

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION TYPE CERTIFICATE DATA SHEET E00059EN	TCDS NUMBER E00059EN REVISION: 5 DATE: November 30, 2015 PRATT & WHITNEY CANADA, CORP. MODELS: PW545A, PW545B, PW545C
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Engines of models described herein conforming with this data sheet (which is part of Type Certificate Number E00059EN) 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

MODELS I.
 TYPE

	PW545A	PW545B	PW545C		
THRUST RATING, POUNDS (See NOTE 1) Maximum continuous at sea level Takeoff (5 min.) at sea level (See Note 8)	3,372 3,952	-- 4,119	-- --		
ENGINE SPEED LIMITATIONS, RPM (See NOTE 3 and also refer to Installation Manual for transients) Max steady state low rotor (N1) Max steady state high rotor (N2)	13,034 33,289	-- 33,622	-- --		

INTERTURBINE TEMPERATURE	°F/°C	°F/°C	°F/°C		
MODELS:	PW545A	PW545B	PW545C		
Takeoff (5 min.)	1328/720	1364/740	--		
Maximum continuous	1328/720	--	--		
Starting (5 sec.)	1328/720	1364/740	--		
Transient (20 sec.) (Also see Installation Manual/NOTE 7)	1400/760	1436/780	--		

OIL INLET TEMPERATURE	°F/°C	°F/°C	°F/°C		
MODELS:	PW545A	PW545B	PW545C		
Maximum	250/121	--	--		
Minimum	-40/-40	--	--		
Transient maximum 545A: (120 sec.)	275/135	---	---		
Transient maximum 545B: (400 sec.)	---	275/135	--		
Transient maximum 545C: (ins. man.) (Also see Installation Manual/NOTE 7)					

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

AIR BLEED, MODELS:	PW545A	PW545B	PW545C
A. High compressor bleed. Maximum external bleed air available is:	63 pounds per minute (ppm) at sea level, decreasing linearly to 39 ppm at 40,000 ft, then decreasing linearly to 38 ppm at 45,000 ft.	--	--
B. During starting:	Bleed air not permitted	--	--
C. Bleed air contamination meets:	Para 3.1.2.11.3 of MIL-E-5007E	--	--

FUEL / ALL MODELS Fuel Bleed	Fuel from pump delivery may be extracted to drive jet or turbine pumps in the airplane fuel system. Refer to Installation Manual/NOTE 7.
Fuel Pressure	Refer to Installation Manual/ NOTE 7.
Fuel temperature	Maximum fuel pump inlet temperature for starting and operating for the PW545A and PW545B is 135 degF(57 degC) at sea level and for the PW545C it is 127 degF (53 degC); minimum inlet temperature for the PW545A and 545B is -48 degF(-44 degC) and for the PW545C it is -43 degF (-41 degC), for typical kerosene type fuels. Refer to Installation Manual/NOTE 7 for additional information.
Fuel type (Also see NOTE 2)	Fuels and additives conforming with the specifications additives are listed in P&WC Maintenance Manual (NOTE 5) are approved for use.

OIL MODELS:	PW545A	PW545B	PW545C							
OIL PRESSURE	psig	psig	psig							
Min. at ground idle up to 60% N2	25	--	--							
Min at 60% N2 and above	45	--	--							
Max.	140	160	--							
Transient (20 seconds)	0	--	--							
Transient (120 seconds)	20-250	---	---							
Transient (400 seconds)	---	20-250	--							
OIL TYPE	Oils conforming to the Specifications listed in P&WC Maintenance Manual/(NOTE 5) are approved for use.									
OIL TANK CAPACITY										
Total capacity Imperial quarts U.S. quarts	See Installation Manual									
Usable capacity Imperial quarts U.S. quarts See also Installation Manual	See Installation Manual									

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 (in.-lb.)
	DRIVE	ROTATION	SHAFT	CONTINUOUS	STATIC	(in.-lb.)
	DRIVEN BY HIGH ROTOR					
	Hydraulic pump	CW	.1280:1	225	1600	40
	Starter generator	CW	.3633:1	240	1600	210
	Alternator ¹	CW	0.3363:1	110/ 83	1600	250

*CW - Clockwise facing accessory pad.
 1 Max Torque (Continuous) for the PW545A and PW545B is 110. Max Torque (Continuous) for the 545C is 83 in-lbs.
 Total accessory power limit is 22.5 hp. at Flight Idle N2, increasing linearly to 34.5 hp. at 100% N2. Refer to Installation Manual for restrictions above 20,000 ft. altitude and allowable 5 minute emergency accessory power extraction. Also see NOTE 2.

