



Issues

INFORMATIVE BULLETIN No. SPORTSTAR – 006 b

1. **CONCERNING TO :** **All SportStar airplanes with wing integral fuel tanks. A possibility to increase the Maximum Takeoff Weight from original 550 kg (1213 lb) to 575 kg (1268 lb).**

2. **REASON :** Following the requirements of the sellers, customers, and users of the SportStar airplanes with wing integral fuel tanks, to increase useful load of this airplane type, it was carried out a recomputation of the load and proof of strength of the airframe for increased MTOW, in accordance with the US ASTM Consensus Standard F2245-06, which introduce the requirements for Light Sport Aircraft category. Further a revision of accompanying technical, certification, and other documentation affected by increase of the MTOW has been performed. **The airplane with MTOW increased to 575 kg (1268 lb) was called SportStar^{plus}** and the Czech Type Certificate ULL-07/2003 Supplement was issued to this airplane by Light Aircraft Association of the Czech Republic on 19.12.2006.

The SportStar^{plus} does comply with the Light Sport Aircraft category requirements set in the USA and Australia. Due to increased MTOW without increase of the empty weight the useful load was increased of 25 kg (55 lb). This allows for example to carry more fuel of approx. 35 l, 9 USGAL at legal MTOW, thus extend endurance of approx. 2 hours and range about 300 km (160 NM).

3. **REQUIRED ACTION :** **See Enclosure 2** Recommended steps to increase MTOW of SportStar airplane to 575 kg (1268 lb) - a conversion of SportStar airplane to SportStar^{plus}.

4. **LATEST DATE OF THE ACTION:** Only in case of the owner's interest to increase MTOW of his SportStar with wing integral fuel tanks to 575 kg (1268 lb).

5. **ACTION TO BE CARRIED OUT BY:** Airplane owner

6. **COSTS COVERED BY :** Airplane owner. The airplane manufacturer set a price of SportStar^{plus} package to 500 EUR.

7. **NECESSARY MATERIAL:** **SportStar^{plus} Package** containing documentation necessary to approve the increased MTOW by the aviation authority, which approved the SportStar airplane for operation in particular country.

8. **WORK PROCEDURE:** **See Enclosure 1**

9. **ENCLOSURES :** **Enclosure 1:** Recommended steps to increase MTOW of SportStar airplane to 575 kg (1268 lb).
Enclosure 2: Content of SportStar^{plus} Package
Enclosure 3: List of SportStar^{plus} Certification Documentation

10. **ELABORATED BY :** Petr Javorský, Light Aircraft Project Manager
Approved by: Milan MACH, Commercial Director



Petr JAVORSKY Date:
Light Aircraft Project Manager 27.12.2006



Milan MACH Date:
Commercial Director 27.12.2006



INFORMATIVE BULLETIN No. SPORTSTAR – 006 b

Enclosure 1

Recommended steps to increase MTOW of SportStar airplane to 575 kg (1268 lb) A conversion of SportStar airplane to SportStar^{plus}

1. In case of owner's interest to increase MTOW of his/her SportStar airplane with wing integral fuel tanks to 575 kg (1268 lb) it is recommended by the airplane manufacturer, that the airplane owner will contact for more detailed information a representative of Evektor-Aerotechnik in the country, which carried out approval of particular airplane under appropriate aviation authority/organization/designated airworthiness representative (hereinafter „Authority“).
2. The representative of Evektor-Aerotechnik will contact that Authority under which the owner's airplane was approved for operation at initial MTOW and will ask for information on requirements to be complied to so that the Authority would approve that airplane for increased MTOW. The representative will also discuss with the Authority whether the information contained in the documents supplied with the SportStar^{plus} Package (Refer to Enclosure 2 of this Bulletin for SportStar^{plus} Package content) will be enough to increase MTOW or any additional data and documentation (e.g. a set of certification documentation – see Enclosure 3) will be required by the Authority.
3. The airplane owner will order from the airplane manufacturer, through Evektor-Aerotechnik's representative in the country, sending of SportStar^{plus} Package, which contains documentation and other materials for increase of MTOW (Refer to Enclosure 2 of this Bulletin for SportStar^{plus} Package content).
4. The airplane manufacturer is ready on request to supply the representative or possibly directly the Authority with a set of certification documentation (Enclosure 3), on the basis of which the Czech Type Certificate No.ULL-07/2003 Supplement b (included in the SportStar^{plus} Package) has been issued.
5. The airplane owner shall replace by MTOW increase affected accompanying technical documentation, affected placards, etc. included in the SportStar^{plus} Package, possibly other acts required by the Authority to permit increased MTOW. The representative of Evektor-Aerotechnik in the country will assist the airplane owner.



