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## I - General

1. **Type / Models :** Continental IO-240 / Continental IO-240-B  
IOF-240-B

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/Validation Application Date:**

IO-240-B	IOF-240-B			
02 April 1998	17 May 2005			

Note: Application for IO-240-B was made to LBA Germany before EASA had been established.

5. **Reference Date for determination of the applicable airworthiness standards:** 14 January 1992

6. **EASA Certification/Validation Date:**

IO-240-B	IOF-240-B			
24 July 1998	10 May 2007			

Note: IO-240-B had been validated in the past by LBA Germany (TC/TCDS 4625).

## II - Certification Basis

1. **FAA Certification Basis:** See FAA TCDS E7SO

2. **EASA Certification Basis:**

2.1. **Airworthiness Standards:**

JAR-E Change 8 dated May 4, 1990 incl. Amendm. E/91/1 dated May 27, 1991

2.2. **Special Conditions (SC):**

none

2.3. **Equivalent Safety Findings (ESF):**

none

2.4. **Deviations:**

none

2.5. **Environmental Standards:**

none (not required for piston engines)

### **III - Technical Characteristics**

#### **1. Type Design Definition:**

As defined by TCM engine stocklist.

#### **2. Description:**

The Continental IO-240 engine is a fuel injected, naturally aspirated, horizontally opposed, four cylinder, four stroke, spark ignited, aircooled, wet sump engine incorporating a top induction system, bottom exhaust, and provisions for front and rear mounted accessories.

Displacement: 3.930 dm<sup>3</sup> (240 cu. in.)  
Bore x stroke: 112.7 mm x 98.4 mm (4.438 in. x 3.875 in.)  
Compression ratio: 8.5 : 1  
Gear ratio: N/A

#### **3. Equipment:**

Magnetos (for IO-240 B only): Two TCM S4LSC-21 or two Slick 4301  
Spark plugs: Champion REM38E, REM38P, RHM38E, RHM38P

#### **4. Dimensions:**

Overall Length	756.9 mm	29.8 in.
Overall Height	596.9 mm	23.5 in.
Width	797.6 mm	31.4 in.

#### **5. Dry Weight:**

IO-240-B	IOF-240-B			
111.58 kg	115.67 kg			
(246 lbs)	(255 lbs)			

#### **6. Ratings:**

Rating		IO-240-B, IOF-240-B		
Power, kW (HP)	Take-off, 5 min., full throttle at sea level pressure altitude	93 (125) at 2800 rpm		
	Maximum Continuous, full throttle at sea level pressure altitude	93 (125) at 2800 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 TCM IO-240-B engine is equipped with a mechanical TCM fuel injection system and a dual magneto ignition system.

The TCM IOF-240-B engine is equipped with an electronic control system (FADEC) to control the ignition and fuel injection function.

#### **8. Fluids (Fuel/Oil/Additives):**

Fuel: Aviation Gasoline, 100 or 100LL per ASTM D910, B95/130 CIS or RH95/130

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 <sup>1)</sup>	OPT – CW	0.5:1	0.79 (7)	5.65 (50)	2.82 (25)
Magneto <sup>2)</sup>	CW	1:1			
Starter	CCW	24.727:1	(50)		
Alternator	CCW	2.035:1	(30)	11.30 (100)	11.30 (100)
Fuel Pump	CCW	1:1	(40)	90.39 (800)	
Vacuum Pump <sup>3)</sup>	CW	1:1	(25)	90.39 (800)	2.82 (25)

Notes : - CW – clockwise; CCW – counter clockwise (viewing drive pad); OPT – optional  
<sup>1)</sup> optional  
<sup>2)</sup> Magneto drives are not used on IOF-240-B FADEC engines.  
<sup>3)</sup> This drive is an AND 20000 pad modified for speed only.

**IV - Operational Limitations**

**1. Temperature limits, °C**

Cylinder head bayonet thermocouple: 238 °C (460 °F)  
 Oil inlet: 116 °C (240 °F)

**2. Pressure Limits:**

2.1 Fuel Pressure:

Inlet to injection pump, minimum: -13.8 kPa (-2.0 psig)  
 maximum: + 41.4 kPa (+6.0 psig) for IO-240-B  
 + 344.7 kPa (+50.0 psig) for IOF-240-B  
 Outlet to vapour return line, max.: + 24.1 kPa (+3.5 psig)

2.2 Oil Pressure Limits 2-4-6 side:

Idle: 69 kPa (10 psig)  
 Normal: 207...414 kPa (30...60 psig)  
 Maximum (cold oil) 690 kPa (100 psig)

**V - Operational and Service Instructions**

	IO-240-B	IOF-240-B
Installation and Operation Manual	X30620	OI-22
Maintenance Manual	X30621A	M-22
Overhaul Manual	X30622A	OH-22
Service Bulletins and Service Letters	As issued	As issued

## **VI - Notes**

- Note 1:** All models are eligible for pusher and tractor operation.
- Note 2:** Engine model numbers may include a suffix to define minor specification changes. Example: IO-240-B(1B)
- Note 3:** 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 2722 kg (6000 lbs.) maximum takeoff weight.
- Note 4:** 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 5:** 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 6:** Installation and evaluation of the Health Status Annunciator (HSA) display is subject to the requirements established by the certification basis of the aircraft.
- Note 7:** Takeoff is prohibited with annunciated faults shown on the Health Status Annunciator (HSA).
- Note 8:** The electronic engine control system has been tested according to DO-160D for lightning protection and magnetic interference. The demonstrated levels are declared in the TCM Detailed Model Specification Aircraft Engine Model IOF- 240-B.