



**TYPE CERTIFICATE DATA SHEET No. EA-2023T02**

Type Certificate Holder:

**MHI RJ AVIATION ULC.**  
 3655 Av. des Grandes Tourelles, suite 110  
 Boisbriand, Québec  
 J7H 0E2  
**CANADA**

State of Design Reference Document: TCCA TCDS A-276, Issue 7,  
 dated 22 Dec. 2022

EA-2023T02-00
<b>MHI RJ</b>
CL-600-2B19 (Regional Jet Series 100) (see NOTE 8)
25 May 2023

This data sheet, which is part of Type Certificate No. 2023T02, prescribes conditions and limitations under which the product, for which the Type Certificate was issued, meets the airworthiness requirements of the Brazilian Civil Aviation Regulations.

**I - MODEL CL-600-2B19 - Regional Jet Series 100 (Transport Category), approved on 07 July 1997.**

**ENGINE**

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

**FUEL**

Type:	Specifications:		
	Canada	USA	UK
Jet A	CAN2-3.23-M81	ASTM D1655	D. Eng RD2494
Jet A-1	CAN2-3.23-M81	ASTM D1655	D. Eng RD2494
Grade JP5	--	MIL-T-5624	D. Eng RD2452
Grade JP8	--	MIL-T-83133A	D. Eng RD2453
Jet B	CAN2-3.22-M80	ASTM D1655	D. Eng RD2486
JP-4	CAN2-3.22-M80	ASTM D5624	D. Eng RD2486

Fuel additives Restricted to those listed in AFM (CSP-A-012) (Limitations, fuel Additives) and/or antistatic STADIS-450 (max. 3 ppm).

**ENGINE LIMITS**

	Fan rpm		Core rpm		Inter-turbine Temperature		Time limit
	N1%	N2%	°C	°F	Minutes		
Takeoff (APR operating)	98.6	99.4	900	1 650	5***		
			928	1 702	2*		
Takeoff (APR not operating)	96.2	98.2	884	1 623	5***		
			900	1 650	2*		
Maximum Continuous 34-3A1	98.6	99.2	860	1 580	-		
Maximum Continuous 34-3B1	98.6	99.2	874	1 605	-		
Idle range	-	56.5 to 8.0**	-	-	-		
Acceleration	-	-	900	1 652	-		
Starting	-	20.0	900	1 652	-		

**MODEL CL-600-2B19 - Regional Jet Series 100 (cont'd)****ENGINE LIMITS (cont'd)**

\* 2 minutes out of 5 total transient.

\*\* Refer to Idle Speed Limit Chart in the AFM.

If N2 idle rpm is more than 2% lower, do not advance thrust lever 70% N2 until N2 idle rpm has stabilized to within normal limits.

\*\*\* Transient limits.

NOTE: Above 40 000 ft, one air conditioning unit or cowl anti-ice must be selected on for each engine.

**OIL**

Engine, APU and IDG:

MIL-L-7808 (Type I) or MIL-L-23699 (Type II) or CASTROL 4000\*.

\* Mixing of different types of oils is prohibited.

**OIL TEMPERATURE**

	°C	°F
Maximum Permissible (15 minutes maximum):	+163	325
Maximum continuous:	+155	311
Minimum for starting:	-40	-40

**OIL PRESSURE**

Maximum Transient Cold Start: 156 psi (130 psi at idle, 10 minutes maximum)\*

Maximum Continuous: 115 psi

Minimum at steady state idle: 25 psi

Minimum at takeoff (power): 45 psi

\* Engine must remain at idle until oil pressure returns to normal range

**APU LIMITS**

GARRETT GTCP-36-150RJ

Maximum rpm: 107 %

Maximum EGT:

Starting: 974 °C 1 785 °F \*

Running: 743 °C 1 369 °F

\* Not to be exceeded under any operating conditions.

**AIRSPPEED LIMITS**

Maximum operating ( $V_{MO}$ ): Sea level to 8 000 ft: 330 kcas

Maximum operating ( $V_{MO}$ ): 8 000 to 25 400 ft: 335 kcas

Maximum operating ( $M_{MO}$ ): 25 400 to 28 300 ft: 0.80 mcas

Maximum operating ( $V_{MO}$ ): 28 300 to 31 400 ft: 315 kcas

Maximum operating ( $M_{MO}$ ): 31 400 to 41 000 ft: 0.85 mcas

Maneuvering ( $V_A$ ): (See Flight Manual for variation of  $V_A$  with altitude and aircraft weight)

Flaps extended ( $V_{FE}$ ):

- 45°: 191 kcas

- 30°: 196 kcas

- 20°: 230 kcas

- 8°: 230 kcas

L. G. operation ( $V_{LO}$ ) (extending): 250 kcas

L. G. operation ( $V_{LO}$ ) (retracting): 200 kcas

L. G. extended ( $V_{LE}$ ): 250 kcas

**CENTER OF GRAVITY RANGE**

CG Range: See AFM (CSP A-012)

Datum: Fuselage station O, located 375 inches forward of weighing datum jig point.

