

Engine Specification



Commercial
T.C. DOT E6
FAA E4EA

PT6A-21 TURBOPROP ENGINE SPECIFICATION
GUARANTEED CALIBRATION STAND PERFORMANCE
Sea Level Static

Model: PT6A-21
Spec No: 1158

	STANDARD DAY			MAXIMUM			
	THERMODYNAMIC PERFORMANCE			SHAFT HORSEPOWER PERFORMANCE			
	ESHP	SHP	MAX. ESFC LB/ESHP/HR	ESHP	SHP	TORQUE LB-FT	MAX. ESFC LB/ESHP/HR
Take-Off Rating	663	630	.608	580	550(1)	1315	.630
Max. Continuous Rating	663	630	.608	580	550(1)	1315	.630
Max. Climb	640	608	.613	580	550(2)	1315	.630
Max. Cruise	640	608	.613	580	550(2)	1315	.630

- (1) Available to 33°C @ 2200 RPM prop. speed
- (2) Available to 27,8°C @ 2200 RPM prop. speed

ESTIMATED PERFORMANCE

Estimated performance for this model may be obtained by use of the P&WC Computer Program. This program is available on request. The ratings expressed herein are intended for multi-engine aircraft applications only.

DESCRIPTION AND DIMENSIONS

Type - A free turbine turboprop propulsion engine incorporating a multi-stage compressor driven by a single stage turbine and a single stage free turbine driving the propeller shaft through planetary reduction gearing.

P&WC Installation Drawing No. 3027000 - The Installation Drawing defines the engine envelope and provides the dimensions and design data necessary for the engine installation interfaces.

Propeller Shaft Design Speed	-	2200 RPM
Propeller Shaft Rotation	- Viewed from rear of engine	Clockwise
Engine Diameter	- See Installation Drawing	19 in. approx.
Engine Length	- See Installation Drawing	62 in. approx.
Fuel	- Conforming to:	CPW 204 or CPW 46
Oil	- P&WC Approved Oils Conforming to:	PWA 521, Type II or CPW 202
Oil Consumption, Maximum	- Measured over 10-hour period	0.2 lb/hr

DRY WEIGHT

Including Standard Equipment, shall not exceed 327.3 lbs

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Export Control Classification: ECL: N/A, P-ECCN: 9E991

GENERAL NOTES

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

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 certified and approved powers are obtainable on a dynamometer at ICAO Standard conditions with the specified fuel and oil, using P&WC designed exhaust stubs of 74 sq.in. effective area and without intake duct, compressor airbleed 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 JP4 with a lower heating value of 18,400 BTU per lb.

STANDARD EQUIPMENT

Included in Engine Price and Dry Weight

Power Control System including Fuel Pump and Fuel Control Unit	
Engine Ignition System without Power Source	Gas Temperature Thermocouples
Integral Oil Tank	Twin Port Exhaust
Torquemeter	Fuel Heater with Plumbing
Airbleed for Aircraft Services	Fireseal Mount Rings
Intake Screen	Corrosion Protection
Major Castings in Magnesium Alloy	
Accessory Drives:	
Gas Generator Section:	Power Section:
Starter Generator	Propeller Governor
Tachometer Generator	Tachometer Generator
Fuel Pump/FC4	

OPTIONAL EQUIPMENT

Available at Increased Price and Dry Weight

	<u>ENGINE DRY WEIGHT CHANGE</u>
Propeller Reversing System Including Linkages, Propeller Control Cam Unit and Propeller Control Unit (with Lock Pitch Solenoid)	+ 9.8 lb. + 0.8 lb.
Accessory Drives:	
Gas Generator Section:	
Hydraulic Pump (7600 RPM)	+ 2.6 lb.
Aircraft Accessory (12,000 RPM)	+ 1.5 lb.
Fluid Pump (3800 RPM)	+ 0.5 lb.
Power Section:	
Propeller Overspeed Governor	+ 0.4 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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