DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

E-246
Revision 23
CONTINENTAL AEROSPACE TECHNOLOGIES, INC.
E165-2, -3, -4
E185-1, -2, -3 (Military O-470-7, -7A)
E185-5, -8, -9 (Military O-470-7B), -10, -11

September 19, 2022

TYPE CERTIFICATE DATA SHEET NO. E-246

Engines of models described herein conforming with this data sheet (which is part of type certificate No. 246) and other approved data on file with the Federal Aviation Agency meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Civil Air Regulations provided they are installed, operated and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

Type Certificate Holder — Continental Aerospace Technologies, Inc. (Continental®)
2039 South Broad St.
Mobile, Alabama 36615

Type Certificate Holder Record — Continental Motors, Inc.
Company name change January 1, 2020 (Continental Aerospace Technologies, Inc.)

Teledyne Continental Motors
Ownership & name change as of April 19, 2011 (Continental Motors, Inc.)

Model	E165-2	E165-3	E165-4
Type	6HOA	- - -	- - -
Rating			
Max. continuous hp.	165-2050	- - -	- - -
r.p.m. at sea level pressure altitude			
Takeoff (5 min.) hp.	165-2050	- - -	- - -
r.p.m. at full throttle			
Fuel (min. grade aviation gasoline)	80/87, ASTM D7547 (UL91), ASTM D7547 (UL94)	- - -	- - -
Lubricating oil,			
ambient air temperature, ° F.	Oil Grade		
Below 40	SAE 30	- - -	- - -
Above 40	SAE 40	- - -	- - -
Bore and Stroke, in.	5.00 x 4.00	- - -	- - -
Displacement, cu. in.	471	- - -	- - -
Compression ratio	7:1	- - -	- - -
Weight (dry) lb.	351	352	344
Propeller Shaft			
SAE No.	4 (Flange)	20 (Spline)	- - -
C. G. Location (basic engine)			
Fwd. of rear face, engine crankcase, in.	11.51	- - -	11.75
Below crankshaft centerline, in.	1.76	- - -	1.42
Beside crankshaft centerline toward 1-3-5 side, in.	0.0	- - -	.11
Carburetion	Marvel-Schebler MA-4-5	Bendix-Stromberg PS-5C or PS-5CD	- - - - - -
Ignition, dual magnetos	2 Eisemann LA-6 or Continental S6LN-21 or S6LSC-21 or or 1 ea. S6LN-200 and -204	- - -	- - -

		- - -	- - -
Timing, ° BTC	Right 26, Left 26		
Spark Plugs	See NOTE 11.	- - -	- - -
Oil sump capacity, quart	10 (7 usaable)	- - -	Dry
NOTES	1, 2, 3, 4, 6, 8, 10, 11	- - -	- - -

Model	E-185-1, -8, -11	E185-2	E185-3, -9, -10	E185-5
Type	6HOA	- - -	- - -	- - -
Rating				
Max. continuous hp.	185-2300	- - -	- - -	- - -
r.p.m. at sea level pressure alt.				
Takeoff (5 min.) hp.	205-2600	185-2300	205-2600	185-2300
r.p.m. at full throttle				
Fuel (min. grade aviation gasoline)	80/87, ASTM D7547 (UL 91), ASTM D7547 (UL 94)	- - -	- - -	- --
Lubricating oil,	Oil Grade			
ambient air temperature, ° F.				
Below 40	SAE 30	- - -	- - -	- - -
Above 40	SAE 40	- - -	- - -	- - -
Bore and Stroke, in.	5.00 x 4.00	- - -	- - -	- - -
Displacement, cu. in.	471	- - -	- - -	- - -
Compression ratio	7:1	- - -	- - -	- - -
Weight (dry) lb.	344	351	352	343
Propeller Shaft				
SAE No.	20 (Spline)	4 (Flange)	20 (Spline)	4 (Flange)
C. G. Location (basic engine)				
Fwd. of rear face,	11.42	11.51	11.25	11.96
engine crankcase, in.				
Below crankshaft centerline, in.	1.75	1.76	1.06	1.39
Beside crankshaft centerline toward	.11	0.0	0.0	.11
1-3-5 side, in.				
Carburetion	Bendix-Stromberg PS-5C or PS-5CD	Marvel-Schebler MA-4-5	Bendix-Stromberg PS-5C or PS-5CD	- - - - - -
Ignition, dual magnetos	2 Eisemann LA-6 or Continental S6LN-21 or 1227 or Continental S6LSC-21or 1 ea. S6LN-200 and -204	- - -	- - -	- - -
Timing, ° BTC	Right 26, Left 26	- - -	- - -	- - -
Spark plugs		- - -	- - -	- - -
Oil sump capacity, quart	Dry	10 (7 usable)	- - -	Dry
NOTES	1, 2, 3, 4, 5, 6, 7, 8, 10 , 11	1, 2, 3, 4, 6, 8, 10, 11	1, 2, 3, 4, 5, 6 ,7, 8, 9, 10, 11	1, 2, 3, 4, 5, 6, 8, 10, 11

"- - -" Indicates "same as preceding model"

Certification Basis — Part 13 of the Civil Air Regulations
Type Certificate No. 246

Production Basis — Production Certificate No 7. Production Certificate No. 508 (all models except E185-10, 11).

