Rolladen-Schneider Flugzeugbau GmbH LBA-No. **NSD.002**	Technical Bulletin No. 4046	LS4-b	Page 1 of 1 Edition 03.Mrz.03

Subject: Flight and Maintenance Manuals

Effectivity: **Sailplane LS4-b, serial numbers between 4830 and 41054.**

Accomplishment: Until next annual inspection.

Reason: Update/Exchange of manual pages:

a) By moving wing water ballast bags outward and reducing the maximum amount, the maximum weight of non-lifting parts can be increased.
b) See TB 4047 for increase procedure and possible retrofit.
c) Increase of structural life limit to max. 12000 hours.

Material and Instructions: 1. Update/Exchange the following pages of manuals:
Flight Manual Edition 1992 (Without tail fin tank):
0-1, 0-2, 2-4, 4-7, 4-8a, 4-9a (Rev. 3)
Maintenance Manual Edition 1992: 0-1, 0-2, 2-3, 2-4a, 2-5a, 5-1, 5-2, 5-3 (Rev. 1)

Flight Manual Edition 1995 (With tail fin tank):
0-1, 0-2, 2-4, 4-7 to 4-9, 4-10a, 4-11a (Rev. SF2)
Maintenance Manual Edition 1995: 0-2, 0-3, 2-3, 2-4a, 2-5a, 5-1, 5-2, 5-3 (Rev. SF2)

2. Procedure for use of increased Cockpit Load see TB 4047.

Weight and Balance: Not affected.

Remarks: Accomplishment by operator.

Accomplishment must be entered into logbook and TB-AD-Accomplishment List in Maintenance Manual and be signed by inspector.

LBA-approved:

27. AUG. 2003



Prepared: 18. Dez. 02	Verified:

0.1 Log of Revisions

Any revision of the present manual, except actual weighing data, must be recorded in the following table and in case of approved Sections endorsed by the responsible airworthiness authority.
The new or amended text in the revised page will be indicated by a black vertical line in the left hand margin, and the revision No. and the date will be shown on the bottom left hand of the page.

Rev. No.	Pages affected	Date of Issue	LBA-Approval Signature	Date of Approval	Date of Insertion	Signature
1	0-1, 0-2, 4-12, 5-1, 7-5	May 17, 1995	gez. Jung LBA	23.Mai 1995		
2	0-1, 0-2, 4-6, 4-12	Oct. 1999 (TB 4043)	gez. Beckmann LBA	04.Nov. 1999		
3	0-1, 0-2, 2-4, 4-7, 4-8a, 4-9a	Dec. 2002 (TB 4046)		27. AUG.	2003	

Prepared:	Verified:	Complies:
18.12.2002		

0.2 List of Effective Pages

Chapter	Page	Date	Chapter	Page	Date
0	Title page	Mar. 18, 1992			
	0-1	*Dec. 2002 (TB 4046)*			
	0-2	*Dec. 2002 (TB 4046)*			
	0-3	Mar. 18, 1992	5	5-1	Mar. 18, 1992
				5-2	Mar. 18, 1992
1	1-1	Mar. 18, 1992			
	1-2	Mar. 18, 1992			
			6	6-1	Mar. 18, 1992
				6-2	Mar. 18, 1992
2	2-1	Mar. 18, 1992			
	2-2	Mar. 18, 1992	7	7-1	Mar. 18, 1992
	2-3	Mar. 18, 1992		7-2	Mar. 18, 1992
	2-4	*Dec. 2002 (TB 4046)*		7-3	Mar. 18, 1992
	2-5	Mar. 18, 1992		7-4	Mar. 18, 1992
	2-6	Mar. 18, 1992		7-5	Mar. 18, 1992
	2-7	Mar. 18, 1992			
	2-8	Mar. 18, 1992			
3	3-1	Mar. 18, 1992	8	8-1	Mar. 18, 1992
	3-2	Mar. 18, 1992		8-2	Mar. 18, 1992
	3-3	Mar. 18, 1992		8-3	Mar. 18, 1992
	3-4	Mar. 18, 1992		8-4	Mar. 18, 1992
	3-5	Mar. 18, 1992		8-5	Mar. 18, 1992
				8-6	Mar. 18, 1992
4	4-1	Mar. 18, 1992			
	4-2	Mar. 18, 1992			
	4-3	Mar. 18, 1992			
	4-4	Mar. 18, 1992	9	9-1	Mar. 18, 1992
	4-5	Mar. 18, 1992			
	4-6	Oct. 1999 (TB 4043)			
	4-7	*Dec. 2002 (TB 4046)*			
	4-8	Mar. 18, 1992			
	4-8a	*Dec. 2002 (TB 4046)*			
	4-9	Mar. 18, 1992			
	4-9a	*Dec. 2002 (TB 4046)*			
	4-10	Mar. 18, 1992			
	4-11	Mar. 18, 1992			
	4-12	Oct. 1999 (TB 4043)			
	4-13	Mar. 18, 1992			

