

| | <u>TSIO-550-A</u> | <u>TSIO-550-B</u> |
|--|---|--|
| Propeller Shaft | Special Integral Flange 4-7/8 in. O.D. with six 1/2 in. bolt holes in 4 in. diameter circle. | -- |
| Fuel Injection | TCM Injector | -- |
| Ignition - Dual Magnetos | See Note 10 | -- |
| Timing °BTC | R-24°, L-24° | -- |
| Spark Plugs | Ref. TCM Service Bulletin 85-7 or latest FAA approved revision | -- |
| Oil Sump Capacity Qts. Total | 8; 5 usable at 16° nose up, and 4.5 usable at 10° nose down attitudes. | 12; 7.5 usable at 20° nose up, and 6.5 usable at 14.5° nose down attitudes. |
| Applicable Notes | 1 through 11 | -- |
| Model | <u>TSIO-550-C</u> | <u>TSIO-550-E</u> |
| Type | 6HOA | -- |
| Rating, ICAO or ARDC | | |
| Standard Atmosphere at Sea Level Pressure Altitude | 310 | 350 |
| Max Continuous HP | 2600 | 2700 |
| Max Continuous RPM | 35.5 | 38.5 |
| Max Continuous Man. Pr. - In. Hg. | 18,000 | 18,000 |
| Critical Altitude - Feet | | |
| Fuel (Min. Grade Aviation Gasoline) | 100 or 100LL | -- |
| Lubricating Oil | Oils meeting TCM Specifiction MHS-24 are eligible for use in this engine. | -- |
| Bore and Stroke - In. | 5.25 X 4.25 | -- |
| Displacement - Cu. In. | 552 | -- |
| Compression Ratio | 7.5:1 | -- |
| Weight (Basic Engine, Dry) Lbs. | 442 | -- |
| Weight (Turbo, Dry) Lbs. | 28.2 (2 each) | -- |
| C. G. Location (Basic Engine) | 11.41 | -- |
| Fwd of Rear Face Accessory Case - In. | 1.056 | -- |
| Below Crankshaft Centerline - in. | 0.365 on 2-4-6 side | -- |
| Beside Crankshaft Centerline - In. | | -- |
| C. G. Location (Turbo) | See TCM Dwg. 646618 | -- |

| | <u>TSIO-550-C</u> | <u>TSIO-550-E</u> |
|-------------------------|---|---|
| Propeller Shaft | Special Integral Flange 4-7/8 in. O.D. with six 1/2 in. bolt holes in 4 in. diameter circle | -- |
| Fuel Injection | TCM Injector | -- |
| Ignition | See Note 10 | -- |
| Timing - °BTC | R - 24°, L - 24° | -- |
| Spark Plugs | Ref. TCM Service Bulletin 85-7 or latest FAA approved revision | -- |
| Oil Sump Capacity - Qts | 8; 5 usable at 16° nose up and 4.5 usable at 10° nose down attitudes | 12; 7.7 usable at 20° nose up and 6.5 usable at 14.5° nose down attitude. |
| Applicable Notes | 1 through 10 | -- |

Certification Basis : TSIO-550- A - FAR 33 through Amendment 9 effective October 14, 1980
 TSIO-550-B - FAR 33 through Amendment 12 effective September 2, 1988
 TSIO-550-C and -E - FAR 33 through Amendment 13 effective August 18, 1990

Production Basis - Production Certificate No. 508

Note 1. Maximum Permissible Temperatures

| | |
|--|--------|
| Cylinder Head | 460°F |
| Oil Inlet | 240°F |
| Exhaust Gas - Turbocharger Inlet Temperature (TIT) | |
| Continuous Operation | 1750°F |
| 30 Second Limit | 1800°F |