MODELS	PW545A	PW545B	PW545C
Ignition Exciter Unison	Refer to Assembly Parts List See Note 9	--	--
Igniter plug Unison	Refer to Assembly Parts List See Note 9	--	--

PRINCIPAL DIMENSIONS Refer to Installation Drawing in approved Installation Manual.

C. G. LOCATION Refer to Installation Drawing in approved Installation Manual.

CERTIFICATION BASIS:	
PW545A	14 CFR Section 21.29; 14 CFR Part 33, Amendments 1 through 15, effective August 16, 1993; and 14 CFR Part 34, effective September 10, 1990. 14 CFR Section 21.29; 14 CFR Part 33, Amendments 1 through 20, effective December 13, 2000; and 14 CFR Part 34, Amendment 3, effective February 3, 1999. 14 CFR Section 21.29; 14 CFR Part 33, Amendments 1 through 20, effective December 13, 2000; and Federal Aviation Administration Equivalent Level Of Safety (ELOS) finding: 33.76, Bird Ingestion, para. (c), Amendment 20, ELOS No. 8040-ELOS-08-NE-07. The PW545C complies with 14 CFR part 34, amendment 5a, effective October 23, 2013. See Note 15 for a detailed summary of the certification basis for fuel venting and exhaust emissions.
PW545B	
PW545C	

MODEL	TYPE CERTIFICATE NUMBER E00059EN		
	APPLIED FOR	ISSUED/ REVISED	DELETED
PW545A	08/25/95	07/18/97	
PW545B	02/10/03	01/16/04	
PW545C	01/05/07	05/05/08	

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 CFR 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 the PW545A, PW545B and PW545C engine models are based on static sea level conditions:
- Compressor inlet air (dry) 77°F, at takeoff and 95°F at max. continuous.
- 29.92 in. Hg.
- No accessory loads or air bleed.
- Engine intake and exhaust as described in the Department of Transport, Canada, approved Installation Manual (See NOTE 7).
- NOTE 2. The starter/generator pad for the PW545A, PW545B and PW545C engine models may be overloaded in an emergency to a torque of 340 in.-lb. for periods up to 5 minutes, subject to total accessory power not exceeding 40 hp. This can recur at 4 hour intervals. Refer to Installation Manuals (see NOTE 7) for restrictions above 10,000 feet altitude.
- NOTE 3. Minimum permissible flight idle N2 is: PW545A: 16841 RPM (51.5%)
PW545B: 17396 RPM (53.2%)
PW545C: 17723 RPM (54.2%)
- NOTE 4. Certain engine parts are life limited. Life limits are listed in P&WC Maintenance Manuals.
PW545A: P/N 30J1272
PW545B: P/N 30J2242
PW545C: P/N 30J2302
- NOTE 5. Recommended overhaul and inspection intervals are listed in P&WC Maintenance Manuals.
PW545A: P/N 30J1272
PW545B: P/N 30J2242
PW545C: P/N 30J2302
- NOTE 6. PW545A Overhaul Manual P/N 30J1273
PW545B Overhaul Manual P/N 30J2243
PW545C Overhaul Manual P/N 30J2303
- NOTE 7. The PW545A, PW545B and PW545C engine definition does not include a thrust reverser. Considerations for the installation of a thrust reverser are contained in the Installation Manual.
PW545A Installation Manual P&WC Engineering Report 3159
PW545B Installation Manual P&WC Engineering Report 5715
PW545C Installation Manual P&WC Engineering Report 6725

- NOTE 8 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 is uncommon) and no limits or special inspections have been imposed.
- NOTE 9 Production Engine Configuration at the time of certification is defined for each engine model as follows:
PW545A - EAPL A31J1900-01
PW545B - Engine Assembly Drawing No. 30J2622, Revision B
PW545C - EAPL A30J2934
- NOTE 10 Model PW545C
For HIRF and lightning conformance, and installation requirements, refer to the Installation manual.
- NOTE 11 Model PW545C
The software contained in the Electronic Engine Control for the PW545C engine has been designed, developed, tested and documented in accordance with the provisions of Critical Category Level A of RTCA/DO178B.
- NOTE 12 Model PW545C
The engine is equipped with a FADEC which is approved for Time Limited Dispatch (TLD). The dispatch criteria are defined in the Airworthiness Limitations Section of the Maintenance Manual P/N 30J2302. The TLD dispatchable fault configuration is defined in ER 6612-01 Part A Interface Control Document.
- NOTE 13 Model PW545C
Flight Idle is a function of Ambient Pressure.
- NOTE 14 Service bulletins, structural repair manuals, vendor manuals, and overhaul and maintenance manuals, which contain a statement that the document is Transport Canada-approved, are accepted by the FAA and are considered FAA-approved unless otherwise noted. These approvals pertain to the type design only.
- NOTE 15 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 the PW545C engine model.

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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