Prepared:	Verified:	Complies:
18.12.2002		

2.4 Mass (Weight)

Maximum take-off mass including water ballast	525 kg	1157 lbs
Maximum mass without water ballast	407 kg	897 lbs

If maximum take off mass without water ballast limits full use of maximum weight of non-lifting parts due to repairs at wings, contact manufacturer to increase this value

Maximum landing mass	525 kg	1157 lbs
Maximum mass of non-lifting parts	230 to 247 kg	507 to 545 lbs
When water bags are removed or marked "V112" at the root rib	250 to 267 kg	551 to 589 lbs

Value must be determined according to table in Maintenance Manual, chapter 2, related to empty mass and empty mass C.G. position. The term "non-lifting" parts includes the following:

- Fuselage (with permanently installed instruments, canopy and main pins)
- Cockpit load
- Horizontal tail

Tail fin battery ballast does not count for "non-lifting" parts, but for maximum all-up weight.

Wing water ballast depending on loading conditions and ballast bags size	**max.** 100 kg	220 lbs
	or. 160 kg	353 lbs

Loading instructions see pages 4-7 to 4-9a

Maximum mass in Baggage Compartment	max. 5.0 kg	11 lbs

Loading instructions see page 4-6

Maximum mass of all instrument panel installations	max. 6.7 kg	14.8 lbs

Warning: ***If C.G. weighing had been performed with a vertical tail fin battery –see entry on page 6-1/2 -, then the battery must ALWAYS be carried in the vertical tail fin !***

4.5.9 Water Ballast

(a) Use clear water without any additives.
(b) Increase tyre pressure to 4 bar < 58 psi>, when using full water ballast.
(c) Wing tanks together hold about 160 Litres <42.3 US gallons, 35.2 Imp. gallons >.
(d) Optionally tanks of max. 100 Litres <26.2 US gallons, 22 Imp. gallons> are possible
*To use the **maximum possible value of Cockpit Load**, tanks can according to TB 4047 either be moved outward and reduced or be taken out completely.*
(e) For size of tanks refer to entry on page 6-1.
(f) One tank per wing, the rod at the root rib operated the valve.
(g) Use as clean water as possible to avoid damage of sealing rings by foreign matter.
(h) Maximum permissible water ballast depends on loading conditions, see pages 4-11 ff.

Filling

(a) Open dump valve by shifting lever on right cockpit rim backwards.
(b) Suck residual air from left water bag through dump orifice on under side of wing using connection hose, close dump valve before terminating sucking, to avoid air entering into bags again.
(c) Residual air may reduce amount of water.

Warning: ***Residual air may create undue pressure during high altitude flights above 3000 m (10000 ft)***

Warning: ***Never use more than 0.1 bar <1.45 psi> of water pressure (funnel max. 1 m <3.3 ft> above wing) because of possible damage of structure.***

(d) Lay left wing down for filling.
(e) Connect funnel to dump orifice on under side of left wing.
(f) Fill half of desired total amount of water into wing via funnel.
(g) For maximum approved amount of wing water ballast see tables on page 4-8/9.
(h) When the left tank is filled, close dump valves of wings by shifting cockpit lever forward.
(f) To open right wing valve through baggage compartment use knurled nut, turn 10 turns counterclockwise.
(g) After sucking residual air out of bag let a helper keep the wing tip on the ground and fill the same amount as in left wing.
(h) Close right valve with knurled nut, turn clockwise against stop.
(i) See also icing conditions in Emergency Procedures, chapter 3.

Warning: ***When amount of water ballast in wings is not equal, this may favour ground loop tendencies during take off.***

(j) Use of water ballast limited to non-freezing conditions, see also Flight Manual page 2-6.

Dumping:

(a) Open valves by shifting lever backwards.
(b) 10 Litres (2.6 US gallons, 2.2 Imp. gallons) will be dumped in approx. 15 seconds.
(c) If aileron stick force is needed to maintain level flight after dumping, this may indicate unequal dumping.
(d) To avoid ground looping in case of unequal dumping apply aileron in the direction as noticed before shortly after touchdown.

Prepared:	Verified:	Complies:
18.12.2002		

4.5.9.a Maximum Water Ballast

Bags according to TB 4047 moved outward and reduced in volume, marking "V112" at root ribs

Maximum approved capacity per wing: about 56 kg <123 lbs> per wing
= total of ..... **112.0** kg <247 lbs>

Table provides maximum total water ballast weight in relation to empty weight and cockpit load. Baggage and temporary equipment reduce maximum water ballast weight accordingly.

For values in lbs see following page 4-9a.

