



TYPE CERTIFICATE DATA SHEET Nº EM-2015T07

Type Certificate Holder:

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Canada

EM-2015T07-00

Sheet 01

PRATT & WHITNEY
CANADA CORP.

PW 150A

01 June 2015

Engines of models described herein conforming with this data sheet, which is part of Type Certificate No. 2015T07, 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	PW 150A
TYPE	A three spool, free turbine turboprop engine. A three stage axial compressors and a centrifugal compressor are independently driven by single stage axial turbines. A two stage axial turbine drives an offset reduction gearbox. The combustor is a reversed flow annular type. The engine fuel flow is controlled by a Full Authority Digital Electronic Control.
RATINGS	PW 150A
	Max. continuous, Sea level pressure altitude:
	Equivalent Shaft horsepower 5492
	Shaft Horsepower 5071

	Thrust kg (lbs)	382 (843)
	Output RPM	1020
		PW 150A
	Takeoff, Sea level pressure altitude:	
	Equivalent Shaft horsepower	4963
	Shaft Horsepower	4580
	Thrust kg (lbs)	348 (767)
	Output RPM	1020
	Maximum Takeoff (5 min), Sea level pressure altitude:	
	Equivalent Shaft horsepower	5492
	Shaft Horsepower	5071
	Thrust kg (lbs)	382 (843)
	Output RPM	1020
FUEL TYPE	See NOTE xx	
OIL, LUBRICATION	Synthetic type conforming to the current PWA Specification Number PWA 521 Type II. Refer to PWA 150A Maintenance Manual No. 3043522 for approved brands.	
TEMPERATURE LIMITS	Max. Inter-turbine Temp (ITT) °C (°F)	
	Maximum Take-off	880 (1616)
	Normal Take-off	*
	Maximum Continuous	880 (1616)
	Transient (20 Secs.)	920 (1688)
	Max. Air Temp. for Reted Power °C (°F)	
	Maximum Take-off	37 (99)
	Normal Take-off	37 (99)
	Maximum Continuous	37 (99)
OUTPUT TORQUE	Kg.m (lb.ft)	
	Maximum Take-off	3827 (27680)
	Normal Take-off	3610 (26113)
	Maximum Continuous	3610 (26113)
	Transient (20 Secs.)	4874 (35252)

IMPORT REQUIREMENTS

Each engine imported separately and/or spare parts must be accompanied by an Airworthiness Certificate for Export and/or an Airworthiness Approval Tag, respectively, issued by TCCA, attesting that the particular engine and/or parts were submitted to the governmental quality control before delivery and are in conformity with the CTA approved type design.

CERTIFICATION BASIS

Brazilian Type Certificate No.2015T07 based on the RBAC 21.29 and RBAC 33, which endorses the 14 CFR Part 33 effective 1 February 1965, as amended by 14 CFR Part 33-1 through 33-15.

ModelApplicationIssued TC

PW 150A

05/09/2014

01/06/2015

NOTES:**NOTE 1**

- 1 - The engine ratings are based on dry sea level static ICAO Standard atmospheric conditions, with no external accessory loads and no air bleed. The quoted ratings are obtainable on a test stand with the specified fuel oil, using the exhaust duct and intake defined in the Installation Manual.
- 2 - The basic engine mission profile assumes the use of the normal take-off power rating, and hence the infrequent use of maximum take-off power. Operators making scheduled use of maximum take-off power will be required to count each use with an appropriate flight count factor (penalty) as noted in the Airworthiness Limitations Manual.
- 3 - 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 (as engine failure at take-off events are uncommon) and no limits or special inspections have been imposed.
- 4 - The PW150A includes provisions for automatic power increase from Normal Take-off Power to Max. Take-off Power. 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.

NOTE 2

Approval for the maximum defined Indicated Turbine Temperature (ITT) limits are based upon test conducted with a maximum gas temperature at the high-pressure turbine rotor entry of 1477°C (2691°F).

NOTE 3

The Normal take-off H.P. Spool Speed and Max. Inter-Turbine Temperature are variable with the ambient temperature. This ensures that the maximum Take-off limitations are not exceeded in the event of an automatic power increase from Normal Take-off to maximum take-off power. Refer to the engine Installation Manual for the curves defining these limits.

NOTE 4

All engine models have been approved with a propeller overspeed "get-home" capability to cater for propeller control malfunctions. The Engine Installation Manual (P/N 3049067) operating limits defines this overspeed limits.

- NOTE 5** The software contained in the Electronic Control Unit for PW150A has been designed, developed, documented and tested in accordance with the provisions of the Critical Category, Level A, of RTCA/DO 178B.
- NOTE 6** The PW150A engine is equipped with a FADEC which is approved with Time Limited Dispatch limitations. The dispatch criteria is contained in the Airworthiness Limitation Manual, P/N 3043520.
- NOTE 7** The engine may be maintained, as two modules when Transport Canada accepted manuals are available – the Turbomachine Module and Reduction Gearbox as follow:
- | | | |
|--------------|-------------------------|------------------------------|
| Engine Model | TurboMachine Module P/N | Reduction Gearbox Module P/N |
| PW150A | 3121268 | 3121630 |
- NOTE 8** Engine serial numbers FA0001 up to and including FA0032 must be modified in accordance with SB35000R1 prior to incorporation into an aircraft with a normal certificate of airworthiness.
- NOTE 9** The uninstalled engine meets ANAC/FAA requirements for operating in icing conditions. This engine also meets the requirements of Canadian Airworthiness Manual 533.68 as defined in Canadian Airworthiness Manual 525/14 CFR part 25/RBAC 25 appendix C when the intake system conforms with PWC installation manual instruction for material separation of snow and icing particles.

NOTE 10Approved Publications

- 1 – Transport Canada Approved PW150A Installation Manual: P/N 3049067.
- 2 – Transport Canada Approved Part List for the first Production PW150A engine, P/N 3121627.
- 3 – Transport Canada Approved Airworthiness Limitations Manual P/N 3043520.
- 4 – PW150A Engine Manual, P/N 3043523 (This Manual references the Airworthiness limitations Manual)
- 5 – PW150A Maintenance Source Data, P/N 3043522 (issued only to the aircraft manufacturer to be incorporated into the aircraft maintenance manual)

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