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## TYPE-CERTIFICATE DATA SHEET

No. E.104

**for**  
Centurion 3.0 series engines

**Type Certificate Holder**  
Continental Aerospace Technologies GmbH  
Platanenstr. 14  
D-09356 Sankt Egidien  
Germany

For Models:  
Centurion 3.0



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## **I. General**

### **1. Type/ Model**

Centurion 3.0 / Centurion 3.0

### **2. Type Certificate Holder**

Continental Aerospace Technologies GmbH  
Platanenstr. 14  
D-09356 Sankt Egidien  
Germany

DOA EASA.21J.010

### **3. Manufacturer**

Continental Aerospace Technologies GmbH

POA DE.21G.0269

Previous Manufacturer:  
Technify Motors GmbH (before 01 August 2019)

### **4. Date of Application**

Centurion 3.0				
19 December 2013				

### **5. EASA Type Certification Date**

Centurion 3.0				
20 June 2017				

## **II. Certification Basis**

### **1. Reference Date for determining the applicable airworthiness requirements:**

20 June 2014



## **2. EASA Certification Basis**

### **2.1. Airworthiness Standards**

CS-E, Amendment 3, dated 23 December 2010

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

Addition to CS-E 210 Failure Analysis,  
Addition to CS-E 240(d) Engine Flame Out during Flight

### **2.3. Equivalent Safety Findings**

CS-E 70, 100, 110 – Type design  
CS-E 130(h) – Fireproofness of engine attachment points  
CS-E 440(b)(3) Endurance Test – Schedule for Engine Incorporating a Turbocharger

### **2.4. Deviations**

None

### **2.5. Environmental Protection**

None (not required for piston engines)

## **III. Technical Characteristics**

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

TDD-06-01, Issue 1 dated 10 October 2016 or later approved issue/revision

### **2. Description**

The Centurion 3.0 engine is a V6-cylinder, four stroke Diesel piston engine with an displacement of 2987 cm<sup>3</sup>, equipped with common rail high pressure direct injection, turbocharger, gearbox with reduction ratio of 1 : 1.66 and an Electronic Engine Control Unit (ECU).

### **3. Equipment**

See Installation Manual



#### 4. Dimensions

Model	Centurion 3.0			
Overall Length	980 mm			
Overall Height	700 mm			
Width	790 mm			

#### 5. Dry Weight

Model	Centurion 3.0			
Weight	265 kg			

#### 6. Ratings

Rating		Centurion 3.0			
Power	Take-off (5 min)	221 kW (300 HP) at 3880 engine rpm (2340 prop rpm)			
	Max. Continuous	202 kW (272 HP) at 3880 engine rpm (2340 prop 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 engine is equipped with an Electronic Engine Control Unit (EECU). Software verified to level C according to RTCA Document DO-178B.

FADEC P/N 06-7610-E000202 or later approved standard

Software: D6-v1.00 or later approved standard

Software Mapping: Refer to Service Bulletin TM TAE 000-0007 for approved software P/N.

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

See Operation & Maintenance Manual for approved fluids (see also Note 4).

#### 9. Aircraft Accessory Drives

	Rotation	Speed (rpm)	Max. Torque	Type of Drive
Accessory Drive	CCW	3900	13 Nm	AND 20000 modified

CCW = Counter-Clock-Wise

Speed is indicated for a reference engine speed of 3880 rpm.

Accessory drive direction of rotation is as viewed facing the drive.



## **IV. Operating Limitations**

### **1. Temperature Limits**

	Temperature in °C / °F	Comments
Minimum opening up Oil Temperature	50 °C / 122 °F	
Max. Oil Temperature:	139 °C / 282 °F	
Minimum Ambient Temperature for Starting	+5 °C / 41 °F	With $32 \leq \text{Cetane N}^\circ < 38$
	-25 °C / -13 °F	With $\text{Cetane N}^\circ \geq 38$
Minimum Fuel Temperature during operation	-25 °C / -13 °F	
Minimum opening up Cooling Fluid Temperature	60 °C / 140 °F	
Max. Cooling Fluid Temperature	105 °C / 221 °F	
Max. Gearbox Temperature	130 °C / 266 °F	
Max. Exhaust Gas Temperature	850 °C / 1562 °F	