Note 2. Fuel Pressure Limits

| | | |
|-----------------------------|-------|--------------|
| Inlet to Injection Pump, | Min - | Minus 2 psig |
| | Max - | Plus 6 psig |
| Outlet to Vapor Return Line | | 3.5 psig Max |

| | | |
|--|----------------|------------|
| Note 3. Oil Pressure Limits, at Outlet | Normal | 30-60 psig |
| | Idle | 10 psig |
| | Max (Cold Oil) | 100 psig |
| Turbocharger Oil Inlet | Normal | 30-60 psig |
| | Idle | 10 psig |

Note 4. The following accessory drive or mounting provisions are available for the TSIO-550 series engines.

| Accessory | Direction of Rotation* | Drive Ratio to Crankshaft | Max. Torque (In.-Lbs.) | | Max. Overhang Moment (In.-Lbs.) |
|--------------------------|------------------------|---------------------------|------------------------|--------|---------------------------------|
| | | | Cont | Static | |
| Tachometer | CCW | .5:1 | 7 | 50 | 25 |
| Magneto | CCW | 1.5:1 | - | - | - |
| Starter | CCW | 48:1 | 200 | 400 | 60 |
| Alternator (Gear Dr.) | CW | 3:1 | 150 | 800 | 150 |
| ** Propeller Gov. | CW | 1:1 | 29 | 825 | 50 |
| Fuel Pump (Injection) | CW | 1:1 | 25 | 680 | 60 |
| *** Accessory Drives (2) | CW | 1.5:1 | 100 | 800 | 40 |

* "CW" - Clockwise and "CCW" - Counterclockwise (viewing drive pad)

** This drive is a modified AND 20010 and shall be supplied with a cover.

*** One drive eligible at 200 in.-lbs. continuous torque load provided the other does not exceed 100 in.-lbs. continuous torque load. These drives shall be supplied with covers.

Note 5. The TSIO-550-A and -C engines are similar to the TSIO-520-BE except the hardware required to increase the displacement, namely the crankshaft and pistons. The two stage fuel pump has been replaced by a single stage fuel pump on the TSIO-550-C.

The TSIO-550-B engine is similar to the TSIO-550-A except the TSIO-550-B engine has a 12 quart sump. The sonic venturii have been removed, and the two stage fuel pump has been replaced by a single stage fuel pump.

The TSIO-550-E engine is similar to the TSIO-550-C except the oil sump and maximum continuous power rating are the same as the TSIO-550-B.

Note 6. The TSIO-550-A, -B, -C and -E engines incorporate a crankshaft with two sixth, one fourth, and one fifth order dampers.

Note 7. Maximum exhaust back pressure shall not exceed 2 in. Hg. above ambient at the turbocharger exhaust outlet flange.

Note 8. A means of controlling maximum turbocharger discharge pressure, engine manifold pressure and proper placarding shall be provided to limit manifold pressure as outlined below except as stated in Note 11.

Maximum Allowable Manifold Pressure - In. Hg.

| Altitude (FT.) | TSIO-550-A | TSIO-550-B | TSIO-550-C | TSIO-550-E |
|----------------|------------|--------------------|------------|------------|
| 12,000 | 41.0 | 38.0 (See Note 11) | | |
| 18,000 | | | 35.5 | 38.5 |
| 20,000 | 33.0 | | | |
| 25,000 | | 31.0 (See Note 11) | | |

Note 9. The engine is provided with a gear driven alternator, optional provisions for a front mounted, belt-driven alternator, and for a belt-driven freon compressor are available. The compatibility of these options must be accomplished by the installer.

Note 10. The following magnetos are suitable for use on these engines.

Slick Electro 6220 (both sides) or TCM S6RN-201 and S6RN-205, or TCM S6RSC-25P pressurized with appropriate pressurization system and ignition harness.

Note 11. When operating with 95/130 grade fuel, the altitude limitation for maximum continuous power and speed is 3000 meters (9840 feet) and, for maximum recommended cruise power and speed, is 6000 meters (19680 feet).

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