



TYPE-CERTIFICATE DATA SHEET

No. IM.E.105

for

Continental TSIO-550 series engines

Type Certificate Holder

Continental Aerospace Technologies, Inc.

2039 Broad Street,

Mobile, Alabama 36615, USA

For Models:

Continental TSIO-550-A

Continental TSIO-550-B

Continental TSIO-550-C

Continental TSIO-550-E

Continental TSIO-550-G

Continental TSIO-550-K



Intentionally left blank



TABLE OF CONTENTS

I. General	4
1. Type/ Model	4
2. Type Certificate Holder	4
3. Manufacturer	4
4. Date of Application	4
5. EASA Type Certification Date	4
II. Certification Basis	4
1. State of Design Authority Certification Basis	4
2. Reference Date for determining the applicable airworthiness requirements	4
3. EASA Certification Basis	5
3.1. Airworthiness Standards	5
3.2. Special Conditions (SC)	5
3.3. Equivalent Safety Findings	5
3.4. Deviations	5
3.5. Environmental Protection	5
III. Technical Characteristics	5
1. Type Design Definition	5
2. Description	5
3. Equipment	6
4. Dimensions	6
5. Dry Weight	6
6. Ratings	6
7. Control System	7
8. Fluids (Fuel, Oil, Coolant, Additives)	7
9. Aircraft Accessory Drives	7
IV. Operating Limitations	7
1. Temperature Limits	7
2. Speed Limits	8
3. Pressure Limits	8
3.1 Fuel Pressure	8
3.2 Oil Pressure	8
V. Operating and Service Instructions	8
VI. Notes	9
SECTION: ADMINISTRATIVE	10
I. Acronyms and Abbreviations	10
II. Type Certificate Holder Record	10
III. Change Record	10



I. General

1. Type/ Model

Continental TSIO-550 / Continental TSIO 550-A, TSIO-550-B, TSIO-550-C
Continental TSIO 550-E, TSIO-550-G, TSIO-550-K

2. Type Certificate Holder

Continental Aerospace Technologies, Inc.
2039 South Broad Street
Mobile, Alabama 36615, USA

(from 05 July 2013 to 3 September 2020, Continental Motors, Inc.)
(until 05 July 2013, Teledyne Continental Motors)

3. Manufacturer

Continental Aerospace Technologies, Inc.

(from 05 July 2013 to 03 September 2020, Continental Motors, Inc.)
(until 05 July 2013, Teledyne Continental Motors)

4. Date of Application

TSIO-550-A	TSIO-550-B	TSIO-550-C	TSIO-550-E	TSIO-550-G	TSIO-550-K
27 Jan 1997	27 Jan 1997	27 Jan 1997	27 Jan 1997	13 Oct 2009	13 Oct 2009

5. EASA Type Certification Date

TSIO-550-A	TSIO-550-B	TSIO-550-C	TSIO-550-E	TSIO-550-G	TSIO-550-K
29 Jan 1998	29 Jan 1998	29 Jan 1998	29 Jan 1998	21 June 2010	21 June 2010

EASA Type-Certification for the TSIO-550-A, -B, -C and -E 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. State of Design Authority Certification Basis

See FAA TCDS E550

2. Reference Date for determining the applicable airworthiness requirements

Same as FAA certification reference date:

TSIO-550-G: 06 July 2005

TSIO-550-K: 14 April 2008



3. EASA Certification Basis

3.1. Airworthiness Standards

TSIO-550-A: FAR 33 through Amendment 9 effective October 14, 1980
TSIO-550-B: FAR 33 through Amendment 12 effective September 2, 1988
TSIO-550-C: FAR 33 through Amendment 13 effective August 18, 1990
TSIO-550-E: FAR 33 through Amendment 13 effective August 18, 1990
TSIO-550-G: CS-E Initial Issue
TSIO-550-K: CS-E Amendment 1

3.2. Special Conditions (SC)

none

3.3. Equivalent Safety Findings

none

3.4. Deviations

none

3.5. Environmental Protection

none (not required for piston engines)