Leveling Means: Target plate and plumb bob bracket within rear fuselage, at fuselage station 718.75 in.

Mean Aerodynamic Chord (MAC): 2.53 m (99.43 in.)  
(Leading edge of MAC from datum at + 12.57 m (+494.793 in.))

**MODEL CL-600-2B19 - Regional Jet Series 100 (cont'd)****MAXIMUM WEIGHT** (see NOTE 1)

	kg (lb)	kg (lb)	kg (lb)	kg (lb)	kg (lb)	kg (lb)
Takeoff:	21 523 (47 450)	23 133 (51 000)	23 133 (51 000)	24 040 (53 000)	24 040 (53 000)	24 040 (53 000)
Landing:	20 276 (44 700)	21 205 (46 750)	21 319 (47 000)	21 205 (46 750)	21 319 (47 000)	21 319 (47 000)
Zero Fuel:	19 142 (42 200)	19 958 (44 000)	19 958 (44 000)	19 958 (44 000)	19 958 (44 000)	17 917 (39 500)
Ramp:	21 636 (47 700)	23 247 (51 250)	23 247 (51 250)	24 154 (53 250)	24 154 (53 250)	24 154 (53 250)
Minimum flight weight:	13 608 (30 000)	13 608 (30 000)	13 608 (30 000)	13 608 (30 000)	13 608 (30 000)	13 608 (30 000)

**NOTE:** The maximum Take-off weight and/or maximum landing weight may be further limited due to performance considerations (refer to Airplane Flight Manual).

**MINIMUM CREW**

2 (pilot and co-pilot)

**MAXIMUM OCCUPANTS**

55 (including 50 passengers, 4 crew, and 1 flight observer).

**FUEL CAPACITY**

Usable:	Load *			Weight *	
	Liters.	US Gal.	Imp. Gal	kg	weight, lb
2 main tanks (each):	2 650	700	583	2 159	4 760
Center tank:	2 782	735	612	2 267	4 998
Total:	8 082	2 135	1 670	6 585	14 518

\* Pressure refueling (based on 0.8028 kg/l)

**OIL CAPACITY**

	Liters.	US Gal.	Imp. Gal	kg	weight, lb
2 engines (each):	6.44	1.70	1.42	5.94	13.09
Total:	12.88	3.40	2.83	11.88	26.18
Usable:					
2 engines (each):	5.22	1.38	1.14	4.80	10.59
Total:	10.45	2.75	2.29	9.60	21.18

**MAXIMUM OPERATING ALTITUDE**

Takeoff and Landing: 10 000 ft  
En route: 41 000 ft

**CONTROL SURFACE MOVEMENTS**

Elevator:	Up 23.6°	Down 18.4°
Horizontal Stabilizer:	LE Up 2°	LE Down -13°
Rudder:	Right 33° *	Left 33°
Aileron:	Up 25°	Down 21.3°
Flaps inboard:	Down 0 to 45.09°	
Flaps outboard:	Down 0 to 41.58°	
Flight Spoiler:	Up 0 to 50°	
Ground Spoiler:	Up 0 to 45°	
Spoileron:	Up 0 to 50°	

\* Rudder deflections of 33° left and 33° right apply when CF-34-3A1 engines are installed.

\* Rudder deflections of 25° left and 25° right apply when optional CF-34-3B1 engines are installed.

**MODEL CL-600-2B19 - Regional Jet Series 100 (cont'd)****S/N ELIGIBLE**

7001 and subsequent.

A Certificate of Airworthiness for Export endorsed as noted under "Import Requirements" must be submitted for each individual aircraft for which application for a Brazilian Certificate of Airworthiness is made.

**APPROVED PUBLICATIONS**

- a) Airplane Flight Manual, Canadair Publication CSP A-12 for the Appropriate weight configuration and approved revisions.
- b) Maintenance Review Board (MRB) Report and subsequent revisions as contained I the Maintenance Requirements Manual (MRM), Canadair Publication CSP A053, Part 2 and subsequent approved revision.
- c) Structural Repair Manual (SRM), Canadair Publication CSP A-008 and subsequent approved issues.
- d) Certification Maintenance Task, Canadair Regional Jet, Model CL-600-2B19 Engineering Report No. RBR-601R-167, as contained in Part 2 to the Maintenance Requirements Manual (MRM), Canadair Publication CSP A-053, and subsequent approved revisions.

**IMPORT ELIGIBILITY**

A Brazilian Certificate of Airworthiness may be issued on the basis of on a TCCA Export Certificate on Airworthiness (or a third country Export Certificate on Airworthiness, in case of used aircraft imported from such country), including the following statement:

"The aircraft covered by this certificate has been inspected, tested and found to be in conformity with the Brazilian approved type design as defined by the Brazilian Type Certificate No. 9106 and in condition of safe operation".

