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I - General

1. Type / Models: Continental C90 / Continental C90-8F, C90-8FJ, C90-12F, C90-12FH, C90-12FJ, C90-12FP, C90-14F, C90-14FH, C90-14FJ, C90-16F, Continental O-200 / Continental O-200-A, O-200-B, O-200-C, O-200-D

2. Type Certificate Holder: Continental Motors, Inc.
(formerly Teledyne Continental Motors)
2039 Broad Street, Mobile, Alabama 36615

3. Manufacturer : Continental Motors, Inc.
(formerly Teledyne Continental Motors)

4. EASA Certification Application Date:

O-200-D					
7 May 2010					

5. EASA Certification Date:

O-200-D					
28 March 2011					

EASA Type-Certification for the Continental C90-8F, -8FJ, -12F, -12FH, -12FJ, -12FP, 14F, -14FH, -14FJ, -16F, O-200-A, O-200-B, and O-200-C engine models is granted, in accordance with Article 2 paragraph 3(a)(i) of EU Commission Regulation EC 1702/2003, based on the respective EU Member States approvals prior to 28 September 2003.

II - Certification Basis

1. Airworthiness Standards:

All except O-200-D: CAR 13

O-200-D: CS-E Initial Issue

- 2. Special Conditions (SC):** none
- 3. Equivalent Safety Findings (ESF):** none
- 4. Deviations:** none
- 5. Environmental Standards:** none (not required for piston engines)

III - Technical Characteristics

1. Type Design Definition:

As defined by TCM stocklist.

2. Description:

The Continental C90/O-200 engine is a carbureted, horizontally opposed, four cylinder four stroke, spark-ignited, air-cooled, wet sump engine incorporating a bottom induction and exhaust system, and provisions for rear mounted accessories. C90 series engines suffixed by the letter J are equipped with a fuel injector instead of a carburetor.

Displacement: 3.29 dm³ (201 cu. in.)
Bore x stroke: 103.2 mm x 98.4 mm (4.0625 in. x 3.875 in.)
Compression ratio: 7 : 1 (all except O-200-D)
8.5 : 1 (O-200-D)
Gear ratio: N/A

3. Equipment:

Magnetos: 2 Bendix-Scintilla S4RN-21 or -1227; or Slick -Electro 443 or 4003 magnetos or 1 each Bendix-Scintilla S4RN-200 and 204 (for C90-8F)
2 Bendix-Scintilla S4LN-21 or -1227 or 1 each S4LN-200 and -204; Slick-Electro 447, 4001 or 4201 magnetos (for C90-12F, -14F, -16F; O-200-A, -B, -C)
Slick Electro 4301 (both sides) or 1 each TCM S4LSC-200 and S4LSC204 or 1 each TCM S4LSC-200 and S4LSC204T or TCM S4LSC-21 (both sides) (for O-200-D)
Spark Plugs: Ref. TCM Service Information Letter SIL03-2 or latest FAA approved revision
Alternators: The engine is provided with a gear driven alternator.

4. Dimensions:

Model	C90-8F	C90-8FJ	C90-12F	C90-12FH
Overall Length	747 mm (29.4 in)	747 mm (29.4 in)	795 mm (31.3 in)	795 mm (31.3 in)
Overall Height	709 mm (27.9 in)	709 mm (27.9 in)	730 mm (28.75 in)	730 mm (28.75 in)
Width	800 mm (31.5 in)	800 mm (31.5 in)	800 mm (31.5 in)	800 mm (31.5 in)

Model	C90-12FJ	C90-12FP	C90-14F	C90-14FH
Overall Length	795 mm (31.3 in)	795 mm (31.3 in)	795 mm (31.3 in)	795 mm (31.3 in)
Overall Height	730 mm (28.75 in)	730 mm (28.75 in)	730 mm (28.75 in)	730 mm (28.75 in)
Width	800 mm (31.5 in)	800 mm (31.5 in)	800 mm (31.5 in)	800 mm (31.5 in)

Model	C90-14FJ	C90-16F	O-200-A	O-200-B
Overall Length	795 mm (31.3 in)	795 mm (31.3 in)	775 mm (28.53 in)	775 mm (28.53 in)
Overall Height	730 mm (28.75 in)	730 mm (28.75 in)	589 mm (23.18 in)	589 mm (23.18 in)
Width	800 mm (31.5 in)	800 mm (31.5 in)	802 mm (31.56 in)	802 mm (31.56 in)

Model	O-200-C	O-200-D		
Overall Length	775 mm (28.53 in)	666 mm (26.2 in)		
Overall Height	589 mm (23.18 in)	667 mm (26.2 in)		
Width	802 mm (31.56 in)	802 mm (31.6 in)		

