

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

TCDS Number: E00017AT
Revision 0

CONTINENTAL
TD-300-B

December 19, 2012

TYPE CERTIFICATE DATA SHEET NO. E550

Engines of models described herein conforming with this data sheet (which is part of Type Certificate No. E00017AT) 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, operate, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

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| Type Certificate Holder | Continental Motors Inc. 2039 Broad Street Mobile, Alabama 36601 |
| Models | TD-300-B |
| Type | The TD-300-B is a 4-stroke diesel cycle air-cooled engine (4HOA), with a secondary oil cooling system, and a displacement of 4972 cm ³ . The engine is equipped with a direct injection fuel system and turbocharger. The engine is a direct drive with four flat horizontally opposed cylinders. The engine has electronic engine control mode with a mechanical back-up mode. |
| Ratings | |
| Max Continuous, HP | 230 (see Note 1) (U.S Standard Atmosphere at Sea Level Pressure Altitude) |
| Max Continuous, RPM | 2200 |
| Max Altitude, feet (m) | 12,500 (3810) |
| Fuel | JET-A1 (F-35) JET-A1 (ASTM D1655) JET-A (ASTM D1655) See Note 5, Note 7, and Note 18 Use anti-icing additive for fuel temperature <0 degrees Celsius See Note 5 and Note 17 Pre-filter with mesh size 300 micron to be used for fuel inlet |
| Bore and Stroke, In. (mm) | 4.96 (126) and 3.94 (100) |
| Displacement, Cu. In. | 303.41 (4972) |
| Compression ratio | 17:1 |
| Turbocharger | CMI PN 984032 |
| Lubricating Oil | 100% synthetic a. Standard: ACEA E4 / API CF / MIL L 2104E b. Viscosity 10w40 (See Note 5 and Note 7) |
| Oil Sump Capacity, Qts.(L) total | 6.86 (6.5) Usable – 20° Nose Up 3.43 (3.25) Usable – 12° Nose Down 3.43 (3.25) |

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Principal Dimensions

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|-----------------|------------|
| Length, in (mm) | 32.3 (820) |
| Width, in (mm) | 36.6 (930) |
| Height, in (mm) | 30.9 (785) |

Center of Gravity (Basic Engine)

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|--|------------|
| Aft of propeller flange, in (mm) | 15.5 (394) |
| Beside crankshaft centerline toward the 1-2 side | 0.2 (5.1) |
| Below Crankshaft Centerline, in (mm) | 2.0 (50.8) |

Propeller Shaft AS127D (SAE6) with five long bushings engaging the propeller and one short bushing in line with the right front cylinder when the #1 piston is at TDC.

Weight (dry) pounds (kg), 431 (195.5)
Refer to Installation Manual, for definition of engine dry weight

Fuel Injection In-line high pressure pump-line-nozzle system (CMI PN 969038) Injection Timing BTDC 20.5° ± 0.5° as defined in the Overhaul Manual

Control System Single channel electronic engine control system with manual backup. The S/W of the engine control system has been developed and tested per DO178B, Level C.

Certification Basis 14 CFR 33 effective February 1, 1965 through Amendment 30

Effective Date of TC Application June 23, 2010

Production Basis None, Before original airworthiness certification of each aircraft, an FAA representative must perform a detailed inspection for workmanship, materials, conformity with the approved technical data, and a check of the flight characteristics. In the event of an application for a standard airworthiness certificate or, if an applicant intends to produce a new aircraft under 14 CFR § 21.183(d), and the applicant is manufacturing, building, or assembling to another person's type certificate, the applicant must provide written evidence of permission from the type certificate holder. Conduct of such activity without written evidence of permission may be a violation of 49 U.S.C. § 44704 (a)(3).

