DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

E6SO
Revision 1
CONTINENTAL
TP500E
November 1, 2011

TYPE CERTIFICATE DATA SHEET NO. E6SO

Engines of models described herein conforming with this data sheet (which is part of type certificate No. E6SO) 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 Holder	Continental Motors P. O. Box 90 Mobile, Alabama 36601
Type Certificate Holder Record	Teledyne Continental Motors Ownership & name change as of April 19, 2011 (Continental Motors, Inc.)
Model	TP500E
Type	Single-shaft turboprop with single stage centrifugal compressor, single reverse flow annual combustion chamber and two stage axial turbine.
Prop Drive Ratio	24.8262:1 (cw, alf)

Ratings (see note 3)

Maximum continuous	
Shaft hp	425
Equivalent shaft hp	447
Pprop drive rpm	2014
Takeoff (2 minutes)	
Shaft h.p.	425
Equivalent shaft hp	447
Prop drive rpm	2014
Thermodynamic	
Shaft h.p.	480
Equivalent shaft h.p.	500
{rop drive rpm	2014

Production basis: None. The manufacturer does not hold a production certificate for the production of engines under this certificate and, therefore, each engine so produced is subject to an inspection for workmanship and conformity with the approved data by a Federal Aviation Administration representative. In addition, the engine must demonstrate rated power, for given ambient conditions, during sea level dynamometer testing. Upon satisfactory completion of the above, the FAA representative will tag the engine with tag form 8130-3.

Note 1. Temperature limits

Maximum rated turbine inlet temperature (thermodynamic)	1960°F
Measured gas temperatures (exhaust minus inlet air)	
Takeoff	1081°F
Maximum continuous	1036°F
Start transient	1200°F

	Oil inlet temperature	-20° to 175°F
	Fuel inlet temperature	32° to 130°F
Note 1.	Component temperatures	
	Fuel control (HPMU)	-66°F to 250°F
	DC/SV	-65°F to 293°F
	EECU	-71°F to 160°F
Note 2.	Pressure Limits	
	Fuel, at control inlet	7 psig minimum
		32 psig maximum
	Oil, operating	55 psig minimum
		75 psig maximum
	Prop Drive	Flanged, 8 holes 0.594 ± 0.005" dia. on 4.250" B.C. per ARP 880A
	Fuel Control	Lucas pgc400 series Hydromechanical pump and metering unit
		Lucas Sta900 series Electronic engine control unit
		Lucas DC/SV 100 series distribution control and shutoff valve
	Fuel	ASTM D1655, Type Jet A or A-1
	Oil	MIL-L-23699 conforming to CMI Spec. MHS-460
	Principal Dimensions	
	Length, in.	52.18
	Width, in.	23.31
	Height, in.	21.30
	Weight (dry), lb.	336
	(includes basic engine and engine mounted fuel control system, but excludes electronic engine control unit and ignition exciter)	
	C. G. location (dry weight)	
	(tailpipe end looking forward to prop flange)	
	aft of propeller flange, in.	24.63
	right of engine centerline, in.	0.12
	below engine centerline, in.	0.14
	Ignition system	Dual spark plug system, Champion CH34055 plug, Bendix 10-381550-1 Exciter Type TGLN-28
	Certification basis	FAR Part 33 effective February 1, 1965, and Amendments 33-1 to 33-11 inclusive, type certificate no. E6SO issued October 18, 1988.

Note 3. Engine ratings are based upon U.S. standard atmosphere, sea level static conditions. Engine inlet air (dry) 59°F, 29.92 in. hg. No bleed air extraction no external accessory loads, no inlet duct losses, and utilizing the exhaust configuration defined by CMI Drawing TP100818.

Note 4. Equivalent shaft horsepower (ESHP) for static conditions is based on:

$$ESHP = \frac{\text{Net Thrust, Lbs.}}{2.5} + SHP$$

Note 5. Accessory provisions

Accessory	[1] Direction Rotation	RPM at 100% Engine Speed	Maximum Torque (in-lb)		Maximum Overhang Moment (in-lb)
			Continuous	Static	
Fuel control drive	CW	5984	(2)	800	65.4
Tachometer (and 20005 modified)	CCW	4107	(3)	100	1.25
Propeller governor (and 20010 modified)	CW	4107	(4)	850	11
Starter/generator (MS3326-6 modified)	CW	11636	43.25	1400	86.8
Accessory (and 20000 modified)	CW	3611	100	800	17.6

(1) Direction of rotation viewing pad, cw-clockwise, ccw-counter-clockwise.
(2) Continuous torque associated with lucas pgc400 series fuel control.
(3) Continuous torque associated with Globe Industries P/N 25140-22A703 tach generator.
(4) Continuous torque associated with Hartzell Model T-1 propeller governor.
(5) No power extraction allowed.
(6) Aircraft services air extraction may not exceed 5% of engine mass flow.
(7) Provision for fuel venting emission control is not included on this engine and, therefore, airframe compliance must be provided in accordance with sfar-27.
(8) These engines have not been tested to evaluate the effect of bird, ice ball, and foreign object ingestion, and are, therefore, limited to protective inlet installations. the bird, ice ball, and foreign object ingestion characteristics of the protective airframe inlet and engine combination must be evaluated by the FAA prior to approval of the engine installation.
(9) These engines meet FAA requirements for operation in icing conditions; however, icing characteristics of the airframe inlet system and the engine combination must be evaluated by the FAA prior to installation approval.
(10) Installation of the TP500E engine in a certificated aircraft is not authorized until the required maintenance and overhaul manuals become available.
(11) Certain engine parts are life limited. these limits are listed in FAA approved service bulletin number 500E-72-88-A.

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