incorporation.
For 601-3A/-3R Variants FDR installation can be facilitated by applicable STC incorporation after this STC approval.
- Note 11** TCAS II ver.7.0 must be installed on airplane.
For 604 Variant TCAS II ver.7.0 is available by SB 604-34-001, or 604-34-017, or 604-34-027 incorporation.
For 601-3A/-3R Variants TCAS installation can be facilitated by applicable STC incorporation after this STC approval.



