Engine Specification

Pratt & Whitney Canada
A United Technologies Company

Commercial
General Aviation

Model: PT6A-140A
Spec No: 1196

PT6A-140A - TURBOPROP ENGINE SPECIFICATION
GUARANTEED CALIBRATION STAND PERFORMANCE
Sea Level Static
STANDARD DAY CONDITIONS 59°F (15°C))

Condition	ESHP	SHP	Gross Jet Thrust (lb)	Torque Limit (ft-lb)	ESFC (WNE) (lb/ESHP/hr)
Take-Off Rating	911	867(1)	117	2397	0.566
Max. Continuous Rating	911	867(2)	117	2397	0.566
Max. Climb	911	867(2)	117	2397	0.566
Max. Cruise	911	867(3)	117	2397	0.566

(1) Available to ISA+29°C (44°C or 111.2°F) SL @ 1900 RPM prop. speed
(2) Available to ISA+12°C (27°C or 80.6°F) SL @ 1900 RPM prop. speed
(3) Available to ISA+9°C (24°C or 75.2°F) SL @ 1900 RPM prop. speed

THERMODYNAMIC PERFORMANCE

Condition	ESHP	SHP	Net Jet Thrust (lb)	ESFC (WNE) (lb/ESHP/hr)
Take-Off Rating	1159	1104	138	0.544
Max. Continuous Rating	1018	969	121	0.553
Max. Climb	1018	969	121	0.553
Max. Cruise	992	944	118	0.556

ENGINE LIMITS

Maximum 1P Moment	14,500 lbf-in
Maximum continuous output torque by power rating	2,397 ft-lb
Max steady state prop speed	1,900 RPM

ESTIMATED PERFORMANCE

Estimated performance for this model may be obtained by use of the P&WC Computer Program. This program is available on request. (Reference performance basis PB#20163)

Date: 20 January 2015
Revised: 08 February 2016

DESCRIPTION AND DIMENSIONS

The PT6A-140A is a turboprop powerplant incorporating a free turbine with multi-stage compressor, multi-stage axial turbine and concentric reduction gear with a dual port exhaust duct.

Output Shaft Design Speed	-	1900 RPM
Output Shaft Rotation	- Viewed from rear of engine	Clockwise
Engine Installation Drawing No.:		3079595
Electrical Installation Drawing No.:		3079596
Powerplant Diameter	- See Installation Drawing	21.3 in. approx.
Powerplant Length	- See Installation Drawing	64.1 in. approx.
Rotor Component Life	- Based upon PB#20163	Maintenance Manual 3079582 Chapter AIRWORTHINESS
Fuel	- Conforming to:	Maintenance Manual 3079582 Chapter 72-00-00 description and operation
Oil	- Conforming to:	Maintenance Manual 3079582 Chapter 72-00-00 description and operation
Oil Consumption, Maximum	- Measured over 10-hour period	0.2 lb/hr

DRY WEIGHT

Including Standard Equipment, shall not exceed	385 lbs / 175 kg

GENERAL NOTES

Take-off Rating is the maximum power certified for Take-off operation.

Maximum Continuous rating is the maximum power certified for continuous use. Aircraft Type Certification testing and in-flight emergencies are the only conditions for which the use of rated Maximum Continuous Power is authorized. In all other conditions the indicated rating for the corresponding flight condition is the maximum authorized power.

Max. Climb and Max. Cruise are the maximum powers approved by P&WC for climb and cruise operation.

The quoted ratings are obtainable on a dynamometer test stand with the specified fuel and oil, using P&WC designed exhaust stubs PWC 51333 and without intake duct, compressor air bleed or load on the accessory drives.

In calculating equivalent shaft horsepower (ESHP) it is assumed that 2.5 lb. axial thrust is equivalent to one shaft horsepower. Fuel consumption is based on a fuel with a lower heating value of 18,400 BTU per lb.

STANDARD EQUIPMENT

Included in Engine Price and Dry Weight

Intake inlet screen with compressor wash provisions
Propeller governor
Fuel pump and Fuel control
Single channel ignition exciter & cables, without a power source
Fuel heater
Motive flow port
RGB & AGB oil system chip detectors
Integral oil tank with dipstick & oil sight-glass, oil pressure regulating valve, and oil loss prevention feature on filler neck
RGB oil system
Hydraulic torque-meter
Interturbine gas temperature thermocouple system with trim stick
Provision for high pressure air bleed for a/c services
Fire-seals
FCU P3 air filter drain
Cabin bleed venturi
Bleed valve overboard airflow belly-band
Provision for fuel flow transmitter

STANDARD EQUIPMENT (CONTINUED)

Included in Engine Price and Dry Weight

Accessory Drives:

Gas Generator Section:
- Starter generator
- Tachogenerator
- Hydraulic pump
- Aircraft accessory
- Vacuum pump

Power Turbine Section:
- Tachogenerator
- Propeller governor
- Propeller overspeed governor

OPTIONAL EQUIPMENT

Available at Increased Price and Dry Weight

	ENGINE DRY WEIGHT CHANGE
Compressor wash ring	+ 1.0 lb
Oil MOP and MOT sensors	+1.7 lb
Overspeed governor	+3.3 lb
Torque limiter	+2.5 lb
Dual channel ignition box (Alternative with the Single Channel Ignition Exciter)	+0.0 lb
Anti-icing additive free FOHE (Alternative to basic FOHE)	+4.2 lb
Motive flow shutoff valve (shipped loose) and Ecology fuel nozzle purge system (shipped loose)	+4.8 lb

Information on additional “Optional Equipment” is available on request. Items of “Optional Equipment” should be ordered at time of engine procurement in order to ensure availability of this equipment at time of engine shipment.

Subject to change without notice

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