European Aviation Safety Agency

EASA

TYPE-CERTIFICATE DATA SHEET

VSO 10

Type Certificate Holder:

Schempp-Hirth výroba letadel spol. s r.o
U Dvořiska 1733
565 01 Choceň
CZECH REPUBLIC

EASA TCDS No. A.442

For variants: VSO 10
VSO 10 C (see A.V. Notes)

Issue 01, 14 February 2007

0.I. Table of Content

0.II. List of effective Pages:

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0.III. Change Record

Issue	Date	Changes
01	14 February 2007	Transfer from Czech Type Certificate No.: 79-01 to the EASA Type Design

Section A: VSO 10

A.I. General

1.	Data Sheet No.:	EASA.A.442
2.	a) Type: b) Variant:	VSO 10 VSO 10 C (see A.V. Notes)
3.	Airworthiness Category:	Utility
4.	Type Certificate Holder:	Schempp-Hirth výroba letadel spol. s r.o. U Dvořiska 1733 565 01 Choceň CZECH REPUBLIC
5.	Manufacturer:	From S/N 150 001 to S/N 150 206 Orličan, n.p. 565 37 Choceň CZECH REPUBLIC From S/N 150207 to S/N 150 225 Orličan, s.p. 565 37 Choceň CZECH REPUBLIC
6.	CAA CZ Type Certification Date:	15 May 1979
7.	This TCDS replaces Czech Type Certificate No.: 79-01	

A.II. Certification Basis

1.	Certification Basis:	L 8/O Regulation, effective July 7, 1976
2.	Airworthiness Requirements:	L 8/O Regulation, effective July 7, 1976
3.	Requirements elected to comply:	None
4.	Special Conditions:	None
5.	Exemptions:	2.1.4.b Control forces are higher than required. 2.1.7 Static friction force of aileron control is higher than required. 2.8.1 Spin recovery after five turns was not demonstrated. Sailplane is not capable to complete more than 4 turns. 2.9.1 During side slips with airbrakes extended and greater rudder deflection higher empennage vibrations occure. Side slips with max. 1/2 rudder deflection enclosed in the operation limitations. 3.5.4 The requirement of 50 percent elongation of rudder control circuit not met
6.	Equivalent Safety Findings:	None

A.III. Technical Characteristics and Operational Limitations

1.	Type Design Definition:	Parts list S-VSO 10.		
2.	Description:	VSO 10 sailplane is single-seat cantilever shoulder-wing monoplane with closed cockpit and retractable landing gear with shock absorber. Two-piece wing of wooden structure with plywood sandwich skin and airbrakes on the upper and lower sides. T-tail empennage of aluminium alloy structure with control surfaces coated by fabric. Front part of the fuselage is made from glass composite and the rear one from aluminium alloys.		
3.	Equipment:	Minimum equipment: 1 Airspeed indicator 1 Altimeter 1 Variometer 1 Magnetic compass 1 Turn and bank indicator Four-point safety harness Parachute		
4.	Dimensions:	Span Length Height Wing area Aspect Ratio		15,00 m 6,10 m 1,38 m 9,30 m² 18,75
5.	Launching Hooks:	Nose VSO 10.417-01 Side VSO 10.417.03/04		
6.	Weak links:	Ultimate Strength:		max.500 daN
7.	Air Speeds:	Never Exceed Speed Maximum permitted speeds - in rough air - in aero-tow - in winch-launch	V_{NE} V_{RA} V_T V_W	250 km/h 160 km/h 160 km/h 120 km/h
8.	Load Factors:	At V_A = 160 km/h At V_{NE} = 250 km/h		n = +5,5 n = –3,5 n = +4,6 n = –2,6
9.	Operational Capability:	Approved for VFR-Day.		
10.	Maximum Masses:	Maximumt permitted take-off mass Empty mass		380 kg 250 kg +- 3%
11.	Centre of Gravity Range:	Datum: Leading edge of the wing root rib. Mean Aerodynamic Chord 0,824 m, front point on the datum. Leveling means: Wedge 323:15 on the rear top fuselage, horizontal. 26 – 48 % MAC (231 až 379 mm behind the datum).		
12.	Seating Capacity:	1		
13.	Lifetime limitations:	See “Návod k obsluze kluzáku VSO 10”		

14.	Deflection of control surfaces: Ruderausschläge	Ailerons	down up	+12° ±1° –30° ±2°
		Elevator	down up	+16° -1° –17° +1°
		Rudder		±30° –3°
15.	Wheels and Tyres:	Light alloy wheel with brake HP 4741. Tyre 350 × 135.		

A.IV. Operating and Service Instructions

1. Sailplane Flight Manual:
   - in Czech language: "Letová příručka", vydání I
     "Letová příručka", vydání II (year 1982)
     "Letová příručka", vydání III (year 1987)

2. Sailplane Operating Instructions:
   - in Czech language: "Návod k obsluze kluzáku VSO 10", vydání II (1982)
     "Návod k obsluze kluzáku VSO 10", vydání III (1987)

3. Sailplane Log Book:
   - in Czech language: "Záznamník kluzáku VSO 10"

4. Sailpane Maintenance Directives:
   - in Czech language: "Směrnice pro provádění prohlídek po 500 hodinách VS-VSO10-011", vydání 2004

A.V. Notes

1. The VSO 10 C variant differs from VSO 10 Model only in application of fixed landing gear. (see A III. Par.2) It was manufactured exclusively by Orličan n.p. Choceň (see AI. Par.4.)