NOTE 1. Maximum permissible cylinder head, barrel and oil inlet temperature, 525° F. (spark plug gasket), 315° F. and 225° F., respectively. Maximum permissible cylinder head temperature measured with well-type thermocouple is 450° F. (downdraft cooling only)

NOTE 2. Fuel inlet pressure limits are as follows:
Marvel-Schebler carburetor 1.5 to 9 p.s.i.g.
Stromberg-Carburetor 9 to 15 p.s.i.g.
Oil Pressure limits for normal operation:
30 to 60 p.s.i.g.

NOTE 3. Accessories such as generators, starters, fuel and vacuum pumps, etc., previously listed in NOTE 3, are satisfactory for continued use with these engines. Such accessories are not integral engine accessories and, therefore, are not evaluated for approval during engine certification testing. The airworthiness of such accessories is substantiated during aircraft installation system approvals. The suitability of the engine mounting provisions as described below must be determined when processing such approvals.

Original Accessory	Type of Drive Pad	Direction of Rotation*	Speed Ratio to Crankshaft	Max. Torque Continuous	(in.-lb.) Static	Maximum Overhang Moment (in.-lb.)
Generator	Automotive	CC	2.25:1	60**	800	100
Starter (dog type)	Aircraft	CC	1.15:1		2400	
(gear type)	Automotive	C	35.78:1			
Tachometer	AS 54	C	0.5:1			
Optional fuel pumps						
Right-hand	AND10000	C	1.364:1	90	600	65
Left-hand	AND10000	CC	1.667:1	25	400	25

*C Clockwise. CC - Counterclockwise.

** Generator torques listed eligible with two-piece rubber couplings Continental P/N 530998 or 626543. Early single-piece drive coupling P/N 25120 eligible for 7-½ in.-lb. maximum continuous and 50 in.-lb. maximum static torques. The Hartzell "T" Drive, P/N C-192, weighing 3 lb., is an approved dual-drive unit for installation on the above optional engine accessory drives with the following provisions:

Vacuum pump provision (optional)	
Maximum weight, lb.	4.5
Maximum overhang moment, in.-lb.	11.2
Maximum continuous torque, in.-lb.	16.0
Hydraulic pump provision (optional)	
Maximum weight, lb.	2.4
Maximum overhang moment, in.-lb.	7.0
Maximum continuous torque, in.-lb.	17.5

Hartzell Propeller Co. Installation Instruction No. 2 dated May 4, 1951, explains details for accomplishing installation of the C-192 "T" Drive.

NOTE 4. Serial Nos. of engines equipped with dampered crankshafts are suffixed with the letter "D".

NOTE 5. Engines with Serial Nos. below 5122 and those with undampered crankshafts are eligible for takeoff rating of only 185 b. hp. at 2300 r.p.m.

NOTE 6. Fuel injection engines previously designated by the letter "J" have been deleted as they are no longer being manufactured. Fuel injectors used with these engines do not require a positive fuel head because they will draw fuel against an approximately 10-foot head.

NOTE 7. E185-10 is not a production model but denotes E185-3 which has had Bendix Stromberg carburetor replaced with Marvel-Schebler MA-4-5. The E185-10 is not interchangeable with E185-3 installationwise, and is eligible for takeoff rating of only 185 b. hp. at 2300 r.p.m.
E-185-11 is identical to E185-8 except for revised mounting brackets.
E185-8 is identical to E185-1 and E185-9 is identical to E185-3 except for revised starter drive to accommodate dog rather than gear type starter.
Military O-470-7, -7A engines are identical to E185-3. (O-470-7 incorporates provisions for 14 mm. spark plugs. When modified to incorporate 18 mm. spark plugs, it is designated as O-470-7A). O-470-B is identical to E185-9. These military engines are eligible for use with certificated aircraft and when so used, the engine nameplate should be revised to include the corresponding civil model designation and Type Certificate No.

NOTE 8. Carburetors of the same model may vary with the aircraft installation. The aircraft specification and /or engine manufacturer's manuals contain the carburetor parts list number (on carburetor nameplate) eligible for each aircraft installation.

NOTE 9. E185-9 with serial number suffixed by the letter "C" uses Marvel-Schebler MA-4-5 carburetor. These engines are not interchangeable, installationwise, with other E185-9 engines, and are eligible for takeoff rating of only 185 b. hp. at 2300 r.p.m.

NOTE 10. E-Series engines with the serial number suffixed by the letters "SP" utilize P/N 537733 cylinder. P/N 534895 piston and P/N 536938 and 536939 piston rings, and are interchangeable, otherwise, with standard engines of the same model.

NOTE 11. The following spark plugs and/or those listed in Section 6-4.9 of the latest revision of M-0, Standard Practice Maintenance Manual, are approved on this engine:

AC	HSR83IR, SR83IR, HSR83P, SR83P, A88, HSR88, HS88, SR88, SR88D, S88D, S88
Auto Lite	A4S, AH4S, SH2K, SH2M, H15, SH15, SH15R, SH20, SH20A, SH150, SH200A
BG	RB485S, 613S, RB613S, 706, 706R, 706S, 706SR, 707SR, RB955S
Champion	C26, RC26S, C27, C27S, REM38P, REM38W, RHM38P, RHM38W, RED39N, REM39N, RHD39N, RHM39N, REM40E, RHM40E, D41N, ED41N, EM41N, M41N, M42E, EM42E
Red Seal	SA190, SE190, SJ190, SE230, SJ230

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