U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION TYPE CERTIFICATE DATA SHEET	TCDS NUMBER E00074EN REVISION: 2 DATE October 30, 2015 PRATT & WHITNEY CANADA, CORP. MODELS: PW610F-A

Engines of models described herein conforming with this data sheet (which is part of Type Certificate Number E00074EN) and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations, provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

TYPE CERTIFICATE (TC) HOLDER: Pratt & Whitney Canada, Corp.
(Formerly Pratt & Whitney Canada, Inc.)
1000 Marie-Victorin
Longueuil, Quebec
Canada J4G 1A1

MODEL TYPE	**PW610F-A**
	Twin spool controlled by Full Authority Digital Electronic Control (FADEC), FADEC rely solely on aircraft supplied electric power, 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 and a integrated mono case.

THRUST RATING, POUNDS (See NOTE 1 & 2)	
Maximum Take-Off	950
Normal Take-Off	950
Maximum continuous	850

ENGINE SPEED LIMITATIONS, RPM	
Max steady state low rotor (N1)	22542 (102%)
Max steady state high rotor (N2)	48000 (100%)
Transient (20 sec.) low rotor (N1)	22763 (103%)
Transient (20 sec.) high rotor (N2)	48960 (102%)

INTERTURBINE TEMPERATURE (ºF/ºC)	
Max. Take-Off	1463/795
Normal Take-Off	1463/795
Max. Continuous	1463/795
Transient (20 seconds)	1562/850
Starting	1562/850
(Also see Installation Manual/NOTE 7)	

OIL INLET TEMPERATURE(ºF/ºC)	
Maximum	265/130
Minimum	-40/-40
Transient maximum (90 sec.)	275/135
(Also see Installation Manual/NOTE 8)	

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.

LEGEND: "- -" INDICATES "SAME AS PRECEDING MODEL"
"---" NOT APPLICABLE

AIR BLEED:	
A Maximum external bleed air available is:	9.5PPm at Sea Level decreasing to 7.3PPM at 41,000ft
B. During starting:	Bleed air is not permitted during starting
C. Bleed air contamination meets:	Para3.1.2.11.3 of MIL –E-5007E

FUEL:	
Fuel Bleed	A motive flow output is provided from the Fuel Metering Unit (FMU) motive flow port. Refer to Installation Manual.
Fuel Pressure	Refer to applicable Installation Manual/ NOTE 7.
Fuel temperature	Maximum fuel pump inlet temperature for starting and operating is 200^{O}F(93^{O}C) for typical wide cut fuels and 200^{O}F(93C) for kerosene type fuels. at sea level; minimum inlet temperature is --40^{O}F-40^{O}C), Refer to Installation Manual for additional information.
Fuel type	Fuels and additives conforming to the specifications listed in applicable P&WC Maintenance Manual are approved for use.

OIL PRESSURE (psig)	
Min. at ground idle & flight idle Normal minimum above idle Maximum Transient (20 seconds)	15 100 160 225
OIL TYPE	Oils conforming to the Specifications listed in the applicable P&WC Maintenance Manual/(NOTE 4) are approved for use.
OIL TANK CAPACITY	
Total Capacity Liters Imperial gallons U.S. gallons Usable capacity Liters Imperial gallons U.S. gallons See also Installation Manual	 6.13 1.345 1.620 1.09 0.239 0.287

ACCESSORY DRIVES	The following apply to the accessory drives, which are provided by the engine and included in the basic engine weight:					
			SPEED RATIO TO TURBINE	MAXIMUM TORQUE (in. - lb.)		MAXIMUM OVERHANG
	DRIVE	ROTATION	SHAFT	CONTINUOUS	STATIC	(in.-lb.)
	DRIVEN BY HIGH ROTOR Starter generator	CW*	.268	140	1600	150
	*CW - Clockwise facing accessory pad. Total accessory power limit is 15 hp. at %46 N2, increasing linearly to 30 hp. at 100% N2. Refer to Installation Manual for restrictions for allowable 5-minute emergency accessory power extraction. Also see NOTE 16.					

IGNITION	MODELS PW610F-A	
Exciter Igniter plug	Refer to Assembly Parts List Refer to Assembly Parts List (see Note 7)	

PRINCIPAL DIMENSIONS	Refer to applicable Installation Drawing referenced in approved Installation Manual.
C.G. LOCATION	Refer to Installation Drawing referenced in applicable approved Installation Manual.

MAXIMUM ENGINE DRY WEIGHT	Includes basic bill of material components and sensors required for engine operation and monitoring.
MODEL	
PW610F-A	255.6Lb

CERTIFICATION BASIS: Models PW610F-A	14 CFR Section 21.29, 14 CFR Part 33, Amendments 1 through 20, effective December 13, 2000. The following models comply with 14 CFR Part 34, amendment 5a, effective October 23, 2013. See note 17 for detailed summary of the certification basis for fuel venting and exhaust emissions: PW610F-A.

