

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

E-252  
Revision 29

CONTINENTAL  
C90-8F, -8FJ  
C90-12F, -12FH, -12FJ, -12FP  
C90-14F, -14FH, -14FJ, -16F  
0-200-A, 0-200-B, 0-200-C

September 15, 1982

TYPE CERTIFICATE DATA SHEET NO. E-252

Engine of models described herein conforming with this data sheet (which is a part of type certificate No. 252) 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                      Teledyne Continental Motors  
P.O. Box 90  
Mobile, Alabama 36601

Model	C90-8F	C90-12F, -14F, -16F	0-200-A, -B, -C
Type	4HOA	---	---
Rating, standard atmosphere			
Max. continuous hp., r.p.m., at sea level pressure altitude	90-2475	---	100-2750
Takeoff hp., 5 min., r.p.m., full throttle, at sea level pressure alt	95-2625	---	100-2750
Fuel (min. grade aviation gasoline)	80/87	---	---
Lubricating oil, ambient air temp.	Oil Grade		
Below 40° F.	SAE 20	---	---
Above 40° F.	SAE 40	---	---
Bore and stroke, in.	4.062 x 3.875	---	---
Displacement, cu. in.	201	---	---
Compression ratio	7:1	---	---
Weight (dry), lb.	184	188	190
C.G. location (with accessories)			
Fwd. or rear face of mounting lugs, in.	6.2	4.6	---
Below crankshaft center line, in.	1.5	1.3	1.2
Propeller shaft, SAE No.	1 Flange	---	---
Carburetion (see NOTE 4 for injectors)	Marvel-Schebler MA-3SPA (CMC P/N 627367, 629175, 637101 or 637835) Bendix-Stromberg NA-S3A1 (CMC P/N 530625, 530726, 531126, 530846, 531157)	---	Marvel-Schebler MA-3SPA  (TCM P/N 627143, 640416 or 633028)
Ignition	2 Bendix-Scintilla S4RN-21 or -1227; or Slick -Electro 443 or 4003 magnetos or 1 ea. Bendix-Scintilla S4RN-200 and 204	2 Bendix-Scintilla S4LN- 21 or -1227 or 1 ea. S4LN- 200 and -204; Slick-Electro 447, 4001 or 4201 magnetos	---

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Model	C90-8F	C90-12F, -14F, -16F	00-200-A, -B, -C
Timing, °BTC	26 Top, 28 Bottom	---	24 Top, 24 Bottom
Spark plugs	See NOTE 6	---	---
Oil sumn canacitv. ct.	5 or 6	---	---
NOTES	1 through 6	1, 2, 3, 4, 6	1, 2, 3, 4, 6

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

Certification Basis Part 13 of the Civil Air Regulations.  
Type Certificate No. 252

Production Basis Production Certificate No. 7  
Production Certificate No. 508 (All models except C90-16F)

NOTE 1. Maximum permissible temperatures:

	<u>C90 Series</u>	<u>0-200 Series</u>
Cylinder head	525° F.	525° F.
Cylinder barrel	275° F.	290° F.
Oil inlet	225° F.	225° F. (Straight mineral) 240° F. (Detergent meeting MHS-24, See NOTE 6)

NOTE 2. Carburetor fuel inlet pressure limits:

	<u>Minimum</u>	<u>Maximum</u>
MA-3SPA, TCM P/N 627143, 633028, 637101, 637835, 640416	5 In. Fuel Head	6 PSIG
MA-3SPA, TCM P/N 627367, 629175	6 In. Fuel Head	6 PSIG
MA-3SPA, TCM P/N 530625, 530726, 530846, 531126, 531157	6 In. Fuel Head	6 PSIG

Carburetor Air Intake Assembly, TCM A40793, used with MA-3SPA, Marvel-Schebler Carb.  
Carburetor Air Intake Assembly, TCM A40522, used with NA-53A1, Stromberg Carburetor.

	<u>C90 Series</u>	<u>0-200 Series</u>
Oil pressure limits:	30 to 40 p.s.i.g.	30 to 60 p.s.i.g. Minimum idling with hot oil 10 p.s.i.g.

NOTE 3. The following accessory drive or mounting provisions are available.