III. Technical Characteristics

1. Type Design Definition

As defined by CONTINENTAL stocklist

2. Description

The Continental TSIO-550 engine is a fuel injected, turbocharged, horizontally opposed, six 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: 9.046 dm³ (552 cu. in.)
Bore x stroke: 133.4 mm x 108.0 mm (5.25 in. x 4.25 in.)
Compression ratio: 7.5 : 1
Gear ratio: N/A



3. Equipment

- Magnetos:** Slick Champion 6220 (both sides) or CONTINENTAL S6RN-201 and S6RN-205, or CONTINENTAL S6RSC-25P pressurized with appropriate pressurization system and ignition harness.
- Spark Plugs:** Ref. CONTINENTAL Service Information Letter SIL03-2 or latest FAA approved revision
- Alternators:** The engine is provided with a gear driven alternator, optional provisions for a front mounted, belt-driven alternator, and for a belt-driven freon compressor are available. The compatibility of these options must be accomplished by the installer

4. Dimensions

Model	TSIO-550-A	TSIO-550-B	TSIO-550-C	TSIO-550-E
Overall Length	1082 mm (42.6 in)	1035 mm (40.75 in)	1082 mm (42.6 in)	1023 mm (40.26 in)
Overall Height	851 mm (33.5 in)	831 mm (32.7 in)	851 mm (33.5 in)	832 mm (32.76 in)
Width	1072 mm (42.5 in)	1072 mm (42.2 in)	1080 mm (42.5 in)	1072 mm (42.20 in)

Model	TSIO-550-G	TSIO-550-K		
Overall Length	1022 mm (40.3 in)	1268 mm (49.9 in)		
Overall Height	900 mm (35.4 in)	864 mm (34 in)		
Width	912 mm (39.9 in)	1077 mm (42.4 in)		

5. Dry Weight

Model	TSIO-550-A	TSIO-550-B	TSIO-550-C	TSIO-550-E
Weight	200 kg (442 lbs)	259 kg (571 lbs)	237 kg (522 lbs)	257 kg (566 lbs)

Model	TSIO-550-G	TSIO-550-K		
Weight	251 kg (554 lbs)	237 kg (522 lbs)		

Note: The weight listed above represent a minimum runnable engine and include the turbochargers.

6. Ratings

Rating	TSIO-550-A	TSIO-550-B	TSIO-550-C	TSIO-550-E
Max. Continuous	268 kW (360 HP) at 2600 RPM and 139 kPa (41 in.Hg) manifold pressure and 3658 m (12000 ft) critical altitude	261 kW (350 HP) at 2700 RPM and 129 kPa (38 in.Hg) manifold pressure and 3658 m (12000 ft) critical altitude	231 kW (310 HP) at 2600 RPM and 120 kPa (35.5 in.Hg) manifold pressure and 5486 m (18000 ft) critical altitude	268 kW (350 HP) at 2700 RPM and 130 kPa (38.5 in.Hg) manifold pressure and 5486 m (18000 ft) critical altitude

Rating	TSIO-550-G	TSIO-550-K		
Max. Continuous	231 kW (310 HP) at 2700 RPM and 115 kPa (34 in.Hg) manifold pressure and 6706 m (22000 ft) critical altitude	235 kW (315 HP) at 2500 RPM and 127 kPa (37.5 in.Hg) manifold pressure and 5486 m (18000 ft) critical altitude		



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

7. Control System

The TSIO-550 series engines are equipped with a mechanical CONTINENTAL fuel injection system and a two magneto ignition system.

8. Fluids (Fuel, Oil, Coolant, Additives)

Fuel: Aviation Gasoline, minimum grade 100LL, 100, RH95/130, or B95/130 CIS (see Note 5)

Oil: see CONTINENTAL 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	
Propeller governor ¹⁾	CW	1:1	3.28 (29)	93.21 (825)	5.65 (50)
Tachometer	CCW	0.5:1	0.79 (7)	5.65 (50)	2.82 (25)
Starter	CCW	48:1	22.60 (200)	45.19 (400)	6.78 (60)
Fuel Pump (Injection)	CW	1:1	2.82 (25)	76.83 (680)	6.78 (60)
Generator, gear driven	CW	3:1	16.95 (150)	90.39 (800)	16.95 (150)
Accessory Drive (2) ²⁾	CW	1.5:1	11.30 (100)	90.39 (800)	4.52 (40)

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

¹⁾ Modified AND 20010 pad

²⁾ One drive is eligible at 22.60 Nm (200 in. lbs) continuous torque load provided the other does not exceed 11.30 Nm (100 in. lbs) continuous torque load.

