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^3, equipped with common rail high pressure direct injection, turbocharger, gearbox with reduction ratio of 1 : 1.66 and an Electronic Engine Control Unit (EECU).

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	200 kW (272 HP) at 3830 engine rpm (2300 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:	125 °C / 257 °F	
Minimum Ambient Temperature for Starting	+5 °C / 41 °F	With 32 ≤ Cetane N° < 38
	-25 °C / -13 °F	With Cetane N° ≥ 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	110 °C / 230 °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	3830 rpm (2300 prop rpm)

3. Pressure Limits

Minimum Fuel Pressure (at inlet of feed pump)	-300 mbar (4.4 psig)
Maximum Fuel Pressure (at inlet of feed pump)	1000 mbar (14.5 psig)
Minimum Oil Pressure at Idle Conditions	2 bar (29 psig)
Oil Pressure (normal operation)	2.3… 7.0 bar (33.4 … 101.5 psig)
Maximum Oil Pressure	7.5 bar (108.8 psig)

4. Operating Altitude

Maximum altitude	7620 m (25000 ft)

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

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.

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.

3. The Centurion 3.0 series engines are approved for the installation in Part 23 normal and utility category airplanes.

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).

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.

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.

7. The recommended Time Between Overhaul (TBO) is published in SB TMG 300-0001.

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.

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

10. Installation Assumptions: See Installation Manual.

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

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

Issue	Date	Changes	TC issue
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
Issue 03	07 May 2020	Change of Operating Limitations (Major Change Approval 10073167)	
Issue 04	27 October 2020	Editorial change regarding the Maximum Continuous Power Rating	

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