

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

E3SO  
Revision 6  
Continental

IO-550-A, -B, -C, -D,  
-E, -F, -G, -L, -N  
-P, -R  
March 3, 2000

TYPE CERTIFICATE DATA SHEET NO. E3SO

Engines of models described herein conforming with this data sheet (which is part of Type Certificate No. E3SO) and other approved data on file with 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 manual and other approved instructions.

Type Certificate Holder: Teledyne Continental Motors  
P.O. Box 90  
Mobile, Alabama 36601

	<u>Model</u>	<u>IO-550-A</u>	<u>IO-550-B</u>	<u>IO-550-C</u>	<u>IO-550-D</u>
Type	6HOA	- -	- -	- -	- -
Rating, ICAO or ARDC					
Standard atmosphere					
Max. continuous hp., RPM full throttle at sea level pressure altitude	300-2700	- -	- -	- -	- -
Takeoff Hp., 5 min. R.P.M. full throttle at sea level pressure altitude	300-2700	- -	- -	- -	- -
Fuel, Minimum grade aviation gasoline	100LL, 100, or B95/130 CIS	- -	- -	- -	- -
Lubricating oil	TCM Spec. MHS #24				
Bore and stroke, in.	5.25 X 4.25	- -	- -	- -	- -
Displacement, cu. in.	552	- -	- -	- -	- -
Compression ratio	8.5:1	- -	- -	- -	- -
Weight (dry), lb.	430.72	421.61	433.20	437.1	
C.G. location (basic engine)					
Forward of rear face acc. case, in.	12.20	12.42	12.00	11.29	
Below crankshaft centerline, in.	.54	1.22	.94	.54	
Beside crankshaft centerline toward 1-3-5 side, in.	.25	.12	.40	.24	
Propeller shaft	ARP-502, Type I 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	(See Note 8)	- -	- -	- -	- -
Timing, °BTC	22	- -	- -	- -	- -
Spark plugs	(See Note 9)	- -	- -	- -	- -
Oil Sump Capacity, qts.	12; 6.1 usable at 26° Noseup and 6.1 usable at 13.5° Nosedown attitudes	12; 10 usable at 18° noseup and 14° nosedown attitudes	12; 7 usable at 20° Noseup and 7 usable at 15° nosedown Attitudes	12; 7 usable at 20° noseup and 6 usable at 10° nosedown Attitudes	
Applicable Notes	1,2,3,4,5,6,7,8,9,10	- -	- -	- -	- -

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	<u>Model</u>	<u>IO-550-F</u>	<u>IO-550-L</u>	<u>IO-550-G</u>	<u>IO-550-E</u>
Type		- -	- -	- -	- -
Rating, ICAO or ARDC Standard atmosphere					
Max. continuous hp., RPM full throttle at sea level pressure altitude		- -	- -	280-2500	300-2700
Takeoff Hp., 5 min. R.P.M. full throttle at sea level pressure altitude		- -	- -	280-2500	300-2700
Fuel, Minimum grade aviation gasoline		- -	- -	- -	- -
Lubricating oil		- -	- -	- -	- -
Bore and stroke, in.		- -	- -	- -	- -
Displacement, cu. in.		- -	- -	- -	- -
Compression ratio		- -	- -	- -	- -
Weight (dry), lb.		- -	438.5	428.97	450.50
C.G. location (basic engine)					
Forward of rear face acc. case, in.		- -	- -	12.76	11.29
Below crankshaft centerline, in.		- -	- -	.21	.54
Beside crankshaft centerline toward 1-3-5 side, in.		- -	- -	.23	.22
Propeller shaft		- -	- -	- -	- -
Fuel injection		TCM Injector	- -	- -	- -
Ignition, dual		- -	- -	- -	- -
Timing, °BTC		- -	- -	- -	- -
Spark plugs		- -	- -	- -	- -
Oil Sump Capacity, qts.		- -	10; 7.8 usable at 20° noseup and 6.7 usable at 10° nosedown attitude	8; 5 usable at 16° noseup and 4.5 usable at 10° nosedown attitude	10; 7.8 usable at 20° noseup and 6.7 usable at 10° nosedown attitude
Applicable Notes		- -	- -	- -	- -