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Enclosure 2

Content of SportStar^{plus} Package

1. A copy of the Czech Type Certificate No. ULL-07/2003 Supplement b, issued by Light Aircraft Association of the Czech Republic on 19th December, 2006.
2. A copy of the Czech Type Certificate Data Sheet No. ULL-07/2003 Supplement b (in English language), issued by Light Aircraft Association of the Czech Republic on 19th December, 2006.
3. Aircraft Operating Instructions for SportStar^{plus} Light Sport Aircraft (it is necessary to inform the airplane manufacturer on the airplane S/N as well as on possible changes of the airplane equipment from a condition as it was received from the airplane manufacturer)
4. Aircraft Maintenance and Inspection Procedures for SportStar^{plus} Light Sport Aircraft
5. Flight Training Supplement, revised pages
6. A set of new interior placards, affected by the MTOW increase (the airplane manufacturer to be informed on current empty weight of particular airplane)
7. New stainless Manufacturer placard showing increased MTOW + pop rivets for its attachment (the airplane manufacturer to be informed on current empty weight of particular airplane).
8. SportStar^{plus} stickers (2 pcs.) on engine upper cowling
9. New FAA Form 8130-15 (for the USA)
10. A new Manufacturer's Statement of Compliance of the SportStar^{plus} with the Light-Sport Category Aircraft requirements, possibly other Manufacturer's Statements issued according to specific national rules.

Notice:

- 1) In case, that the documents listed above will be insufficient for an authority to allow increased MTOW on the basis of issued Czech Type Certificate and TC Data Sheet, the airplane manufacturer is ready to send by e-mail to that authority or to the manufacturer's representative other documents (reports), on the basis of which the Czech Type Certificate has been issued. The price of SportStar^{plus} Package does not include elaboration of any other additional documents and reports, eventually required by that authority. This shall be solved separately on the basis of an individual agreement with the airplane manufacturer.
- 2) Increase of the MTOW of 25 kg (55 lb) slightly affects also airspeed indicator color marking. The table below shows ASI color marking of the SportStar^{plus} (MTOW 575 kg, 1268 lb) and of the original SportStar (MTOW 550 kg, 1213 lb) for comparison. It is obvious that the staling speeds in landing configuration (VS0) and clean configuration (VS1) are increasing of 2 km/h (1 knot). This affects shift of a red radial corresponding to the VS0 of 2 km/h (1 knot) up, as well as beginning of a white arc (operation with the wing flaps extended) of 2 km/h (1 knot) up. However such difference is considered to be insignificant, within range of visual readout error of the pilot.
The VNO is increasing of +4 km/h (2 knots) with MTOW increase. However if the VNO marked on ASI (yellow/green arc border) would be kept at 190 km/h (103 knots) which is lower than 194 km/h (105 knots), than the pilot is warned early and safety of flight should not be reduced. On the basis of explanation provided above, the airplane manufacturer does consider, that re-marking of the airspeed indicators on existing aircraft would not be necessary with MTOW increase. In case that this explanation would not be acceptable for approval Authority, then it is possible to make airspeed indicator re-marking by self-help or in an authorized maintenance facility.



Airspeed Indicator Color Marking Comparison:

SportStar^{plus}			MTOW 575 kg, 1268 lb			km/h		knots		mph	
Never exceed speed	Red radial	VNE	270		270		146		168		
Caution Range	Yellow arc	VNO-VNE	194	270	194	270	105	146	121	168	
Normal operating range	Green arc	VS1-VNO	80	194	80	194	43	105	50	121	
Flap operating range	White arc	VS0-VFE	71	130	71	130	38	70	44	81	
Stalling speed	Red radial	VS0	71		71		38		44		

SportStar			MTOW 550 kg, 1213 lb			km/h		knots		mph	
Never exceed speed	Red radial	VNE	270		270		146		168		
Caution Range	Yellow arc	VNO-VNE	190	270	190	270	103	146	118	168	
Normal operating range	Green arc	VS1-VNO	78	190	78	190	42	103	49	118	
Flap operating range	White arc	VS0-VFE	69	130	69	130	37	70	43	81	
Stalling speed	Red radial	VS0	69		69		37		43		

Difference			km/h		knots		mph	
Never exceed speed	Red radial	VNE	0		0		0	
Caution Range	Yellow arc	VNO-VNE	4	0	2	0	2	0
Normal operating range	Green arc	VS1-VNO	2	4	1	2	1	2
Flap operating range	White arc	VS0-VFE	2	0	1	0	1	0
Stalling speed	Red radial	VS0	2		1		1	

**INFORMATIVE BULLETIN No. SPORTSTAR – 006 b****Enclosure 3****List of SportStar^{plus} Certification Documentation**

Only the new certification documents and reports are listed below, on the basis of which the Czech Type Certificate No.ULL-03/2007 Supplement b has been issued to the SportStar^{plus} airplane. There is not shown here a complete list of certification documentation on the basis of which the Sportstar airplane was originally certificated for initial MTOW of 550 kg (1213 lb).

