

U.S. DEPARTMENT OF TRANSPORTATION  FEDERAL AVIATION ADMINISTRATION  TYPE CERTIFICATE DATA SHEET  E00069EN	TCDS NUMBER: E00069EN REVISION: Revision 2  DATE: October 25, 2006  MODELS: TAE 125-01, TAE 125-02
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Engines of models described herein conforming with this data sheet (which is part of Type Certificate Number E00069EN and other approved data on file with the Federal Aviation Administration, meet the minimum standards for use in certificated aircraft in accordance with pertinent aircraft data sheets and applicable portions of the Federal Aviation Regulations, provided they are installed, operated, and maintained as prescribed by the approved manufacturer's manuals and other approved instructions.

TYPE CERTIFICATE (TC) HOLDER Thielert Aircraft Engines GmbH  
 Platanenstrasse 14  
 D-09350 Lichtenstein  
 Germany

I. MODELS	TAE 125-01	TAE125-02
TYPE	The TAE 125 engine is a liquid-cooled 4 cylinder, 4 stroke in-line diesel cycle engine with Double Overhead Camshaft. It is equipped with common rail high pressure direct injection, turbocharger, and gearbox with reduction ratio of 1:1.689, propeller governor and FADEC, including propeller pitch control.	
RATINGS (US Standard Atmosphere at Sea Level Pressure Altitude), HP(KW)		
Takeoff	132.8 (99) at 3900 rpm	132.8 (99) at 3900 rpm
Max. Continuous	132.8 (99) at 3900 rpm	132.8 (99) at 3900 rpm
Max Recommended Cruising	95 (71) at 3400rpm	95 (71) at 3400rpm
Max. Best Economy Cruising	95 (71) at 3400rpm	95 (71) at 3400rpm
FUEL (Also see Operation & Maintenance Manual)	Jet Fuel: Jet A-1, Jet, Jet Fuel No.3, JP-8 and JP-8+100 (See NOTE 15)	
OIL (See NOTE 4)	See Operation & Maintenance Manual for approved oils	
OIL SUMP CAPACITY, Gallon (liters)		
Maximum level	1.59 (6.0)	1.59 (6.0)
Minimum level	1.19 (4.5)	1.19 (4.5)
Total (in addition to the volume in the hosing and oil cooler)	1.59 (6.0)	1.59 (6.0)
PRINCIPAL DIMENSIONS		
Length, in (mm)	32.12 (816)	32.12 (816)
Width, in (mm)	31.24 (788)	31.24 (788)
Height, in (mm)	25.03 (636)	25.03 (636)
CENTER OF GRAVITY	Refer to Installation Manual IM 02-01.	Refer to Installation Manual IM-02-02

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LEGEND: "-" INDICATES "SAME AS PRECEDING MODEL"

"-" NOT APPLICABLE

NOTICE: ALL PAGES ARE REFORMATTED. SIGNIFICANT CHANGES ARE BLACK.LINED IN THE LEFT MARGIN

<b>I. MODELS (Continued)</b>	<b>TAE 125-01</b>	<b>TAE 125-02</b>
WEIGHT (dry)	134 kg	134 kg
DISPLACEMENT	1,689 cm <sup>3</sup>	1,991 cm <sup>3</sup>
BORE	80.00mm	83.00mm
STROKE	84.00 mm	92.00 mm
COMPRESSION RATIO	18:1	
PROPELLER ROTATION	CCW	
GEAR REDUCTION (crankshaft to propeller)	1.689:1	
CONTROL SYSTEM (See NOTE 12-14)	Full Authority Digital Engine Control (FADEC)	
FLUIDS (FUEL/OIL/ADDITIVES):	See Operation & Maintenance Manual for approved fluids	

**CERTIFICATION BASIS**

FAR 21.29 and FAR 33 effective February 1, 1965, and Amendments 33-1 through Amendment 33-20.

Model	Date of Application	Date Type Certificate Issued/Revised
TAE125-01	April 17, 2001	October 14, 2004
TAE125-02	September 18, 2006	October 25, 2006

**IMPORT REQUIREMENTS**

To be considered eligible for installation on U.S. registered aircraft, each engine to be exported to the United States shall be accompanied by a Certificate of Airworthiness for export endorsed by Luftfahrt-Bundesamt (LBA), which contains the following language:

1. This engine conforms to United States Type Certificate Number E00069EN and is in a condition for safe operations.
2. This engine has been subjected by the manufacturer to a final operational check and is in a proper state of airworthiness.

Reference FAR Section 21-500, which provides the airworthiness acceptance of aircraft engines or propellers manufactured outside the U.S. for which a U.S. type certificate has been issued.

