TYPE-CERTIFICATE DATA SHEET

No. IM.E.125

for
PW617 Series Engines

Type Certificate Holder
Pratt & Whitney Canada Corp.

1000 Marie-Victorin
Longeuil, Quebec
Canada J4G 1A1

For Models: PW617F-E
PW617F1-E

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I. General

1. Type/ Model/ Variants

Type: PW617F
Models: PW617F-E, PW617F1-E

2. Type Certificate Holder

Pratt & Whitney Canada Corp.
1000 Marie-Victorin
Longueuil, Quebec
Canada J4G 1A1

3. Manufacturer

Pratt & Whitney Canada Corp.
1000 Marie-Victorin
Longueuil, Quebec
Canada J4G 1A1

4. Date of Application

PW617F-E: January 10, 2006 **PW617F1-E:** March 7, 2016

5. EASA Type Certification Date

PW617F-E: April 23, 2009 **PW617F1-E:** May 19, 2017

II. Certification Basis

1. State of Design Authority Certification Basis

Transport Canada Certification Basis (see also Canadian TC No. E-37)

1.1. Airworthiness Standards: AWM Chapter 533 change 8

1.2. Airworthiness Manual, Chapter 516, Change 516-07, subchapter B “Aircraft Engine Emissions” which refers to ICAO Annex 16, Volume II

2. Reference Date for determining the applicable airworthiness requirements

November 9, 2005

3. EASA Certification Basis

3.1. Airworthiness Standards

CS-E effective 24 October 2003

3.2. Special Conditions (SC)

none

3.3. Equivalent Safety Findings

none

3.4. Deviations

none

3.5. Environmental Protection

ICAO Annex 16, Volume II, Part II, Chapter 2 – Fuel Venting
ICAO Annex 16, Volume II, Part III, Chapter 2 – Emissions

III. Technical Characteristics

1. Type Design Definition

The PW617F-E Engine Type Design is defined in PW617F-E Engine Assembly Drawing 35C3100 Rev. J and subsequent revisions.
The PW617F1-E Engine Type Design is defined in PW617F1-E Engine Assembly Drawing 35C6500 Rev. A and subsequent revisions.

2. Description

Two Spool Turbofan Engine consisting of a single front fan driven by a single stage fan turbine, 1 stage mixed flow and one stage centrifugal high pressure compressor driven by a single stage high pressure turbine; reverse flow combustor; accessory gearbox and dual channel Full Authority Digital Control System (FADEC).

3. Equipment

see Installation Manual

4. Dimensions

The maximum diameter of the engine is about 750 mm
Engine length is about 1360 mm

5. Dry Weight

172kg

6. Ratings

	PW617F-E	PW617F1-E
Take-off (see note 8):	809,6 daN	841,1 daN
Normal Take-off:	749,5 daN	768,6 daN
Max. Continuous:	710,8 daN	756,6 daN

7. Control System

The PW617F-E engines are equipped with a FADEC system EEC P/N 35C4812-01 or later approved standard. 35C3890 is the System Component Identification Drawing (SCID) which includes all elements of the control system.
The PW617F1-E engines are equipped with a FADEC system EEC P/N 35C6423-01 or later approved standard. 35C6426 is the System Component Identification Drawing (SCID) which includes all elements of the control system.

8. Fluids (Fuel, Oil, Coolant, Additives)

Approved fuel and oil types are listed in the Maintenance Manual.

9. Aircraft Accessory Drives

see Installation Manual, Chapters 1.2, 2,7, 2.11

10. Maximum Permissible Air Bleed Extraction

Refer to Installation Manual, Section 2.12

IV. Operating Limitations

1. Temperature Limits

Interturbine Temperature [°C]:

	PW617F-E	PW617F1-E
Take-off	845	845
Normal Take-off	830	830
Max. Cont.	830	830
Starting	950	950
Maximum Inadvertent Overtemp. (20sec.)	862	862

Fuel Temperatures: refer to section 7.3 of Installation Manual

The minimum fuel inlet temperature for starting is that equivalent to a fuel viscosity of 12 centistokes, provided the fuel inlet temperature is at least 9°F (5°C) warmer than the specification freeze point. A fuel viscosity of 12 centistokes typically equates to -40°F (-40°C) for kerosene ty pe fuels and -65.2°F (-54°C) for wide cut type fuels.

Oil Temperatures: refer to Table 2-1 (PW617F-E) and Table 2-2 (PW617F1-E of Installation Manual)
-40°C for starting / ground idle
14°C to 130°C for T/O and max. continuous

2. Speed Limits

Permissible Rotational Speeds [min^{-1}]:

	PW617F-E	**PW617F1-E**
N1 Transient(20s)	19845 (100%) 20043 (101%)	19845 (100%) 20043 (101%)
N2 Maximum Inadvertent Overspeed (20s)	40200 (100,4%) 40840 (102%)	40676 (101,6%) 41316 (103,2%)

3. Pressure Limits

3.1 Fuel Pressure

Refer to Installation Manual, Section 7.2
43kPa above true vapour pressure or 14kPa above ambient whichever is greater at FMU inlet

3.2 Oil Pressure

Refer to Installation Manual, Table 2-1 (PW617F-E) and Table 2-2 (PW617F1-E)

4. Oil capacity, consumption limit

Max. allowable oil consumption: 54,4 g/h
Total oil capacity: 3,79 L
Usable oil capacity: 0,89 L

V. Operating and Service Instructions

PW617F-E / PW617F1-E

1. Line Maintenance Manual:	P/N 3072696
2. Maintenance Manual:	P/N 3072162
3. Overhaul Manual:	P/N 3072163
4. Installation Manual:	ER 6331[1)]
5. Airworthiness Limitations Manual:	P/N 3072699

VI. Notes

1. The Critical Parts Life Limits are included in the Airworthiness Limitations Manual P/N 3072699.

2. The engine ratings are based on dry sea level static ICAO standard atmospheric conditions, no external accessory loads and no airbleed. The quoted ratings are obtainable on a test stand with the specified fuel and oil, and using the exhaust duct and intake bellmouth specified in the Intallation Manual.

3. The Engines are approved for multiple engine installation only.

4. HIRF and Lightning conformance and installation requirements are provided in Section 8.3 of the Installation Manual.

5. The software contained in the Electronic Engine Control has been designed, developed, tested and documented in accordance with the provisions of the Critical Category, Level A of RTCA/DO178B

6. The engines are not approved for operation with a Thrust Reverser.

7. The Electronic Control Unit has not been fire tested and therefore must not be installed in a designated fire zone.

8. The take-off ratings that are normally 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 and no limits or special inspections have been imposed.

9. The PW617F-E and PW617F1-E Electronic Controls are approved with Time Limited Dispatch (TLD). Aircraft considerations are contained in the Installation Manual. The dispatch criteria and time limits are contained in the Airworthiness Limitations Manual P/N 3072699.

10. The engines include provisions for automatic power increase. The limitations stated for normal take-off are to ensure that the maximum take-off limitations are not exceeded in the event of an automatic power increase to maximum take-off power. Normal Take-off is the thrust normally set for take-off during everyday engine operation. The total time during which take-off thrust may be used is limited to five minutes per flight.
Refer to Installation Manual.

11. Refer to Section 1 of the Installation Manual for Safety Analysis assumptions.

1) covers the Operating Instructions

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

N/A

II. Type Certificate Holder Record

N/A

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	23 April 2009	Initial Issue	Initial Issue, 23 April 2009
Issue 02	19 May 2017	Model PW617F1-E added	Issue 02, 19 May 2017

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