AGÊNCIA NACIONAL DE AVIAÇÃO CIVIL - BRASIL

TYPE CERTIFICATE DATA SHEET Nº EM-2008T08

Type Certificate Holder:

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EM-2008T08-01

Sheet 01

PRATT&WHITNEY CANADA

PW617F-E

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Engines of models described herein conforming with this data sheet, which is part of Type Certificate No. 2008T08, 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 PW617F-E

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

RATINGS

	PW617F-E
Max. continuous, daN (lb):	710.6 (1 598)
Takeoff (5 min), daN (lb):	749.5 (1 695)
Maximum (10 min), daN (lb):	809.6 (1 820)

RATINGS (Cont.)

	PW617F-E
Engine Speed Limits (rpm)	
Maximum N1	19 845 (100%)
Transient (20 seconds) N1	20 043 (101%)
Maximum N2	40 200 (100.4%)
Transient (20 seconds) N2	40 840 (102%)
Flight Idle Minimum N2	23 623 (59%)
Air Inlet Temperature Limits °C (°F)	
Maximum (10 min)	15 (59)
Takeoff (5 min)	25 (77)
Max. continuous	20 (68)
Interturbine Temperature (ITT) °C (ºF)	
Maximum (10 min)	845 (1 553)
Takeoff (5 min)	830 (1 526)
Maximum continuous	830 (1 526)
Transient (20 seconds)	862 (1 584)
Starting (5 seconds) (Refer to Installation Manual - See Note 6)	950 (1 742)

OIL TEMPERATURE ºC (ºF)

Maximum	130 (266)
Minimum (for starting and ground idle)	-40 (-40)
Transient maximum (90 sec) (Refer to Installation Manual - See Note 6)	141 (286)

MAXIMUM ACCESSORY TEMPERATURE

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

172.3 kg (380.0 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 32°C (90°F) for typical wide cut fuels and 105°C (221°F) for kerosene type fuels; minimum inlet temperature is -40°C (-40°F). Refer to Installation Manual (See Note 6) for additional information.

Fuel type

Fuels and additives conforming to the specifications listed in the PW617F-E Maintenance Manual (See Note 5) are approved for use.

LUBRICATION

Oil Pressure (psig)	PW617F-E
Minimum at ground idle & above	Variable
(Refer to Installation Manual - See Note 6)	
Maximum, Steady State	170
Maximum,Transient (500 seconds)	250
(Refer to Installation Manual - See Note 6)	

Oil Tank Capacity	
Total capacity (liters)	3.79
Imperial gallons	0.83
U.S. gallons	1.00
Usable capacity (liters)	0.89
Imperial gallons	0.20
U.S. gallons	0.24

Oil Type:

Oils conforming to the specifications listed in the PW617F-E Maintenance Manual (See Note 5) are approved for use.

BLEED AIR

A. The engine is equipped with two high pressure compressor delivery air bleed ports, each incorporating flow limiting features that restrict flow to a maximum of 9.1% of core flow at all altitudes.
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, engine harness with integral low pressure spool speed sensor and inlet temperature probe electrically de-iced using airframe supplied power, oil system chip detector collector, 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 (See Note 6).

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 for airworthiness authority inspection 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 V33-0940-00.

CERTIFICATION BASIS

For Model PW617F-E	Application	Issued TC
RBHA 33 (Brazilian Requirements for Aeronautical Certification), which endorses the 14 CFR Part 33 Amendments 1 through 20 inclusive, effective 13 December 2000; and	10 January 2006	03 October 2008
RBHA 34, which endorses the 14 CFR Part 34, Amendment 3, effective 03 February 1999 (compliance with ICAO Annex 16 Volume II).		

NOTES:

NOTE 1

The engine ratings for the PW617F-E engine model are based on dry sea level static ICAO standard atmospheric conditions. No accessory loads or air bleed. Engine intake and exhaust as described in the approved Installation Manual. (See Note 6)

NOTE 2

The power extraction from the start generator pad under continuous operation is limited to a maximum of 14.91 kW (20 hp). The power extraction from the starter generator pad under overload conditions occurring for periods up to 5 minutes, at the frequency of once per 4 hours is limited to 22.37 kW (30 hp). The power extraction from the start generator pad under overload conditions occurring for periods up to 5 seconds, at the frequency of once per 4 hours is limited to 29.83 kW (40 hp).

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 N2	Maximum Torque (in.lb)	Maximum Torque (in.lb)	Maximum Overhang (in.lb)
Drive Driven by High Rotor	Rotation	Shaft	Continuous	Static	
Starter generator	CW	0.3:1	200	1 600	210

CW - Clockwise facing accessory pad.

NOTE 3 Certain engine parts are life limited. Life limits are listed in PW617F-E Airworthiness Limitation Manual P/N 3072699.

NOTE 4 Recommended overhaul and inspection intervals are listed in PW617F-E Maintenance Manual P/N 3072162.

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.

NOTE 6 Approved Publications for PW617F-E engine model:

- Installation Manual ER6331
- FADEC Interface Control Document ER6370-01
- Airworthiness Limitation Manual P/N 3072699
- Engineering Assembly Drawing 35C3100, Revision J and subsequent for production engine configuration.

Instructions for Continued Airworthiness

- PW617F-E Line Maintenance Manual P/N 3072696
- PW617F-E Maintenance Manual P/N 3072162
- PW617F-E Overhaul Manual P/N 3072163

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 during 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.

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

NOTE 10 The PW617F-E Electronic Engine Control is approved with Time Limited Dispatch (TLD) limitations. The dispatch criteria and time limits are contained in the Airworthiness Limitations Manual (See Note 6).

NOTE 11 Service Bulletins, Overhaul and Maintenance Manuals, which are Transport Canada-approved, are accepted by the ANAC and are considered ANAC-approved unless otherwise noted. These approvals pertain to the type design only.

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