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Type certificate No.:	ULL – 07 / 2003
	Supplement "b"
Type certificate holder:	Evektor- Aerotechnik a.s.
Type of A/C:	**SportStar** **SportStar** with wing integr.fuel tank **SportStar** plus
Date of Supplement "b":	19.12.2006

TYPE CERTIFICATE DATA SHEET No. ULL - 07 / 2003 Supplement "b"

I. Generally

1. Type marking:	**SPORTSTAR**
2. Category:	Sports Flying Equipment, aerodynamically controlled ultralight aircraft (Czech Republic)
3. Type certificate holder:	Evektor-Aerotechnik a.s. Letecká č.p.1384 686 04 Kunovice Czech Republic
4. Manufacturer:	see 3. Type certificate holder
5. Date of application:	19.5.2003
6. Date of approval:	18.12.2003
7. Date of Supplement "a" approval:	15.10.2005
8. Date of Supplement "b" approval:	19.12.2006

II. Certification basis

1. Requirements of airworthiness:	UL 2-part I., Requirements of sports flying equipment airworthiness, Ultralight aerodynamically controlled aircraft, amended wording of 17.10.2002.
2. Special conditions:	None
3. Exceptions:	None
4. Equivalent safety findings	None
5. Environmental protection requirements	Not defined

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III. Technical description and operation limitations

1. Type definition:

I. Type is defined by the master drawing No. S0 00-01 01, dated 14.5.2003.
Details are available in the Type design of the SPORTSTAR airplane, the report No. Z-SP-04/2003.

II. SPORTSTAR with wing integral fuel tanks
From serial number 20050413 the airplane is standardly equipped with the wing integral fuel tanks of 120 liters total volume. The type is newly defined by master drawing No. S0 00-06 01, dated 4.8.2005. Details are available in the Type Design of the SPORTSTAR Airplane, report No. Z-SP-04/2003, Revision a.

III. SportStar ^{plus}
SportStar^{plus} is a name for the SPORTSTAR airplane with wing integral fuel tanks (see II. above), which MTOW has been increased from original 550 kg (1213 lb) to 575 kg (1268 lb), on the basis of strength analysis. There is no difference between the SportStar ^{plus} and SportStar with wing integral fuel tanks from structural point of view. Refer to SPORTSTAR Type Design, Report No. Z-SP-04/2003, Revision b, 23.11.2006 for more details.

2. Description:

I. SPORTSTAR is based on EV-97 VLA Harmony very light airplane, type certified against JAR-VLA and EV-97 EUROSTAR, an ultralight type certified against UL-2.
Sportstar is two-seat, cantilever low wing monoplane of all-metal construction, with side-by-side seat arrangement. The undercarriage consists of fixed three-wheel landing gear with a nose wheel and main wheels equipped with brakes. All metal wing is equipped with a split flap. The airplane may be optionally equipped with a ballistic recovery system and towing gear for aerotow of banners and sailplanes up to 360 kg.

II. SPORTSTAR with wing integral fuel tanks
The airplane may be optionally equipped with a ballistic recovery system, towing gear for aerotow of banners and sailplanes up to 700 kg, and wing electric flaps.

III. SportStar ^{plus}
There is no difference between the SportStar ^{plus} and SportStar with wing integral fuel tanks from structural point of view (see II. above). Other difference resulting from the MTOW increase to 575 kg (1268 lb) are made in the certification documentation, accompanying documentation, as well as in some markings of the airplane (placards).

3. Equipment:

For issue of Technical Certificate of Sports Flying Equipment Airworthiness, there must be basic equipment on each of produced airplanes, corresponding to applicable requirements on airworthiness given in chapter II. Certification basis.

I. Detailed list of available optional equipment is listed in the Type Design of SPORTSTAR Airplane, Report No. Z-SP-04/2003. Optional equipment installed in airplane of a particular serial number at the customer's wish, is shown in the Flight Manual, Document No. S2003FM01CZ, Chapter 7 and also in Supplements to the Flight Manual.

II. Detailed list of available optional equipment is listed in the Type Design of SPORTSTAR Airplane, Report No. Z-SP-04/2003, Revision a. Optional equipment installed in airplane of a particular serial number at the customer's wish, is shown in the Flight Manual, Document No. S2005FM1CZ, Chapter 7 and also in Supplements to the Flight Manual.

III. A detailed list of available optional equipment is listed in the Type Design of SPORTSTAR Airplane, Report No. Z-SP-04/2003, Revision b.
The optional equipment installed on a customer's requirement in particular airplane S/N is listed in the accompanying documentation of that airplane.