5. Dry Weight:

Model	C90-8F	C90-8FJ, C90-12F, -12FH, -12FP, -14F, -14FH, -16F	C90-12FJ, -14FJ	O-200-A, -B, -C,
Weight	83.5 kg (184 lbs)	85.3 kg (188 lbs)	87.1 kg (192 lbs)	86.2 kg (190 lbs)

Model	O-200-D			
Weight	79.6 kg (176.5 lbs)			

6. Ratings:

Rating		C90-8F, -8FJ, -12F, -12FH, -12FJ, -12FP, -14F, -14FH, -14FJ, -16F	O-200-A, -B, -C, -D	
Power, kW (HP)	Take-off, 5 min., full throttle at sea level pressure altitude	70.8 (95) at 2625 RPM	74.6 (100) at 2750 RPM	
	Max. Continuous at sea level pressure altitude	67.1 (90) at 2475 RPM	74.6 (100) at 2750 RPM	

Note: The performance values specified above correspond to minimum values defined under the conditions of ICAO or ARDC standard atmosphere.

7. Control System

The C90/O-200 series engines are equipped with a carburetor and a two magneto ignition system.

8. Fluids (Fuel/Oil/Additives):

Fuel: Aviation Gasoline, minimum grade 80/87 (all except O-200-D), minimum grade 100LL, 100/130 (O-200-D)

Oil: see TCM Spec MHS No. 24

9. Aircraft Accessory Drives:

Designation	Rotation direction	Speed ratio to crankshaft	Max. Torque Nm (in. lbs)		Max. Overhang moment Nm (in. lbs)
			Continuous	Static	
Tachometer ¹⁾	CW	0.5:1	0.79 (7)	5.65 (50)	2.82 (25)
Starter	CW	35.7:1			
Fuel Pump (diaphragm) ²⁾	CW	0.5:1			
Generator, gear driven	CW	2.035:1	6.78 (60)	67.79 (600)	11.30 (100)
Vacuum Pump ³⁾	CCW	1:1	11.30 (100)	90.39 (800)	2.82 (25)

Notes : - CW - clockwise; CCW – counter clockwise (viewing drive pad)

¹⁾ Does not apply to O-200-D engines

²⁾ TCM Equipment 5809 incorporating TCM P/N 40585 pump approved as part of type design of the O-200-A, -B, -C engines. AC fuel pump, TCM P/N 631391, available as optional equipment on C90-16F.

³⁾ C90-16F, and O-200-A, -B, -C engines only

IV - Operational Limitations

1. Temperature limits:

Cylinder head:	274 °C (525 °F) (all except O-200-D) 249 °C (480 °F) (O-200-D)
Cylinder barrel:	135 °C (275 °F) (C90 series) 143 °C (290 °F) (O-200-A, -B, -C)
Oil inlet:	107 °C (225 °F) (C90 series) 107 °C (225 °F) (O-200-A, -B, -C when using straight mineral oil) 116 °C (240 °F) (O-200-A, -B, -C when using detergent oil meeting MHS-24, see Note 2) 116 °C (240 °F) (O-200-D)

2. Pressure Limits:

2.1 Fuel Pressure:

Inlet to carburetor, minimum:	+34.5 kPa (+5.0 psig) (MA-3SPA, TCM P/N 627143, 633028, 637101, 637835, 640416)
minimum:	+34.5 kPa (+6.0 psig) (all other carburetor air intake assembly/carburetor combinations)
maximum:	+41.4 kPa (+6.0 psig)

2.2 Oil Pressure Limits:

Normal:	207...414 kPa (30...60 psig)
Idle, minimum:	69 kPa (10 psig)

V - Operational and Service Instructions

	C90	O-200-A, -B, -C	O-200-D
Installation and Operation Manual	X30012	X30012	OI-2
Maintenance Manual	X30010	X30010	M-2
Service Bulletins and Service Letters	As issued		

VI – Notes

- Note 1:** Engine model numbers may include a suffix to define minor specification changes and/or accessory packages. Example O-200-D(10).
- Note 2:** Detergent oil meeting Continental Specification MHS-24 required when using 116 °C (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 116 °C (240 °F) oil inlet temperatures.
- Note 3:** The C90-8F engine with Bendix-Stromberg NAS-3A1 carburetor, P/N 530726, is eligible only on Piper PA-11 airplanes equipped with Piper mufflers.
- Note 4:** The O-200-D engine installation is only allowed in aircraft for which a declaration has been provided that fire proof engine attachment points according to CS-E 130(h) of CS-E Initial Issue are not required.
- Note 5:** 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 PGC-4A-95A2, P/N 534505, at a weight increase of 4 lbs. over the corresponding carburettor equipped engine.

"P" denotes pusher installation incorporating special crankshaft and thrust bearing.

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