MODEL	TYPE CERTIFICATE NUMBER E00074EN		
	APPLIED FOR	ISSUED/ REVISED	DELETED
PW610F-A	9/16/2003	8/23/2006	

IMPORT REQUIREMENTS:

To be considered eligible for installation on United States (U.S.) registered aircraft, each engine to be exported to the U.S. shall be accompanied by a certificate of airworthiness for export or by a certifying statement, endorsed by the exporting cognizant civil airworthiness authority which contains the following language:

(1) This engine conforms to its Type Certificate Number and is in a condition for safe operation.

(2) This engine has been subjected by the manufacturer to a final operational check and is in a proper state of airworthiness.

Reference 14 CRF Section 21.500, which provides for the airworthiness acceptance of aircraft engines manufactured outside of the U.S. and for which a U.S. type certificate has been issued. Additional guidance is contained in FAA Advisory Circular 21-23, "Airworthiness Certification of Civil Aircraft, Engines, Propellers, and Related Products Imported into the United States."

NOTES

NOTE 1. The engine ratings for PW610F-A engine model are based on dry sea level static ICAO standard atmospheric conditions. No accessory loads or air bleed.

The quoted ratings are obtainable on a test stand with specified fuel and oil, and using the exhaust duct and intake bell mouth specified in the Installation Manual.

NOTE 2. 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 3. Minimum permissible flight idle N2 for PW610F-A is: 25,000 RPM (52.1%)

NOTE 4. Instructions for Continued Airworthiness are listed in:
Line Maintenance Manual P/N 3070895
Maintenance Manual P/N 3059982
Overhaul Manual P/N 3059983

NOTE 5. All electrical power for the PW610F-A engine control system must be provided by the aircraft. The electrical power specifications and reliability requirements are defined in the PW610F-A Installation Manual, ER5961.

NOTE 6. Certain engine parts are life limited. Life limits are listed in Airworthiness Limitation Manuals: P/N 3072697.

NOTE 7. Approved Publications:
Installation Manual ER5961
FADEC Interface Control Document ER6027
Airworthiness Limitation Manual P/N 3072697
Assembly Parts List for production engines 35C0960 Revision K and subsequent revision

NOTE 8. Refer to Installation Manual, ER5961 for accessory drives specifications; principal dimensions; weights, inertias and centre pf gravity locations; and additional information on provisions and connections to airframe provided vibration, Oil pressure and temperature and fuel flow sensor

NOTE 9. Service bulletins, structural repair manuals, vendor manual, aircraft flight manuals, and overhaul and maintenance manuals, which contain a statement that the document is Transport Canada-approved, are acceptable by the FAA and are considered FAA-approved unless otherwise noted. These approvals pertain to the type design only.

NOTE 10. The engine is approved for multiple engine installations only.

NOTE 11. The installation require an airframe mounted Fuel Shut Off Valve

NOTE 12. The engine is not approved for use with a thrust reverser.

NOTE 13. The software contained in the Electronic Engine Control has been designed, developed, tested and documented in accordance with the provision of the critical Category, Level A of RTCA/DO178B. Each Electronic Engine Control channel also includes a simple PLD that meets Level A of RTCA/DO254

NOTE 14. The Electronic Engine Control Unit has not been fire tested and therefore must not be installed in a designated fire zone.

NOTE 15. The PW610F-A engine has been approved for Time Limited Dispatch (TLD) limitations. The dispatch criteria is contained in the Airworthiness Limitation Manual P/N 3072697.

NOTE 16 The starter/generator pad for the PW610F-A engine model may be overloaded in an emergency to a torque of 230 in.-lb. for periods up to 5 minutes, subject to total accessory power not exceeding 15hp at 46% N2 increasing linearly to 30hp at Max N2. This shall be considered as recurring at every 100 hours interval. Refer to Installation Manual.

NOTE 17 The following emissions standards promulgated in 14 CFR Part 34, Amendment 5a, effective October 23, 2013, and 40 CFR Part 87, effective October 31, 2012, have been complied with for engine models : PW610F-A

Fuel Venting Emission Standards: 14 CFR §§ 34.10(b) and 34.11; in addition, 40 CFR §§ 87.10(b) and 87.11.

Smoke Number (SN) Emission Standards: 14 CFR §34.23(a)(1); in addition, 40 CFR § 87.23(c)(1).

In addition to the FAA's finding of compliance based on the certification requirements defined in this TCDS, the engine manufacturer has declared that the ICAO emissions standards identified in Annex 16, Volume II, Third Edition, Part III, Chapter 2, Section 2.2.2 for SN, and Part II Chapter 2 for fuel venting have also been demonstrated.

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