4. Dimensions:

WING	span	8.646	m	28.37	ft
	wing area	10.6	m^2	112.7	sq.ft
	MAC	1.25	m	4.1	ft
	Aerofoil	NACA 4415 modified			
	Surface loading	42.45	kg/m^2	8.69	lb/sq.ft (MTOW 450kg)
		44.58	kg/m^2	9.13	lb/sq.ft (MTOW 472.5kg)
		51.89	kg/m^2	10.63	lb/sq.ft (MTOW 550kg)
		54.25	kg/m^2	11.11	lb/sq.ft (MTOW 575kg)
AILERON	Length	1.09	m	3.58	ft
	Area of 1 aileron	0.25	m^2	2.62	sq.ft
FLAP	Length	2.25	m	7.38	ft
	Area of 1 flap	0.52	m^2	5.60	sq.ft
FUSELAGE	Length	5.98	m	19.62	ft
	Width	1.082	m	3.55	ft
	Height	2.335	m	7.66	ft
HORIZONTAL TAIL UNIT	Span	2.50	m	8.20	ft
	Depth	0.78	m	2.56	ft
	Area	1.94	m^2	20.88	sq.ft
VERTICAL TAIL UNIT	Height	1.24	m	4.07	ft
	Area	1.00	m^2	10.76	sq.ft
LANDING GEAR	Wheel track	1.865	m	6.12	ft
	Wheel base	1.350	m	4.43	ft

5. Weights:

Empty weight.....295 kg ± 2 %
Empty weight.....315 kg ± 2 % (with a ballistic recovery system)
Note: Limits above valid only for UL category in the Czech Rep.

MTOW .....450 kg for UL category in the Czech Rep.
.....472,5 kg for UL category in the Czech Rep. with a ballistic recovery system
.....575 kg for Light Sport Aircraft Category in the USA.

Maximum weight of fuel:
I. Fuel tank 65 liters (17.2 USGAL)..... 47 kg 104 lb
II. and III. Wing integral fuel tanks 120 liters (32USGAL).. 86 kg 190 lb

Maximum weight of baggage:
I. Sportstar with fuselage fuel tank 65 liters (17.2 USGAL) 15 kg 33 lb
II. and III. Sportstar with wing integral fuel tanks ..... 25 kg 55 lb

6. Engine and its limitations:

Rotax 912 ULS or Rotax 912 S
Max. takeoff power 73.5 kW / 5800 rpm (max. 5 minutes)
Max. continuous power 69.0 kW / 5500 rpm

Optionally: Rotax 912 UL or Rotax 912 A
Max. takeoff power 59.6 kW / 5800 rpm (max. 5 minutes)
Max. continuous power 58.0 kW / 5500 rpm

7. Propeller and its limitations:

Type: KLASSIC 170/3/R
Manufacturer Woodcomp s.r.o. (SPORT PROP)
Description: ground adjustable, composite, three-blade
Diameter: 1700 mm

Optionally:
Type: Křemen SR 200c
Manufacturer Woodcomp s.r.o.
Description: ground adjustable, wooden, three-blade
Diameter: 1680 mm

Type: KA 1/3 P
Manufacturer: Kašpar and sons
Description: three-blade, in flight hydraulically adjustable
Diameter: 1610 mm

Type: V 230E-UL
Manufacturer: VZLÚ Praha
Description: fixed, wooden, two-blade
Diameter: 1625 mm

Type: V 331
Manufacturer: VZLÚ Praha
Description: ground adjustable, wooden, three-blade, for Rotax 912 UL
Diameter: 1650 mm

Type: V534AD-UL
Manufacturer: VZLÚ Praha
Description: in flight hydraulically adjustable, constant speed, two-blade, wooden, for engine Rotax 912 UL
Diameter: 1613 mm

Type: V534BD-UL
Manufacturer: VZLÚ Praha
Description: in flight hydraulically adjustable, constant speed, three-blade
Diameter: 1650 mm

Type: VARIA 170/2/R
Manufacturer: Woodcomp s.r.o.
Description: in flight mechanically adjustable, composite, two-blade, for engine Rotax 912 ULS
Diameter: 1700 mm

8. Fuel:

Rotax 912 ULS or Rotax 912 S:
min. RON 95, EN 228 Premium, EN 228 Premium plus, AVGAS 100LL

Rotax 912 UL or Rotax 912 A:
min. RON 90, EN 228 Regular, EN 228 Premium, EN 228 Premium plus, AVGAS 100LL

Unleaded BA 95 Natural is recommended for the Czech Republic

9. Oil:

Engine oil – SF classification, SG acc. To API. Do not use aircraft OILS.

10. Airspeed and Flight Performance

Flight performance given below are valid under ISA conditions and at given MTOW.