Notes

Note 1 - Maximum Rotation Speed Limits

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|---|---------|
| RPM Steady State: | 2200 |
| Transient (3 seconds): | 2350 |
| Turbocharger maximum speed rpm: | 146,000 |
| Maximum continuous power is with no external power extraction | |

Note 2 - Temperature Limits

| | |
|--|-----------------------|
| Maximum cylinder head temperature, ° F (C): | 420 (216) |
| Maximum intake air temperature (at intake manifold inlet) ° F(C): | 150 (65) |
| Maximum turbine inlet temperature, ° F(C): | 1346 (730) |
| Maximum oil temperature, °F(C): | 248 (120) |
| Minimum oil temperature for power up/maximum power, ° F (C): | 150 (65) |
| Minimum oil temperature for starting, ° F (C): | 20 (-7) (see Note 17) |
| Maximum fuel temperature (at low pressure pump inlet), ° F(C): | 149 (65) |
| Minimum fuel temperature without use of anti-ice additive, ° F(C): | 32 (0) (see Note 7) |

Note 3 – Not Used

Note 4 – Not Used

Note 5 - Fuel Pressure Limits

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|---|----------|
| Minimum absolute pressure (at low pressure pump inlet) PSI (kPa): | 8.7 (60) |
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Oil Pressure Limits

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|---------------------------------|------------|
| Oil (gauge pressure) PSI (kPa): | |
| Maximum, cold engine: | 174 (1200) |

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Nominal:
Minimum at idle:

46.4 - 80 (320 - 552)
14.5 (100)

Note 6 - Aircraft Accessory Drive

| Accessory-Drive | Direction of Rotation* | Drive Ratio to Crankshaft (RPM)** | Maximum Torque In. lb. (Nm) or Power | Max Overhang Moment In. Lbs (Nm) | Drive |
|----------------------------------|------------------------|-----------------------------------|--------------------------------------|----------------------------------|---------------|
| Propeller Governor | CCW | 1.231:1 | 212 (24) | 3 (26) | AND 20010 |
| Vacuum Pump | CW | 1.177:1 | 93 (10.5) | 3 (26) | AND 20000 |
| Alternator | CCW | *** | 4 kW | 5.5 (48.75) | Belt ISO 9982 |
| A/C compressor or 2nd Alternator | CCW | *** | 4 kW | 9 (79.8) | Belt ISO 9982 |

*: CCW = counterclockwise, CW = Clockwise. The rotation direction of the power drives for the accessories is indicated looking at the drive from the outside or from the front of the engine for accessories driven from the front pulley of the engine.
 **: The speed of rotation for the accessory power drives is indicated for a reference engine speed of 2200rpm.
 ***: Driving pulley speed. Accessory rotation speed dependent on accessory pulley ratio.

Note 7 - Approved oil specifications and fuel additive specifications are listed in the Installation Operation Manual (OI-30)

Note 8 - The engine is approved for installation in Normal and Utility aircraft categories only where the engine is in the horizontal tractor configuration

Note 9 - The list of propellers that are approved for use with the engine are published in the Installation Operation Manual (OI-30)

Note 10 - Engine models are only available as 24 Volt systems

Note 11 - The electronic control system for the TD-300-B contains level “C” software which has been shown to meet the requirements for single and multi engine aircraft of less than 6,000 lbs. maximum takeoff weight. The following electronic control unit has been approved for use with the corresponding engines (CMI part numbers below):

| Engine Model | ECU | ECU software | | |
|--------------|--------|--------------|---------|-------------|
| | | OTP | Control | Cartography |
| TD-300-B | 995001 | 965016 | 995134 | 995135 |

Note 12 - The electronic control unit must not be installed in a dedicated fire zone

Note 13 - Installation and evaluation of fault lamps is subject to the requirements established by the certification basis of the aircraft

Note 14 - Dispatch Limitations: All engine systems and equipment must be functional prior to aircraft take-off. Any detected engine system or equipment failure must be corrected before next flight. Takeoff is prohibited in mechanical back-up mode. Takeoff is prohibited with annunciated faults showing on the fault lamps.

Note 15 - Engine model numbers may include a suffix to define minor specification changes and/or accessory packages. Example: TD-300-B (10).

Note 16 - See Installation Operation Manual (OI-30) for maximum manifold air pressure relative to atmospheric conditions.

Note 17 – The operating envelope is provided in the Installation Operation Manual (OI-30)

Note 18 – Fuel minimum cetane number of 36 per ASTM D613

Note 19 – See Maintenance Manual (M-30) for Airworthiness Limitations / Life Limited Component(s)

Note 20 – Instructions for Continued Airworthiness are incomplete. The aircraft with the engine installed is eligible for delivery when the ICAs are complete and accepted.

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