**CERTIFICATION BASIS**

RBHA 25 "Transport Category Airplanes", which endorses the FAR 25 dated 01 February 1965, including Amendments 25-1 through 25-62 with the following exceptions:

- RBHA/FAR 25.109 at Amendment 25-41;
- RBHA/FAR 25.832 not included;
- RBHA/FAR 25.1401 at Amendment 25-40;
- RBHA/FAR 25.1438 not included and;
- RBHA/FAR 25.783(f) at Amendment 25-23 for the cargo compartment door, the main avionics compartment door and the service/emergency door.
- RBHA/FAR 25.773(b)(2) and 25.785(h) at Amendment 25-72.

Equivalent safety has been established for the following requirements:

- RBHA/FAR 25.811(d)(2) Emergency Exit Marking Sign
- RBHA/FAR 25.813(c)(1) Access to Type III exit-seat cushion intrusion
- Several RBHA/FAR's for the use of 1-g Stall Speed (nonstructural items)
- RBHA/FAR 25.621 (c)(2) Over wing Emergency Exit Door Critical Castings, P/N 601R38685-1, (documented in Transport Airplane Directorate ELOS Memo TD3995NY-T-A-1)

FAR 36 dated 01 December 1969, as amended through Amendments 36-18 inclusive.

Applicable portions of FAR 34 (previously codified as SFAR 27).

Special Conditions No. 25-ANM-61 dated 22 July 1992.

Compliance with the following optional requirements has been established for the CL-600-2B19:

- Ice Protection of RBHA/FAR 25.1419
- Ditching provisions of RBHA/FAR 25.801 when the safety equipment requirements of RBHA/FAR 25.1411 and the ditching equipment requirements of RBHA/FAR 25.1415 are satisfied.

**REQUIRED EQUIPMENT**

The basic required equipment, as prescribed in the applicable airworthiness regulations (see Certification Basis) must be installed in the airplane.

**OTHER OPERATING LIMITATIONS**

See appropriate ANAC Approved Airplane Flight Manual.

**NOTES:**

---

**NOTE 1**Weight and balance:

- (a) 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.
- (b) System fuel, which must be included in the empty weight, is the amount of fuel required to fill the system plumbing and tank to the undrainable level plus unusable fuel in the fuel tanks. The total amount of "system fuel" is 177.92 (14.5 U.S. gal), 44 (97 lb)(+494.3).

**NOTE 1 (cont'd)**

- (c) 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:  
22.07 l (5.83 U.S. gal) (total) 21.32 kg (47 lb), (+785.67)

**NOTE 2**

Markings and placards: All placards must be installed in accordance with Canadair Limited Drawings: 601R47600, 601R47602, 601R47700.

NOTE: Customized markings and placards drawings are not included.

**NOTE 3**Instructions for Continuing Airworthiness:

Aircraft Maintenance Manual CSP A-001 defines the scope of the Instructions for Continued Airworthiness as required for compliance with 14 CFR 25.152

Approved Publications:

- a) Airplane Flight Manual, Publication CSP A-012.
- b) Structural Repair Manual, 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

**NOTE 4**

Major modifications which define the aircraft as the "Green Configuration" are recorded in document RAZ-601R-110 (Definition of RJ type design for Transport Canada approval), as Appendix 2 to that document.

**NOTE 5**

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 Type Approval Basis.

Aircraft delivered in the "Green Configuration" and incorporating Mod. Summary TC60255 (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 25 requirements.

**NOTE 6**

For all weather flight capability the Regional Jet aircraft is certified to operate in CAT II conditions, except when the aircraft is installed with the HGS system (TC 601R60262), in which case the aircraft is certified to operate in CAT IIIa conditions.

**NOTE 7**

The RJ200 is a marketing designation for the Regional Jet Series 100 aircraft with the General Electric CF-34-3B1 engines installed and is identified as the Regional Jet Series 100 or RJ100 in this TCDS. All Airworthiness Directives issued against any 100 series aircraft are similarly applicable to the 200 series.

**NOTE 8**

MODEL CL-600-2B19 (Regional Jet Series 100) was previously recorded on Rev. 14 of TCDS No. EA-9106 and has been administratively transferred to Rev. 00 of this TCDS.

Existing ANAC Supplemental Type Certificates (STCs) which refer to TC No. 9106 and list MODEL CL-600-2B19 (Regional Jet Series 100) are not required to be revised following this administrative change. When revising such STCs for any other reason in the future, the STCs may directly refer to both TCs.

-----END-----

**LATEST CHANGE RECORD**

<b>Revision</b>	<b>Application Date</b>	<b>Changes</b>	<b>TC issue/ reissue</b>
Rev. 00	27 April 2020	▪ Initial Issue – TC holder transferred from Bombardier Inc. to MHI RJ Aviation ULC.	TC No. 2023T02

This TCDS is available at ANAC website:

<https://sistemas.anac.gov.br/certificacao/Produtos/EspecificacaoOrgE.asp>