Model	IO-550-N	IO-550-P	IO-550-R
Type	--	--	--
Rating, ICAO or ARDC Standard atmosphere			
Max. continuous hp., RPM full throttle at sea level pressure altitude	310 – 2700	--	--
Takeoff hp., 5 min. RPM full throttle at sea level pressure altitude	310 – 2700	--	--
Fuel, Minimum grade aviation gasoline	--	--	--
Lubricating oil	--	--	--
Bore and Stroke, in.	--	--	--
Displacement, cu.in.	--	--	--
Compression ratio	8.5:1	--	--
Weight (dry), lb.	428.97	429	439.5
C.G. location (basic engine) Forward of rear face acc. Case, in.			
Below crankshaft centerline, in.	12.76	12.66	12.81
Beside crankshaft centerline, in.	.21	.21	.45
	.23 toward 1-3-5 side	.23 toward 2-4-6 side	--
Propeller shaft	--	--	--
Fuel injection	--	--	--
Ignition, dual	--	--	--
Timing, °BTC	22	--	--
Spark plugs	--	--	--
Oil sump capacity, qts.	8; 5 usable at 16° nose up & 4.5 usable at 10° nose down	10; 7.8 usable at 20° nose up & 6.7 usable at 10° nose down	12; 7.5 usable at 20° nose up & 7.3 usable at 10° nose down
Applicable Notes	--	--	--

"- -" indicates "same as previous model"

"—" indicates "does not apply"

**Certification basis:**

Models IO-550-A, -B, -C, -D, -F, -L, -E; FAR 33, effective February 1, 1965, as amended through Amendment 33-8, effective May 2, 1977

Model IO-550G; FAR 33, effective February 1, 1965, as amended through Amendment 33-11, dated April 24, 1986.

Model IO-550-N; FAR 33, effective February 1, 1965, as amended through Amendment 33-14, dated August 10, 1990.

Model IO-550-P and -R; FAR 33, effective February 1, 1965, as amended through Amendment 33-19, dated April 30, 1998.

Type Certificate No. E3SO issued October 13, 1983 for models IO-550-A, -B and -C; models -D, -F and -L added June 23, 1988; model -G added March 17, 1989; model -E added December 20, 1989; model -N added August 16, 1996 and model -P and -R added March 1, 2000.

Production basis: Production Certificate No. 508

NOTE 1. Maximum permissible temperature:  
 Cylinder head bayonet thermocouple: 460°F  
 Oil inlet 240°F

NOTE 2. Fuel pressure limits:  
 Inlet to injection pump, min - minus 3.5 p.s.i.g.  
 max - plus 6.0 p.s.i.g.  
 Outlet to upper return line - plus 3.5 p.s.i.g. max.

NOTE 3. Oil pressure limits:  
 2-4-6 side - - Normal 30-60 p.s.i.g.  
 - Idle 10 p.s.i.g.  
 Maximum (cold oil) 100 p.s.i.g.

NOTE 4. The following accessory drive or mounting provisions are available:

IO-550-	Accessory	Direction Or Rotation	Drive Ratio to Crankshaft	Max. Torque (In.-Lbs.)		Max. Overhang Moment (In.-Lbs.)	Pad Configuration
				Cont.	Static		
A,B,C,G,N,P,R	Tachometer	CCW	.5:1	7	50	25	AND 20005
D,F,L,E	Tachometer	CCW	.5:1	7	50	25	AS-54
A,B,C,D,F,L,G,E, N, P, R	Propeller Gov.	CW	1:1	29	825	50	(Mod) AND 20010
A,B,C,D,F,L,G,E, N, P, R	Magneto	CCW	1.5:1	-	-		Special
A,B,C,G, N,P, R	Starter	CCW	48:1	200	400	60	Special
D,F,L,E	Starter	CCW	32:1	200	400	60	Special
A,B,C,G,N, P, R	Fuel Pump	CW	1:1	25	680	60	Special
D,F,L,E	Fuel Pump	CCW	1:1	25	680	60	Special
A,B,C,D,F,L,G,E, N, P, R	Accessory Dr. (2)	CW	1.5:1	100	200	40	AND 20000
A,B,C,G,N, P, R	Alternator Gear Drive	CCW	3:1	100	500	150	Special
E,F,D,L	Belt Drive	CCW	2:1	125	800	N/A	N/A

\*CW - Clockwise, CCW - Counterclockwise (viewing drive pad)

NOTE 5. All models incorporate a crankshaft with one 4<sup>th</sup>, one 5<sup>th</sup> and two 6<sup>th</sup> order dampers.

