AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRASIL

TYPE CERTIFICATE DATA SHEET Nº EM-2007T03

Type Certificate Holder:

PRATT&WHITNEY CANADA CORP.
1000 Marie-Victorin
Longueuil, Quebec, J4G-1A1
CANADA

EM-2007T03

Sheet 01

PRATT&WHITNEY CANADA

PW615F-A

May 2007

Engines of models described herein conforming with this data sheet, which is part of Type Certificate No. 2007T03, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Brazilian Aeronautical Regulations provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other instructions.

MODEL PW615F-A

TYPE Twin spool controlled by FADEC, a single stage fan driven by a single stage low pressure turbine, a high pressure compressor consisting of one mixed flow compressor stage and one centrifugal compressor stage, one stage high pressure turbine, annular reverse-flow fully effusion cooled combustor with internally mounted fuel manifold.

RATINGS

	PW615F-A
Max. continuous, daN (lb), full throttle at:	
Sea level pressure altitude:	649 (1460)
Takeoff (5 min), daN (lb), full throttle at:	
Sea level pressure altitude:	649 (1460)

RATINGS (Cont.)

	PW615F-A
Engine Speed Limitations (rpm)	
Takeoff N1	21 830 (100%)
Maximum Continuous N1	21 830 (100%)
Transient (20 seconds) N1	22 048 (101%)
Takeoff N2	44 040 (100%)
Maximum Continuous N2	44 040 (100%)
Transiente (20 seconds) N2	44 921 (102%)
Flight Idle Minimum N2	25 000 (56.85%)
Interturbine Temperature ^{o}C (^{o}F)	
Takeoff (5 min)	830 (1 526)
Maximum continuous	830 (1 526)
Transient (20 seconds)	862 (1 584)
Starting (5 seconds)	862 (1 584)
(Refer to Installation Manual - See Note 6)	

OIL INLET TEMPERATURE ºC (ºF)

Maximum	135 (275)
Minimum	-40 (-40)
Transient maximum (90 sec)	141 (286)
(Refer to Installation Manual - See Note 6)	

MAXIMUM ACCESSORY TEMP. The engine compartment shall be ventilated as necessary to keep the air temperature surrounding accessory components from exceeding the limits defined in the Installation Manual (See Note 6).

ELECTRICAL SYSTEM Refer to Section 8 of the Installation Manual (See Note 6) for HIRF and Lightning qualification and conformance.

MAXIMUM WEIGHT 140 kg (308.7 lb) – (Dry, including basic components and sensors required for engine operation and monitoring.)

PRINCIPAL DIMENSIONS Refer to Installation Drawing in approved Installation Manual (See Note 6).

C.G. LOCATION Refer to Installation Drawing in approved Installation Manual (See Note 6).

FUEL

Fuel Bleed

A motive flow Fuel from pump output is provided from the Fuel Metering Unit (FMU) motive flow port. Refer to Installation Manual (See Note 6).

Fuel Pressure

Refer to Installation Manual (See Note 6).

Fuel temperature

Maximum fuel pump inlet temperature for starting and operating is 57°C (135°F) for typical wide cut fuels and 88°C (190°F) for kerosene type fuels, at sea level; minimum inlet temperature is -35 °C (-31 °F), at see level. Refer to Installation Manual (See Note 6) for additional information.

Fuel type

Fuels and additives conforming to the specifications listed in the PW615F-A Maintenance Manual (See Note 5) are approved for use.

OIL LUBRICATION

Oil Pressure (psig)	PW615F-A
Min. at ground idle & above	20
Maximum, Steady State	170
Maximum,Transient (500 seconds)	250
(Refer to Installation Manual - See Note 6)	

Oil Tank Capacity	
Total capacity (liters)	4.85
Imperial gallons	1.067
U.S. gallons	1.281

Usable capacity (liters)	0.74
Imperial gallons	0.163
U.S. gallons	0.195

Oil Type:

Oils conforming to the specifications listed in the PW615F-A Maintenance Manual (See Note 5) are approved for use.

BLEED AIR

A. High compressor bleed. Maximum external bleed air available is: 17 pounds per minute (ppm) at sea level, decreasing linearly to 13.4 ppm at 43 000 ft.
B. During starting: Bleed air not permitted
C. Bleed air contamination meets: Para 3.1.2.11.3 of MIL-E-5007E

EQUIPMENT

Equipment such as the Engine Electronic Control (EEC), Fuel Metering Unit (FMU), Fuel Pump, Bleed Valve Actuator, Fuel Oil Heat Exchanger, Air Cooled Oil Cooler (ACOC), Ignition Exciter, Ignition Plug, fuel and oil filters are standard equipments as shown in the Approved Engine Bill of Material. For output drive specification, accessory drives, principal dimensions, weights, inertias and C.G. locations, refer to Installations Manual

IMPORT REQUIREMENTS

Each engine imported separately and/or spare parts must be accompanied by an export airworthiness approvals issued by TCCA (or a third country authority, in case of used engine imported from such country) attesting that the particular engine and/or parts were submitted to the governmental quality control before delivery and are in conformity with the ANAC approved type design. The ANAC type design corresponds to the TCCA approved type design, as stated in ANAC Report V33-0970-00.