Engine ..... ROTAX 912 ULS
Propeller ..... WOODCOMP (SPORT PROP) KLASSIC 170, pitch 17°

				SportStar plus
Flight speeds (CAS):	Takeoff weight 450 kg 992 lb	Takeoff weight 472.5 kg 1042 lb with a BRS	Takeoff weight 550 kg 1213 lb	Takeoff weight 575 kg 1268 lb
Never exceed speed V_{NE}	270 km/h 146 KIAS	270 km/h 146 KIAS	270 km/h 146 KIAS	270 km/h 146 KIAS
Max. structural cruising speed V_{NO}	190 km/h 103 KIAS	190 km/h 103 KIAS	190 km/h 103 KIAS	190 km/h 103 KIAS
Design maneuvering speed V_A	160 km/h 86 KIAS	160 km/h 86 KIAS	160 km/h 86 KIAS	160 km/h 86 KIAS
Max. flap extended speed V_{FE}	130 km/h 70 KIAS	130 km/h 70 KIAS	130 km/h 70 KIAS	130 km/h 70 KIAS
Max. horizontal speed VH at Max. Cont.Power (5500 rpm):	196 km/h 106 KCAS	196 km/h 106 KCAS	191 km/h 103 KCAS	191 km/h 103 KCAS
Cruising speed at 65 % of MCP (4800 rpm):	168 km/h 91 KCAS	168 km/h 91 KCAS	165 km/h 89 KCAS	164 km/h 89 KCAS
Stall speed V_{S0} flaps 50	63 km/h 34 KCAS	65 km/h 35 KCAS	72 km/h 39 KCAS	74 km/h 40 KCAS
Stall speed V_{S1} flaps 0	76 km/h 41 KCAS	78 km/h 42 KCAS	82 km/h 44 KCAS	83 km/h 45 KCAS
Stall speed V_{S1} flaps 15	69 km/h 37 KCAS	71 km/h 38 KCAS	77 km/h 42 KCAS	79 km/h 43 KCAS
Takeoff (grass RWY)	-	-	-	
Takeoff run:	121 m 400 ft	135 m 440 ft	200 m 660 ft	220 m 720 ft
Takeoff run over 15 m obstacle	276 m 910 ft	290 m 950 ft	425 m 1390 ft	470 m 1540 ft
Best ROC:	5,90 m/s 1160 fpm	5,50 m/s 1080 fpm	4,50 m/s 890 fpm	4,36 m/s 860 fpm

11. Load factors:

n1 = +4.0
n2 = +4.0
n3 = -1.5
n4 = -2.0

12. C.G. range:	Forward ultimate operation C.G.: 20 % MAC Rear ultimate operation C.G.: 34 % MAC
13. Datum plane:	Datum plane is the wing leading edge
14. Mean Aerodynamic Chord:	MAC = 1250 mm (49.21 in) MAC beginning is on the datum plane - wing leading edge
15. Means of Leveling	Leveling points and leveling procedure are described in the Technical Description, Operating, Maintenance and Repair Manual.
16. Minimum crew	1 pilot
17. Number of seats	2
18. Baggage compartment	located behind the seats Maximum weight of baggage: I. Sportstar with fuselage fuel tank 65 liters (17.2 USGAL) ..... 15 kg 33 lb II. and III. Sportstar with wing integral fuel tanks ..... 25 kg 55 lb
19. Maximum weight of fuel:	I. Fuel tank 65 liters (17.2 USGAL) ..... 47 kg 104 lb II. and III. Wing integral fuel tanks 120 liters (32USGAL) ..... 86 kg 190 lb
20. Control Surfaces Deflections:	Rudder ..... 30°± 2° Elevator ..... 25°± 1° up ..... 20°± 1° down Elevator trim tab ..... 5°± 2° up ..... 25°± 5° down Ailerons ..... 20°± 1° up ..... 15°± 1° down Wing flaps ..... 15°± 2° Takeoff ..... 30°± 3° Landing I ..... 50°± 3° Landing II.
21. Wheels and Tires:	Main undercarriage: Manufacturer: CHENG SHIN (China), 15x6.00-6, type INDUSTRIE 4PR Nose undercarriage: Manufacturer: CHENG SHIN (China), 13x5.00-6, , type INDUSTRIE 4PR
20. Other limitations:	Smoking onboard prohibited. Flight under icing conditions prohibited. Only day VFR flights permitted in the Czech Republic, night VFR and IFR flights prohibited. Night VFR and IFR flights permitted in the USA only if the airplane is equipped in accordance with FAR Part 91.

IV. Basic documents for operation and maintenance

I. Sportstar

- Flight Manual for SPORTSTAR Airplane, document No. S2003FM01CZ + Supplements as per installed optional equipment.
- Technical Description, Operating, Maintenance and Repair Manual for SPORTSTAR Airplane, document No. S2003MM01CZ.

II. Sportstar with wing integral fuel tanks

- Flight Manual for SPORTSTAR Airplane, document No. S2005FMCZ + Supplements as per installed optional equipment.
- Technical Description, Operating, Maintenance and Repair Manual for SPORTSTAR Airplane, document No. S2005MMCZ.

III. SportStar plus

- Aircraft Operating Instructions for SportStar plus Document No. SP2006AOIUS (USA version)
- Aircraft Maintenance and Inspection Procedures for SportStar plus Document No. SP2006AMIPUS (USA version)

- Owner's manual for engines of ROTAX 912 serie
- Technical Description and Operating Instructions for the installed propeller.
- Instructions for a ballistic recovery system (if installed).
- Instructions for optional equipment installed at customer's wish.

V. Supplements

None

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