IV. Operating Limitations

1. Temperature Limits

Cylinder head bayonet thermocouple:	238 °C (460 °F)
Oil inlet:	116 °C (240 °F)
Exhaust Gas Turbocharger Inlet Temperature (TIT):	954 °C (1750 °F) continuous operation 1010 °C (1850 °F) 30 Second Limit 913 °C (1675 °F) for TSIO-550-G at altitudes ≥ 6706 m (22000 ft)



2. Speed Limits

Max. overspeed (10 seconds, Momentary overspeed): 3000 rpm

See latest revision of CONTINENTAL Standard Practice Maintenance Manual M-0, Chapter 6, for detailed information

3. Pressure Limits

3.1 Fuel Pressure

Inlet to injection pump, minimum: - 13.8 kPa (-2.0 psig)
maximum: + 41.4 kPa (+6.0 psig)
Outlet to vapor return line, max.: + 24.1 kPa (+3.5 psig)

3.2 Oil Pressure

At outlet and at turbocharger oil inlet:

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

At outlet:

Maximum (cold oil): 690 kPa (100 psig)

3.3 Manifold Pressure

TSIO-550-A: 139 kPa (41 in.Hg) at ≤ 3658 m (12000 ft)
112 kPa (33 in.Hg) at > 3658 m (12000 ft) and ≤ 6096 m (20000 ft)
TSIO-550-B: 127 kPa (38 in.Hg) at ≤ 3658 m (12000 ft)
TSIO-550-C, -E: 120 kPa (35.5 in.Hg) at ≤ 5486 m (18000 ft)
TSIO-550-G: 115 kPa (34 in.Hg) at ≤ 6706 m (22000 ft)
TSIO-550-K: 127 kPa (37.5 in.Hg) at ≤ 5486 m (18000 ft)

V. Operating and Service Instructions

Manuals

Installation and Operation Manual	OI-18		
-----------------------------------	-------	--	--

Instructions for Continued Airworthiness

Maintenance Manual	M-18		
Service Bulletins and Service Letters	As issued		



VI. Notes

- Note 1:** All models incorporate a crankshaft with one 4th, one 5th and two 6th order dampers.
- Note 2:** Engine model numbers may include a suffix to define minor specification changes and/or accessory packages. Example TSIO-550-C(10).
- Note 3:** Maximum exhaust back pressure shall not exceed 6.78 kPa (2 in.Hg.) above ambient at the turbo-charger exhaust outlet flange.
- Note 4:** A means of controlling maximum turbocharger discharge pressure, engine manifold pressure and proper placarding shall be provided to limit manifold pressure (and TIT for the TSIO-550-G model) as outlined under »2.3 Manifold Pressure Limits« except as stated in Notes 5.
- Note 5:** When operating with 95/130 grade fuel, the altitude limitation for maximum continuous power and speed is 3000 m (9840 ft) and, for maximum recommended cruise power and speed, is 6000 m (19680 ft).
- Note 6:** The TSIO-550-G 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 7:** The TSIO-550-K 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(g) of CS-E Amendment 1 are not required.
- Note 8:** Compliance with FAA AD 2010-11-04, 2007-16-10, and 2004-08-10 (if applicable) is required for the TSIO-550-G engine.



SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

n/a

II. Type Certificate Holder Record

Continental Aerospace Technologies, Inc.
(from 05 July 2013 to 03 September 2020, Continental Motors, Inc.)
(until 05 July 2013, Teledyne Continental Motors)

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	21 June 2010	Initial Issue	21 June 2010
Issue 02	05 July 2013	Name Change of TC Holder and Manufacturer	05 July 2013
Issue 03	03 September 2020	Name Change of TC Holder and Manufacturer	03 September 2020

-END-

