TYPE-CERTIFICATE
DATA SHEET

No. EASA.E.098 Issue 02

for
PBS TJ100C series Engine

Type Certificate Holder
Prvni brnenska strojirna Velka Bites A.S.

Vlkovska 279
595 01 Velka Bites
Czech Republic

For Models:
TJ100C
TJ100C-125

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I. General

1. Type/ Model/ Variants

Type:

TJ100C

Models:

TJ100C
TJ100C-125

2. Type Certificate Holder

Prvni brnenska strojirna Velka Bites, a.s.
Vlkovska 279
595 01 Velka Bites
Czech Republic

EASA Design Organisation Approval: EASA.21J.118

3. Manufacturer

Prvni brnenska strojirna Velka Bites, a.s.
Vlkovska 279
595 01 Velka Bites
Czech Republic

4. Date of Application

TJ100C	30 December, 2011
TJ100C-125	11 May, 2016

5. EASA Type Certification Date

TJ100C:	04 September 2014
TJ100C-125:	04 August 2017

II. Certification Basis

1. Reference Date for determining the applicable airworthiness requirements

30 December 2011

2. EASA Certification Basis

2.1. Airworthiness Standards

CS-22, subpart H; amendment 2, dated 5 March, 2009, except CS-22 paragraphs: 22.1801, 22.1825, 22.1833, 22.1835, 22.1839, 22.1843, 22.1845, 22.1849 and 22.1851.

2.2. Special Conditions (SC)

SC01 to SC18, Airworthiness Standard for CS-22H – Turbine engine to be operated in powered sailplanes

SC01 Applicability
SC02 Functioning
SC03 Accessory Attachment
SC04 Engine Control System
SC05 Vibration
SC06 Fuel and Induction System
SC07 Lubrication System
SC08 Vibration Test
SC09 Calibration Test
SC10 Endurance Test
SC11 Operation Test
SC12 Cyclic Endurance Test
SC13 Rotor Containment
SC14 Containment
SC15 Continued Rotation
SC16 CS22.1823(c) Amendment for turbine engines to CS22.1823(c)
SC17 Safety Analysis
SC18 CS22.1808 Selection of engine Power and/or Thrust Ratings

2.3. Equivalent Safety Findings

None

2.4. Deviations

None

2.5. Environmental Protection

CS-34.1 Fuel Venting
CS-34.2 Smoke Number

III. Technical Characteristics

1. Type Design Definition

Type Design Definition in accordance with engine part list:

TJ100C	470000.02
TJ100C-125	470000.33

2. Description

Single shaft turbojet engine featuring a single stage radial compressor, annular combustion chamber, single stage axial turbine and exhaust nozzle.
The engine is controlled by a single channel digital electronic control unit.

3. Equipment

The engine equipment is specified in the applicable Operation and Maintenance Manual.

4. Dimensions

Model	Overall Length (mm)	Diameter (mm)
TJ100C	625 ± 1.5	276 ± 0.5
TJ100C-125	1017 ± 2.0	272 ± 0.5

5. Weights

Model	Dry weight	Complete engine including operating fluids	Ignition source	Ignition interconnection cable
	kg			
TJ100C	19	19.4	0.5	0.3
TJ100C-125	22,6	23,1	0,5	0,3

6. Ratings

	Max Thrust (limited to 5 minutes)		Max Continuous	
	Speed (%)	Thrust (N)	Speed (%)	Thrust (N)
TJ100C	100	1100	97	≥ 950
TJ100C-125	100	1250	95	≥ 1000

Note 1: The performance value specified above corresponds to minimum values defined under the conditions of ICAO standard atmosphere.

7. Control System

The engine is equipped with a single channel digital electronic control unit.

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

Approved fuels and oils are listed in the applicable Operation and Maintenance Manual.

9. Aircraft Accessory Drives

None

10. Maximum Permissible Air Bleed Extraction

Not Applicable

IV. Operating Limitations

1. Temperature Limits

		TJ100C	TJ100C-125
Maximum EGT	°C	800	820
Maximum EGT Ground Start *(max 3 s.)*		1000	
Fuel Temperature		-40 to +60	
Intake Air Temperatures		-40 to +45	
Intake Air Temperatures - Start-up		-30 to +45	

2. Permissible Rotational Speeds

		TJ100C	TJ100C-125
Maximum Thrust (limited to 5 minute)	RPM	60.000 (100%)	60.000 (100%)
Maximum Continuous		58.200 (97%)	57.000 (95%)
Minimum Idle Speed		30.000	34.000

3. Pressure Limits

3.1 Fuel Pressure

According applicable Operation and Maintenance Manual

Model	Max. Fuel pressure (bar)
TJ100C	<15
TJ100C-125	<25

3.2 Oil Pressure

Not applicable

4. Altitude limit

Maximum permissible operational altitude is 26.000 ft.

5. Oil capacity, consumption limit

According applicable Operation and Maintenance Manual.

The Run time of the engine is limited by the oil consumption and the capacity of the oil tank.

6. Installation assumptions

Refer to applicable Operation and Maintenance Manual for detailed installation instructions.

7. Time Limited Dispatch

The engine is not approved for Time Limited Dispatch operation.

V. Operating and Service Instructions

	TJ100C	**TJ100C-125**
Installation Manual	PP-20	PP-72
Operation Manual		
Maintenance Manual		
Service Bulletins	As applicable	As applicable

VI. Notes

1. The engine is certified for installation on powered Sailplanes and other aircraft which can accept an engine certified according to CS-22 Subpart H.

2. The engine must not be used for:
   - performing Take Off operation,
   - flights in rain & hail conditions and
   - in icing conditions

3. Information on electromagnetic compatibility is contained in the applicable Operation and Maintenance Manual.

4. Overhaul is not permitted provided an approved Engine Overhaul Manual has been published.

5. The ratings shown under III.6 are achieved at Sea Level and ISA standard day conditions.

6. The EASA approved Airworthiness Limitations Section of the Instructions for Continued Airworthiness is published in the applicable "Operation and Maintenance Manual", Chapter 2.10 "Airworthiness Limitations".

SECTION: ADMINISTRATIVE

I. Acronyms and Abbreviations

EASA European Aviation Safety Agency
EGT Exhaust Gas Temperature
RPM Rotations per Minute
TCDS Type Certificate Data Sheet

II. Type Certificate Holder Record

N/A

III. Change Record

Issue	Date	Changes	TC issue
Issue 01	04 September 2014	Initial Issue	Initial Issue, 04 September 2014
Issue 02	04 August 2017	Derivative Model TJ100C-125 added Format changed	04 August 2017

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