CERTIFICATION BASIS

For Model PW615F-A	Model	Application	Issued TC
RBHA 33 (Brazilian Requirements for Aeronautical Certification), which endorses the FAR 33 Amendments 1 through 20 inclusive, effective 13 December 2000 and RBHA 34, which endorses the FAR 34, Amendment 3, effective 03 February 1999.	PW615F-A	07 February 2007	14 May 2007

NOTES:

NOTE 1

The engine ratings for the PW615F-A engine model are based on dry sea level static conditions:

a) Compressor inlet air (dry) 27^{o}C (81^{o}F), at takeoff and 13^{o}C (55^{o}F) at max. continuous.
b) 76 cm Hg (29.92 in. Hg.)
c) No accessory loads or air bleed.
d) Engine intake and exhaust as described in the approved Installation Manual. (See Note 6)

NOTE 2

The starter/generator pad for the PW615F-A engine model may be overloaded in an emergency to a torque of 33.89 Nm (300 in.lb) for periods up to 5 minutes, subject to total accessory power not exceeding 15.29 kW (20.5 hp). This can recur at 100 hours intervals. Refer to Installation Manual (See Note 6).

NOTE 2 (Cont.)

Accessory Drives

The following apply to the accessory drives, which are provided by the engine and included in the basic engine weight::

Drive		Speed Ratio to Turbine	Maximum Torque (in.lb)	Maximum Torque (in.lb)	Maximum Overhang (in.lb)
Drive Driven by High Rotor	Rotation	Shaft	Continuous	Static	
Hydraulic pump	CW	0.0952:1	40	1 600	20
Starter generator	CW	0.3633:1	240	1 600	210

CW - Clockwise facing accessory pad.

Total accessory power limit is 7.22 kW (9.67 hp) at 48.6% N2, increasing linearly to 12.92 kW (17.3 hp) at 100% N2. Refer to Installation Manual for restrictions for allowable 5-minute emergency accessory power extraction.

NOTE 3

Certain engine parts are life limited. Life limits are listed in PW615F-A Airworthiness Limitation Manual P/N 3072698.

NOTE 4

Recommended overhaul and inspection intervals are listed in PW615F-A Maintenance Manual P/N 3059712.

NOTE 5

The software contained in the Electronic Engine Control (EEC) has being designed, developed tested and documented in accordance with the provision of the Critical Category, Level A of RTCA/DO178B. Each EEC channel also includes a simple PLD that meets Level A of RTCA/DO254.

NOTE 6

Approved Publications for PW615F-A engine model:

- Installation Manual ER5829
- FADEC Interface Control Document ER6004
- Airworthiness Limitation Manual P/N 3072698
- Engineering Assembly Drawing 35C0510, Revision K and subsequent for production engine configuration.

Instructions for Continued Airworthiness

- PW615F-A Line Maintenance Manual P/N 3072691
- PW615F-A Maintenance Manual P/N 3059712
- PW615F-A Overhaul Manual P/N 3059713

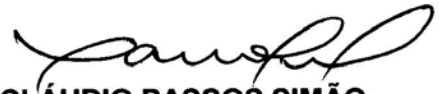
NOTE 7 Take-off ratings that are limited to 5 minutes duration may be used for up to 10 minutes for OEI operations without adverse effects upon engine airworthiness. Such operations are anticipated on an infrequent basis (as engine failure at take-off events are uncommon) and no limits or special inspections have been imposed.

NOTE 8 The engine is approved for multiple engine installation only. The installation requires an airframe mounted Fuel Shut Off Valve.

NOTE 9 The engine is not approved for use with a thrust reverser.

NOTE 10 The PW615F-A Electronic Engine Control is approved with Time Limited Dispatch (TLD) limitations. The dispatch criteria are contained in the Airworthiness Limitations Manual (See Note 6).

NOTE 11 Service Bulletins, Structural Repair Manual, vendor manuals, and Overhaul and Maintenance Manual, which contain a statement that the document is Transport Canada-approved, are accepted by the ANAC and are considered ANAC-approved unless otherwise noted. These approvals pertain to the type design only.



CLÁUDIO PASSOS SIMÃO
Gerente Geral, Certificação de Produtos Aeronáuticos
(Manager, Aeronautical Products Certification)