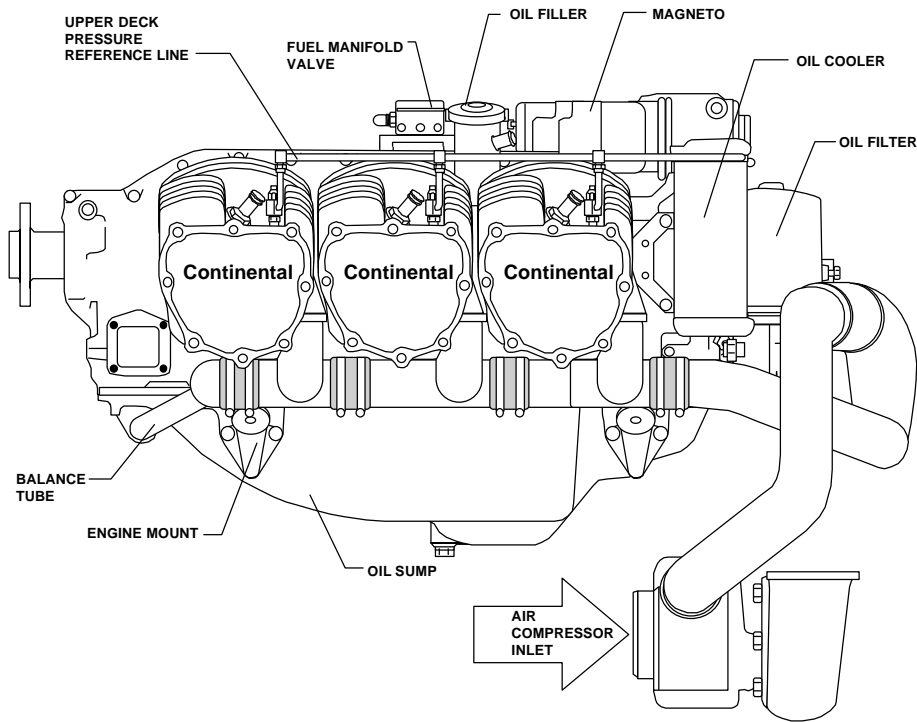


# TSIO-520-D, -DB

# Type Certificate E8CE



The TSIO-520-D, -DB is a six cylinder fuel injected, turbocharged engine producing 285 brake horsepower and has a crankshaft speed of 2700 RPM. The engine has horizontally opposed air cooled cylinders. The engine cylinders incorporate an overhead inclined valve design. The cylinders have updraft intake inlets and downdraft exhaust outlets mounted on the underside of the cylinder head.

The TSIO-520-D, -DB engines have a 520 cubic inch displacement achieved by using a cylinder design with a 5.25 inch diameter bore and a 4.00 inch stroke. The engine enclosure is of the Permold series crankcase design. The dry weight of the engine is 406.72 lbs. without accessories. The average weight of the engine with installed accessories is approximately 485 lbs.

OVERALL ENGINE DIMENSIONS INCHES	
HEIGHT	29.40
WIDTH	33.56
LENGTH	39.58

# ENGINE SPECIFICATIONS ..... TSIO-520-D & -DB

## Cylinders

Arrangement ..... Horizontally Opposed  
 Number of Cylinders ..... 6  
 Compression Ratio ..... 7.5:1  
 Firing Order ..... 1-6-3-2-5-4  
 Bore (Inches) ..... 5.25  
 Stroke (Inches) ..... 4.00  
 Piston Displacement (cu. in.) ..... 520

## Brake Horsepower @ Rated Speed

Rated Maximum Continuous Operation ..... 285 BHP @ 2700 RPM  
 Recommended Cruise ..... 214 BHP @ 2500 RPM

## OPERATING LIMITS

Manifold Pressure Limit (In. Hg.) Absolute ..... 32.5"  
 Fuel Control System ..... TCM Fuel Injection  
 Fuel ..... 100/100LL  
 Oil

TEMPERATURE	AVIATION GRADE	SAE GRADE	MULTI-VISCOSITY
BELOW 40	65	30	10W-30 / 15W-50 / 20W-50
ABOVE 40	100	50	15W-50 / 20W-50 / 20W-60

## Oil Pressure

Idle, Minimum, psi ..... 10  
 Normal Operation, psi ..... 30-60

Oil Sump Capacity (U.S. Quarts) ..... 12

Max. Oil Consumption (Lb./BHP/Hr. Max.) .....  $.006 \times \% \text{ Power}$   
 ..... 100

## Oil Temperature Limits

Minimum for Take-Off ..... 75° F  
 Maximum Allowable ..... 240° F

## Cylinder Head Temperature

Recommended Max. at Cruise ..... 380° F  
 Limit ..... 460° F

## Turbine Inlet Temperature

Maximum Continuous ..... 1650° F  
 Maximum, 60 Seconds ..... 1700° F

## Ignition Timing (Compression Stroke, Breaker Opens)

Right Magneto, Degrees BTC ..... 20°  
 Left Magneto, Degrees BTC ..... 20°

## Spark Plug

TCM ..... 634675  
 Champion ..... RHB32E



**CONTINENTAL MOTORS**