NOTE 6. Model IO-550-A is similar to the IO-520-MB except for the increased stroke from 4.00 to 4.25 inches resulting in the increased displacement.

Model IO-550-B is similar to the IO-520-BB except for the increased stroke from 4.00 to 4.25 inches resulting in the increased displacement.

Model IO-550-C is similar to the IO-520-CB except for increased stroke from 4.00 to 4.25 inches resulting in the increased displacement.

Model IO-550-D is similar to the IO-520-D except for increased stroke from 4.00 to 4.25 inches and rating changes.

Model IO-550-F is similar to the IO-520-F except for increased stroke from 4.00 to 4.25 inches, rating change, and altitude compensated fuel system.

Model IO-550-L is similar to the IO-520-L except for increased stroke from 4.00 to 4.25 inches, rating change, and altitude compensated fuel system.

Model IO-550-E is similar to the IO-520-E except for increased stroke from 4.00 to 4.25 inches, rating change, altitude compensated fuel system and throttle body support.

Model IO-550-G is similar to the IO-550-A,B,C, except for the top-mounted induction system and the 8-quart oil sump.

Model IO-550-N is similar to the IO-550-G except for the increased power rating.

Model IO-550-P is similar to the IO-550-N except for the oil sump which is similar to the IO-550-L.

Model IO-550-R is similar to the IO-550-N except for the oil sump, oil suction tube and mount legs which are similar to the IO-550-B.

NOTE 7. These models of engines are eligible for installation of the freon compressor drive system, TCM equipment no. EQ6576 or EQ6580 - IO-550-A, B, C, G, N, P, R. TCM equipment no. EQ6563 - IO-550-D, E, F,L and/or an auxiliary alternator EQ6562 - IO-550-D, E, F, L.

NOTE 8. The following magnetos equipped with an appropriate harness are eligible on these engines at the indicated weight change:

	<u>IO-550-A Wt. Change</u>	<u>IO-550-B,C, Wt. Change</u>	<u>IO-550-D,F,L Wt. Change</u>	<u>IO-550-G, N, P, R Wt. Change</u>	<u>IO-550-E Wt. Change</u>
One ea. TCM/Bendix Scintilla S6RN-201 and S6RN-205	None	-1 lb.	+3 lb.	N/A	N/A
One ea. TCM/Bendix Scintilla S6RN-1201 and S6RN-1205	+1 lb.	None	+4 lb.	N/A	None
Two TCM/Bendix Scintilla S6RN-25	+ 1 lb.	None	+4 lb.	None	N/A
Two TCM/Bendix S6RN-1225	+1 lb.	None	+ 4 lb.	N/A	None
Two Bendix S6RSC-25	+1lb	None	+4 lb	None	N/A
Two Slick Electro Model 6210	-3 lb	-4 lb	None	N/A	N/A
Two Slick Electro Model 6310	-3 lb	-4 lb	None	N/A	N/A

NOTE 9. The following spark plugs are approved for use on these engines:

- AC 271, 273, 281, 281IR, 283, 283R, 291, 293
- Auto Lite PL350, SO350
- Champion RHB32E, RHB32N, RHB32P, RHB32W, RHB33E, RHB36P, RHB36W

NOTE 10. The following alternators are eligible on these engines at the indicated weight change.

	<u>Wt. Change</u>
TCM 50AMP-24V	+12.31 lbs.
TCM 100AMP-24V	+17.56 lbs.
Prestolite 70AMP-24V	+11.6 lbs.

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