<b>NOTES</b>
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<b>II. AIRWORTHINESS LIMITATIONS</b>	<b>TAE 125-01</b>	<b>TAE 125-02</b>
<b>NOTE 1:</b> Engine permissible maximum crankshaft speed	4220 rpm	4220 rpm
<b>NOTE 2:</b> Temperature Limitations, deg F(C)		
Min opening up Fuel Temperature for Diesel Fuel Only	23 (-5) (see also Operation & Maintenance Manual OM-02-01-US Version)	23 (-5) (see also Operation & Maintenance Manual OM-02-02-US Version)
Min opening up Oil Temperature	122 (50)	122 (50)
Max Oil Temperature	284 (140)	284 (140)
Min ambient temperature for starting	-26 (-32)	-13 (-25)
Min opening up Cooling Fluid Temperature	140 (60)	140 (60)

Max Cooling Fluid Temperature	221 (105)	221 (105)
Max Gearbox Temperature	248 (120)	248 (120)
<b>NOTE 3:</b> Altitude	1. Maximum altitude, ft (m): 18500 2. Critical altitude, ft (m): 6000	
<b>NOTE 4:</b> Fuel and Oil Pressure Limits, PSI (kPa)		
Min Fuel Pressure	2.9 (20)	2.9 (20)
Max Oil Pressure	94.3 (650)	94.3 (650)
Min Oil Pressure	33.4 (230)	33.4 (230)
Minimum Oil Pressure at Idle	14.5 (100)	14.5 (100)
<b>NOTE 5:</b>	Dispatch Limitations: 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.	
<b>NOTE 6:</b>	The TAE 125-01 and TAE125-02 engine are Life-Limited. Whole engine must be removed from service in accordance with the Airworthiness Limitations Section, Chapter 5 of the Maintenance manual.	
<b>NOTE 7:</b> Induction System		
Max manifold air temperature, deg F (C)	176 (80)	176 (80)
Max manifold pressure Psi (kPa)	32.6 (225)	32.6 (225)
Max turbine inlet temperature, deg F (C)	1652 (900)	1652 (900)
Max turbocharger speed, rpm	145000	145000
<b>NOTE 8:</b>	Overhaul of the core engine is not permitted. See Overhaul Manual for the accessory/parts permitted for overhaul.	
<b>NOTE 9:</b>	The Instructions for Continued Airworthiness contained in the Maintenance Manual have been accepted by the FAA. (see Note 21)	
<b>NOTE 10:</b>	Any repair other than those covered by the Instructions for Continued Airworthiness or DER approved repairs in accordance with FAR Part 183 must be approved by the Engine Certification Office.	
<b>NOTE 11:</b>	The engine is approved for installation in FAR 23 Normal and Utility aircraft categories only.	
<b>NOTE 12:</b>	The software of the ECU has been validated according to DO 178 B, level C.	
FADEC P/N	02-7610-55001	05-7610-K000101
Software P/N	TAE -125- m2.0	TAE 125-m2.7
<b>NOTE 13:</b>	The electronic control unit must not be installed in a dedicated fire zone. The installation conditions are defined in the Installation Manual.	

<b>III. INFORMATION</b>		
<b>NOTE 14:</b>	There are no provisions for customer/aircraft furnished equipment. All accessories are part of the engine type design.	
<b>NOTE 15:</b>	Diesel fuel has not been approved as an alternative fuel in the US	
<b>NOTE 16:</b>	Oil Systems: Refer to Installation Manual.	
<b>NOTE 17:</b>	Installation Assumptions: See Installation Manual.	
<b>NOTE 18:</b>	Electrical Equipment: Refer to Installation Manual.	
<b>NOTE 19:</b>	Refer to Installation Manual for approved oil specification.	
<b>NOTE 20:</b>	Refer to Installation Manual for approved fuel and additive specification.	

<b>NOTE 21: Engine Manual:</b>		TAE125-01	TAE125-02
	Installation Manual	IM-02-01	IM-02-02
	Operation & Maintenance Manual	OM-02-01 (US Version)	OM-02-02 (US Version)
	Overhaul Manual	OHM-02-01	OHM-02-02
<b>NOTE 22:</b>	Service Bulletins and Service letter which contains a statement that the document is EASA approved are accepted by the FAA and are considered FAA approval. These approvals pertain to the type design only.		
<b>NOTE 23:</b>	The operating/starting envelope is provided in the Installation Manual.		
<b>NOTE 24:</b>	EMI/Lightning: The engine control system has been tested according to DO 160 D for lightning protection and magnetic interference. The demonstrated levels are provided in the Installation Manual.		
<b>NOTE 25:</b>	Sales name of TAE125-01 is known as CENTURION 1.7 And TAE125-02 is known as CENTURION 2.0		
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