### **2. Speed Limits**

Maximum Engine Over-speed (Crankshaft Speed)	4220 rpm (2500 prop rpm)
Take-off speed	3880 rpm (2340 prop rpm)
Max. continuous speed	

### **3. Pressure Limits**

Minimum Fuel Pressure (at inlet of feed pump)	200 mbar (2.9 psi) (absolute)
Maximum Fuel Pressure (at inlet of feed pump)	3 bar (43.5 psi) (absolute)
Minimum Oil Pressure at Idle Conditions	1 bar (14.5 psi)
Oil Pressure (normal operation)	2.3... 6.0 bar (33.4 ... 87 psi)
Maximum Oil Pressure	6.5 bar (94.3 psi)

### **4. Operating Altitude**

Maximum altitude	7620 m (25000 ft)
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### **5. Time Limited Dispatch (TLD)**

The engine is not approved for Time Limited Dispatch. All engine systems and equipment must be functional prior to aircraft take-off. Any detected engine system or equipment failure must be corrected before next flight. For special instructions, see OM-06-01.



## V. Operating and Service Instructions

Manuals	Centurion 3.0	
Installation Manual	IM-06-01	
Operation Manual	OM-06-01	

Instructions for Continued Airworthiness (ICA)	Centurion 3.0	
Maintenance Manual	OM-06-01	
Overhaul Manual	not issued yet	

Service Bulletins as issued.

## VI. Notes

- Note 1:** The EASA approved Airworthiness Limitations Section of the Instructions for Continued Airworthiness is published in the applicable "Operation & Maintenance Manual" document, chapter 06-OM-05-01 "Airworthiness Limitations". This ALS section is empty because no life limit is necessary for these models.
- Note 2:** Suffixes in parentheses may be added to the engine model number to define installation specific configuration changes. The software of the electronic engine control for each application has a specific software mapping. See Service Bulletin TM TAE 000-0007 for the installation versions and software mappings. Also refer to Installation Manual for appropriate installation.
- Note 3:** The Centurion 3.0 series engines are approved for the installation in Part 23 normal and utility category airplanes.
- Note 4:** The Centurion 3.0 series engines are approved for operation with jet fuels (see Operation Manual OM-06-01). The engine has been tested for fuels up to a maximum ignition delay time of 6,78 ms resp. a minimum derived cetane number of 32 (determined according EN 15195/ASTM D6890).
- Note 5:** The Centurion 3.0 engine, including the FADEC, is approved for use with the propeller MTV--12-D/210-56 models. This approval does not include the approval of the propellers and their control systems.
- Note 6:** This engine design features an integrated propeller control in the FADEC. The software in the FADEC has been developed in accordance with DO-178B at level C. The approval of the engine and its FADEC does not include approval of the propeller control system.
- Note 7:** The recommended Time Between Overhaul (TBO) is published in SB TMG 300-0001.
- Note 8:** The engine control system has been tested according to DO-160G for lightning protection and magnetic interference. The demonstrated levels are declared in the Installation Manual.





**Note 9:** The EECU must not be installed in a dedicated fire zone. The installation conditions are defined in the Installation Manual.

**Note 10:** Installation Assumptions: See Installation Manual.

**Note 11:** Containment has been demonstrated for max. turbocharger speed of 192500 rpm.

**Note 12:** Sales name of the model Centurion 3.0: CD-300



## **SECTION: ADMINISTRATIVE**

### **I. Acronyms and Abbreviations**

n/a

### **II. Type Certificate Holder Record**

Continental Aerospace Technologies GmbH  
Platanenstr. 14  
D-09356 Sankt Egidien  
Germany

DOA EASA.21J.010

Previous TC Holder:

before 01 August 2019:  
Technify Motors GmbH  
Platanenstr. 14  
D-09356 Sankt Egidien  
Germany

### **III. Change Record**

<b>Issue</b>	<b>Date</b>	<b>Changes</b>	<b>TC issue</b>
Issue 01	20 June 2017	Initial Issue	Initial Issue, 20 June 2017
Issue 02	02 December 2019	Name Change of TC Holder /Manufacturer	02 December 2019

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