TYPE-CERTIFICATE DATA SHEET

No. IM.E.035

for
PW307 series engine

Type Certificate Holder

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

For Models:

PW307A
PW307D

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TABLE OF CONTENTS

I. General

1. Type/ Model

Type: PW307 / Models: PW307A, PW307D

2. Type Certificate Holder

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

3. Manufacturer

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

4. Date of Application

PW307A: 27 May 2002
PW307D: 30 October 2014

5. EASA Type Certification Reference Date

see also Canadian TCDS No. E-33
30 January 2002

6. EASA Certification Date

23 Feb 2007 – PW 307A
27 April 2016 – PW 307D

II. Certification Basis

1. State of Design Authority Certification Basis

1.1. Airworthiness Manual Chapter 533, change 533-5, dated 1 December 1999 as amended by NPA-2000-265, adopted 5 March 2001.

1.2. Airworthiness Manual, Chapter 516, Change 516-06, subchapter B “Aircraft Engine Emissions” plus ICAO Annex 16 Volume II, amendment 4.
see Canadian TCDS E-33

2. EASA Certification Basis

2.1 Certification Specifications:

JAR-E Amendment 11
E570 – Oil System of JAR-E Amendment 12
E850 of CS-E initial issue – Compressor, Fan and Turbine Shafts
E890 of CS-E initial issue – Thrust Reverser Tests

2.2 Special Conditions:

Certification of Programmable Logic Devices (PLDs)

2.3. Environmental Protection Requirements:

CS-34 Amendment 3 as implemented by ED Decision 2019/014/R (29th July 2019); ICAO Annex 16 Volume II, Amendment 9 (1st January 2018) as implemented into EU legislation 11/09/2018; NOx levels in compliance with Part III, Chapter 2, paragraph 2.3.2e) (CAEP/8) of the above mentioned Annex. Maximum nvPM mass concentration levels in compliance with Part III, Chapter 4, paragraph 4.2.2 (CAEP/10) of the above mentioned Annex.

III. Technical Characteristics

1. Type Design Definition

The Engine Type Design is defined in Engine Assembly Parts List No. A30P0100-01 (PW307A) and A30P3300-01 (PW307D).

2. Description

Two Spool Turbofan Engine consisting of a single front fan driven by a three stage fan turbine, 4 stage axial and one stage centrifugal high pressure compressor driven by a two stage high pressure turbine; annular combustion chamber; accessory gearbox and dual channel Full Authority Digital Electronic Control System (FADEC).

3. Equipment

see Installation Manual

4. Dimensions

The maximum diameter of the engine is about 1170 mm.
Engine length is about 2185 mm.

5. Dry Weight

(PW307A/PW307D): 551 kg (dry weight including standard equipment)

6. Ratings

Take-off:	PW307A: 2849 daN	PW307D: 2991 daN
Max. Continuous:	PW307A: 2849 daN	PW307D: 2991 daN

7. Control System

The engines are equipped with a dual channel FADEC system EEC P/N 30P0608-04 or later approved standard.

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

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

IV. Operating Limitations

1. Temperature Limits

Interturbine Temperature [°C]:

	PW307A	PW307D
Take-off	920	920
Max. Cont.	920	920
Starting	950	950
Transient (20sec.)	930	945

Fuel Temperatures: Min.: -40°C (Kerosene Type) Max.: +57°C (starting and normal operation up to 20,000ft) - for details refer to chapter 2.4 of the relevant Installation Manual

Oil Temperatures: Engine Operation: 25°C to 141°C
Starting: -40 °C for details refer to Table 2-1 of the relevant Installation Manual

2. Speed Limits

Permissible Rotational Speeds [min^{-1}] for PW307A/PW307D:

N1	11110 (101%)
N2	28500 (100%)
Min. N2	
Flight Idle	17100 (60%)

3. Pressure Limits

3.1 Fuel Pressure

Max. at pump inlet: 241 kPa
Min: 34,5 kPa above true vapour pressure (normal operation) For details refer to relevant Installation Manual, Section 6.

3.2 Oil Pressure

Engine Operation: 241 to 1000 kPa for details refer to relevant Installation Manual, Table 2-1.

4. Bleed Air:

Refer to relevant Installation Manual, Section 2.

5. Oil capacity limit

total oil capacity:	7,1 l
usable oil capacity:	2,19 l

V. Operating and Service Instructions

1. Maintenance Manual:	P/N 30P0422 (PW307A)	P/N 30P3242 (PW307D)
2. Overhaul Manual:	P/N 30P0423 (PW307A)	P/N 30P3243 (PW307D)
3. Installation Manual:	ER5598 (PW307A)	P/N 30P3400 (PW307D)
4. FADEC Interface Control Document :	ER5220 (PW307A)	ER8652 (PW307D)

VI. Notes

1. The Critical Parts Life Limits are included in the Airworthiness Limitations Section of the Maintenance Manual.

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 Installation Manual.

3. The PW307A and PW307D Engines are approved for multiple engine installation only.

4. HIRF and Lightning conformance and installation requirements are provided in 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 / EUROCAE ED-12B.

6. The engines are approved for operation with a Thrust Reverser P/N F7XC782140020 which is not part of the engine Type Design.

7. The PW307A and PW307D engines are approved with Time Limited Dispatch (TLD) Limitations. The dispatch criteria are contained in the Airworthiness Limitations section of relevant Maintenance Manuals.

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 Feb 2007	Initial Issue	Initial Issue, 23 Feb 2007
Issue 02	05 June 2007	Introduction of FADEC Interface Control Document ER 5220	
Issue 03	03 Jan 2013	Emissions requirements according to ICAO annex 16	
Issue 04	27 April 2016	Model PW307D added	27 April 2016
Issue 05	12 December 2019	Introduction of CAEP/10 for nvPM compliance (EASA Major Change approval 10072018)	

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