No.	Document Number	File Name	Document Title	Date of Issue	Document Type
1	ULL-07/2003 Supplement b	SportStar_Czech_TC_Suppl_b.pdf	Czech Type Certificate No. ULL-07/2003 Supplement b	19.12.2006	Type certificate
2	ULL-07/2003 Supplement b	SportStar_Czech_TCD S_Supplement_b.pdf	Data Sheet to the Czech Type Certificate No. ULL-07/2003 Supplement b	19.12.2006	Type certificate
3	Z-SP-04/2006, Revision b	Z_SP_04_2003_Type_design_SPORTSTAR_Rev_b.doc	TYPE DESIGN OF SPORTSTAR	26.12.2006	Type design
4	Z-SP-06/2004, Revision 2	Z_SP_06_2004_R2.doc	COMPLIANCE CHECKLIST OF SPORTSTAR LIGHT SPORT AIRCRAFT WITH THE REQUIREMENTS OF CONSENSUS STANDARDS	26.12.2006	Compliance Checklist
5	Z-SP-02/2005, Revision 1	Z_SP_02_2005_CCL with SP rule_R1.doc	COMPLIANCE CHECKLIST OF SPORTSTAR AIRPLANE WITH SPORT PILOT RULE DEFINITION OF LIGHT SPORT AIRCRAFT	22.11.2006	Compliance Checklist
6	EURO 057.03, Revision 1	EURO_057_03_R1_SportStar_580 kg_Proof of strength.DOC	SportStar plus PROOF OF STRUCTURE (MTOW 580 kg, 1279 lb)	XI/2006	Proof of structure
7	SP2006AOIUS	SP2006AOIUS.doc	Aircraft Operating Instructions for SportStar ^{plus}	20.12.2006	Accompanying documentation
8	SP2006AMIPUS	SP2006AMIPUS.doc	Aircraft Maintenance and Inspection Procedures for SportStar ^{plus}	20.12.2006	Accompanying documentation
9	EURO 050.02, Revision 2	EURO_050_02_R2_flight_envelopes_SS.DOC	FLIGHT ENVELOPES SPORTSTAR plus (MTOW = 1279 lb, 580 kg)	20.11.2006	Flight Envelopes
10	EURO 054.02, Revision 2	EURO_054_02_R2_wing_check.doc	WING CHECK SPORTSTAR plus	20.11.2006	Load analysis and Proof of structure
11	EURO 069.06	EURO_069_06_wing_check_details.doc	WING CHECK - DETAILS SPORTSTAR plus	20.11.2006	Proof of structure
12	EURO 062.03, Revision 1	EURO_062_03_R1_TU Load Cases.DOC	TAIL UNIT LOAD CASES SPORTSTAR plus	7.11.2006	Load analysis
13	EURO 051.02, Revision 2	EURO_051_02_R2_undercarriage_load_cases.doc	UNDERCARRIAGE LOAD CASES SPORTSTAR plus	20.11.2006	Load analysis
14	EURO 052.02, Revision 2	EURO_052_02_Nose_leg_R2.doc	NOSE LEG STRESS CHECK SPORTSTAR plus	10.11.2006	Proof of structure
15	EURO 044.01, Revision 1	EURO_044_01_R1_Engine mount.doc	ROTAX 912 ULS ENGINE MOUNT, SPORTSTAR plus	20.11.2006	Load analysis and Proof of structure



No.	Document Number	File Name	Document Title	Date of Issue	Document Type
16	Z-SP-09/2006	Z_SP_09_2006_SSplus_Performance.doc	PERFORMANCE REDUCTION OF SPORTSTAR LIGHT SPORT AIRCRAFT TO MTOW 575 kg / 1268 kg	21.11.2006	Analysis
17	S2006FTSUS, Rev.1	S2006FTSUS_R1.doc	PILOT FLIGHT TRAINING SUPPLEMENT FOR SPORTSTAR LIGHT SPORT AIRCRAFT	20.12.2006	Accompanying documentation
18	FAA Form 8130-15	SportStar plus FAA Form 8130-15.doc	Light-Sport Aircraft Statement of Compliance, FAA Form 8130-15	XI/2006	Manufacturer Statement
19	QS-643/F-03c-EN	SportStar plus Statement of compliance_Rev_c.doc	MANUFACTURER'S STATEMENT OF COMPLIANCE FOR LIGHT-SPORT CATEGORY AIRCRAFT	XI/2006	Manufacturer Statement