Accessory	Direction of Rotation*	Speed Ratio to Crankshaft	Max. Torque Continuous	(in.-lb.) Static	Maximum Overhang Moment (in.-lb.)
Tachometer	C	0.500:1	7	50	25
Generator	CC	2.035:1	60	600	100
Starter	C	35.7:1			
** Vacuum Pump	CC	1.0:1	100	800	25
*** Fuel Pump (diaphragm)		0.500:1			

Accessories previously listed in NOTE 3 are satisfactory for continued use with C90 Series engines.

\* C - Clockwise viewing drive pad; CC - Counterclockwise.

\*\* C90-16F and 0-200 Series engines only.

\*\*\* CMC Eq. 5809 incorporating CMC P/N 40585 pump approved as part of type design of the 0-200 Series engine. AC fuel pump, CMC P/N 631391, available as optional equipment on C90-16F.

NOTE 4. The C90-8F is identical to the C90-12F model except that the accessory section does not incorporate provisions for generator and starter drives.  
The C90-14 models incorporate Lord type engine mounts which are not interchangeable with C90-12 models due to different machining of the engine mounting lugs on the engine crankcase.  
The C90-16F is similar to the C90-12F except that vacuum pump drive provisions have been added.  
The Model 0-200-B is similar to the 0-200A except for special crankshaft and crankcase providing for thrust application toward the engine only.

The Model 0-200-C is similar to the 0-200-A except for incorporation of provisions to supply oil pressure to a controllable pitch propeller through the crankshaft from an external boss on the crankcase.

Those C90 Series models listed in the heading of this data sheet, suffixed by letters H, J and P, differ from the basic model designation as follows:

"H" denotes a special SAE No. 1 flange crankshaft and special crankcase for the installation of a hydraulically operated controllable pitch propeller requiring oil supply through the crankshaft.

"J" denotes incorporation of Model B-46 Ex-Cell-O fuel injector, P/N 530499, or American Bosch Model PSC-4A-95A2, P/N 534505, at a weight increase of 4 lb. over the corresponding carburetor equipped engine.

"P" denotes pusher installation incorporating special crankshaft and thrust bearing. Oil sump gauge rods will be marked as per installer's requirements.

- NOTE 5. Bendix-Stromberg NAS-3A1 carburetor, P/N 530726, eligible only on Piper PA-11 airplanes equipped with Piper mufflers.
- NOTE 6. Detergent oil meeting Continental Specification MHS-24 required when using 240° F oil inlet limits except during break-in period. Follow manufacturer's instructions for break-in or when changing oil types. marking or placards prescribing use of Continental Specification MHS-24 oil only shall be installed on or near the oil filler on installations using 240 ° F oil inlet temperatures.
- NOTE 7. The following spark plugs are approved for use on engine models as indicated:

C90-8F, -12F, -14F, -16F

AC	HSR83IR, SR83IR, HSR83P, SR83P, A88, HS88, HSR88, S88, S88D, HSR88, SR88, SR88D, HSR93, SR93
Auto Lite	18A1, BR4, BR4S, BR4SB, SH15, H15, SH15R, SH20A, SH150, SH200A
BG	RB485S, 706, 706R, 706S, 706SR, 919SR5, RB955S
Champion	C26, C26S, C27, C27S, RC27S, REM38P, REM38W, RHM38P, RHM38W, REM40E, RHM40E, ED41N, D41N, EM41E, EM41N, HM41E, M41E, M41N, EM42E, M42E
Red Seal	SA190, SE190, SJ190, SE230, SJ230

0-200-A, -B, -C

AC	HSR83IR, SR83IR, HSR83P, SR83P, A88, HS88, HSR88, S88, S88D, SR88, SR88D, HSR93, SR93
Auto Lite	18A1, SH15, H15, SH15R, SH20A, SH150, SH200A, PH26
BG	RB485S, 706, 706S, 919SR5, RB955S
Champion	C27, C27S, RC27S, REM38P, REM38W, RHM38P, RHM38W, REM40E, RHM40E, ED41N, D41N, EM41E, EM41N, HM41E, M41E, M41N, EM42E, M42E
Red Seal	SA190, SE190, SJ190 SE230, SJ230

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