

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

E7SO
Revision 4
CONTINENTAL
IO-240-A, -B
IOF-240-B

March 7, 2007

TYPE CERTIFICATE DATA SHEET NO. E7SO

Engines of models described herein conforming with this data sheet (which is part of type certificate No. E7SO) 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 Teledyne Continental Motors
P. O. Box 90
Mobile, Alabama 36608

Model	IO-240-A	IO-240-B
<u>Type</u>	4HOA	---
<u>Rating ICAO or ARDC</u>		
<u>Standard Atmosphere</u>		
Max. Continuous hp, RPM, FT at SL pressure altitude	125 - 2800	---
Takeoff, 5 min., hp, RPM FT at SL pressure altitude	125 - 2800	---
<u>Fuel</u> (min. grade aviation gas.)	100, 100LL per ASTM D910, B95/130 CIS, or RH95/130	---
<u>Lubricating Oil</u>	TCM Spec MHS-24	---
<u>Bore and Stroke</u>	4.438 x 3.875	---
<u>Displacement, cu.in.</u>	240	---
<u>Compression ratio</u>	8.5:1	---
<u>Weight</u> (dry), lb.	246	---
<u>C.G. location</u> (basic engine)		
Aft of prop flange forward face:	14.55 in.	---
Below crankshaft centerline ^{^^}	.96 in.	---
Beside crankshaft centerline toward 2-4 side:	.06 in.	---
<u>Propeller Shaft</u>	ARP-502, Type 1 flange; 4.875 in. OD with six 0.5 in. bolt holes in 4 in. diameter circle	---
<u>Fuel Injection</u>	TCM injector 639231A27	TCM injector 639231A34
<u>Ignition</u>	Two TCM S4LSC-21 or Two Slick 4301	---

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Model	IO-240-A	IO-240-B
<u>Timing, °BTC</u>	22	26
<u>Spark Plugs</u>	See NOTE 6	---
<u>Oil Sump Capacity</u>	quarts	6.0
	usable oil - 10° nose up	3.0
	usable oil - 10° nose down	3.0
<u>NOTES</u>	1 thru 9	---

"---" indicates "same as preceding model"

Model	IOF-240-B
<u>Type</u>	4-cylinder, air-cooled, naturally aspirated, horizontally opposed, fuel injected, spark ignition, four-stroke, direct drive. The engine incorporates a full authority digital electronic control (FADEC) system to control the ignition and fuel injection functions.
<u>Rating ICAO or ARDC Standard Atmosphere</u>	
Max. Continuous hp, RPM, FT at SL pressure altitude	125 - 2800
Takeoff, 5 min., hp, RPM	
FT at SL pressure altitude	125 - 2800
<u>Fuel</u> (min. grade aviation gas.)	100, 100LL per ASTM D910, B95/130 CIS, or RH95/130
<u>Lubricating Oil</u>	TCM Spec MHS-24
<u>Bore and Stroke</u>	4.438 x 3.875
<u>Displacement, cu.in.</u>	240
<u>Compression ratio</u>	8.5:1
<u>Weight</u> (dry), lb.	255
<u>C.G. location</u> (basic engine)	
Aft of prop flange forward face:	14.55 in.
Below crankshaft centerline`	.96 in.
Beside crankshaft centerline toward 2-4 side:	.06 in.
<u>Propeller Shaft</u>	ARP-502, Type 1 flange; 4.875 in. OD with six 0.5 in. bolt holes in 4 in. diameter circle
<u>Fuel Injection</u>	Aerosance, Inc. FADEC
<u>Ignition</u>	Aerosance, Inc. FADEC

Model	IOF-240-B	
<u>Timing, °BTC</u>	Automatic	
<u>Spark Plugs</u>	See NOTE 6	
<u>Oil Sump Capacity</u>	quarts	6.0
	usable oil - 10° nose up	3.0
	usable oil - 10° nose down	3.0
<u>NOTES</u>	1 thru 14	

Certification Basis: Models IO-240-A and -B, FAR 33 through Amendment 14 effective August 10, 1990. Model IOF-240-B, FAR 33 through Amendment 14 effective August 10, 1990 and FAR 33.28 (Amdt. 15).

Production Basis Production Certificate No. 508

NOTE 1. Maximum permissible temperatures:
 Cylinder head bayonet, thermocouple 460°
 Oil inlet 240°

NOTE 2. Fuel Pressure Limits:

Inlet to injection pump, min.	IO-240-A, -2.0 psig	IO-240-B -2.0 psig	IOF-240-B -2.0 psig
max.	+6.0 psig	+6.0 psig	+50.0 psig
Outlet to vapor return line, max.	+3.5 psig	+3.5 psig	+3.5 psig

NOTE 3. Oil pressure limits:

Normal operation	30 - 60 psi
Idle	10 psi
Maximum (cold oil)	100 psi

NOTE 4. The following accessory drive provisions are available:

<u>Accessory</u>	<u>Direction of Rotation*</u>	<u>Drive Ratio to Crankshaft</u>	<u>Max. Torque (In-lb.)</u>		<u>Max. Overhang Moment (In-lb.)</u>
			<u>Cont.</u>	<u>Static</u>	
Tachometer	OPT-CW	0.5:1	7	50	25
**Magneto	CW	1.0:1	--	--	--
Starter	CCW	24.727:1	50		
Alternator	CCW	2.035:1	30	100	100
Fuel Pump	CCW	1:1	40	800	
***Vacuum Pump	CW	1:1	25	800	25

* "CW" - Clockwise

"CCW" - Counterclockwise (viewing drive pad) and "OPT" - Optional

** Magneto drives not used on IOF-240-B FADEC engine.

*** This drive is an AND 20000 pad modified for speed only.

NOTE 5. These engines are eligible for pusher and tractor operation.

NOTE 6. The following spark plugs are approved on this engine.
 Champion REM38E, REM38P, RHM38E, RHM38P

NOTE 7. Model IOF-240-B is similar to the IO-240-B except for the FADEC fuel and ignition control system.

NOTE 8. Engine model numbers may include a suffix to define minor specification changes. Example: IO-240-B(1B)

NOTE 9. Applicable FAA approved and/or accepted manuals:

	<u>Operation & Installation</u>	<u>Maintenance</u>	<u>Overhaul</u>
IO-240-A,-B	X30620	X30621A	X30622A
IOF-240-B	OI-22	M-22	OH-22

NOTE 10. The electronic control system 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.

NOTE 11. The electronic control system must be supplied with two isolated sources of electrical power which meet the reliability requirements set forth in the Operation and Installation Manual. One of these power sources may be the aircraft primary bus. The second power source must be isolated from the aircraft bus, and if supported by a battery, this battery cannot be the battery which is utilized for engine starting. The use of an essential bus or a dedicated backup battery is an acceptable method of providing secondary power, as long as this source has sufficient capacity to meet aircraft certification requirements.

NOTE 12. If a back-up battery is used as a secondary source of electrical power for the electronic control system, the back-up battery must be replaced at the interval specified in the Operation and Installation Manual.

NOTE 13. Installation and evaluation of the Health Status Annunciator (HSA) display is subject to the requirements established by the certification basis of the aircraft.

NOTE 14. Takeoff is prohibited with annunciated faults shown on the Health Status Annunciator (HSA).

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