Cockpit Load (Pilot + Parachute + equipment) *[kg]*	Empty Mass *[kg]*									
	240	245	250	255	260	265	270	275	280	285
70	112	112	112	112	112	112	112	112	112	112
75	112	112	112	112	112	112	112	112	112	112
80	112	112	112	112	112	112	112	112	112	112
85	112	112	112	112	112	112	112	112	112	112
90	112	112	112	112	112	112	112	112	112	112
95	112	112	112	112	112	112	112	112	112	112
100	112	112	112	112	112	112	112	112	112	112
105	112	112	112	112	112	112	112	112	112	112
110	112	112	112	112	112	112	112	112	112	112

Example: When empty weight is 265 kg <584 lbs> and pilot and parachute weight is 110 kg <242 lbs>, maximum permissible total water ballast weight is 112 kg <247 lbs>

4.5.9.a Maximum Water Ballast

Bags according to TB 4047 moved outward and reduced in volume, marking "V112" at root ribs

Maximum approved capacity per wing: about 56 kg <123 lbs> per wing
= total of ..... **112.0** kg <247 lbs>

Table provides maximum total water ballast weight in relation to empty weight and cockpit load. Baggage and temporary equipment reduce maximum water ballast weight accordingly.

For values in kg see preceeding page 4-8a.

Cockpit Load (Pilot + parachute + equipment) *[lbs]*	Empty Mass *[lbs]*									
	529	540	551	562	573	584	595	606	617	628
154	247	247	247	247	247	247	247	247	247	247
165	247	247	247	247	247	247	247	247	247	247
176	247	247	247	247	247	247	247	247	247	247
187	247	247	247	247	247	247	247	247	247	247
198	247	247	247	247	247	247	247	247	247	247
209	247	247	247	247	247	247	247	247	247	247
220	247	247	247	247	247	247	247	247	247	247
231	247	247	247	247	247	247	247	247	247	247
242	247	247	247	247	247	247	247	247	247	247

Example: When empty weight is 265 kg <584 lbs> and pilot and parachute weight is 110 kg <242 lbs>, maximum permissible total water ballast weight is 112 kg <247 lbs>

Log of Revisions

No.	Pages affected	Description	LBA-Approval Signature / Date
0	2-6 14-12	Typo in metric 80 kg table corrected (TB 4043) Addendum to Annual Inspection Checklist	
1	0-1, 0-2, 2-3, 2-4a, 2-5a, 5-1, 5-2 5-3	Update for possible increase of non-lifting parts weight Increase of life limit to 12000 h Tow hook time limit waived by manufacturer (TB 4046)	27. AUG. 2003

Erstellt: 18.12.02	Geprüft:	Complies:

Pages included

Chapter	Page	Date	Chapter	Page	Date
0	Title page	Apr. 15, 1992	6	6-1	Apr. 15, 1992
	0-1	*Dec. 2002 (TB 4046)*		6-2	Apr. 15, 1992
	0-2	*Dec. 2002 (TB 4046)*		6-3	Apr. 15, 1992
	0-3	Apr. 15, 1992		6-4	Apr. 15, 1992
	0-4	Apr. 15, 1992			
			8	8-1	Apr. 15, 1992
1	1-1	Apr. 15, 1992		8-2	Apr. 15, 1992
	1-1a	Apr. 15, 1992			
	1-2	Apr. 15, 1992			
	1-3	Apr. 15, 1992			
	1-4	Apr. 15, 1992			
	1-5	Apr. 15, 1992			
	1-6	Apr. 15, 1992	10	10-1	Apr. 15, 1992
	1-7	Apr. 15, 1992		10-2	Apr. 15, 1992
2	2-1	Apr. 15, 1992			
	2-2	Apr. 15, 1992	11	11-1	Apr. 15, 1992
	2-3	*Dec. 2002 (TB 4046)*		11-2	Apr. 15, 1992
	2-4	Apr. 15, 1992			
	2-4a	*Dec. 2002 (TB 4046)*			
	2-5	Apr. 15, 1992	12	12-1	Apr. 15, 1992
	2-5a	*Dec. 2002 (TB 4046)*		12-2	Apr. 15, 1992
	2-6	Apr. 15, 1992			
	2-7	Apr. 15, 1992	13	13-1	Apr. 15, 1992
	2-8	Apr. 15, 1992		13-2	Apr. 15, 1992
3	3-1	Apr. 15, 1992			
	3-2	Apr. 15, 1992	14	14-1	Apr. 15, 1992
	3-3	Apr. 15, 1992		14-1a	Apr. 15, 1992
				14-2	Apr. 15, 1992
				14-3	Apr. 15, 1992
				14-4	Apr. 15, 1992
4	4-1	Apr. 15, 1992		14-5	Apr. 15, 1992
	4-2	Apr. 15, 1992		14-6	Apr. 15, 1992
	4-3	Apr. 15, 1992		14-7	Apr. 15, 1992
	4-4	Apr. 15, 1992		14-8	Apr. 15, 1992
	4-5	Apr. 15, 1992		14-9	Apr. 15, 1992
	4-6	Apr. 15, 1992		14-10	Apr. 15, 1992
	4-7	Apr. 15, 1992		14-11	Apr. 15, 1992
	4-8	Apr. 15, 1992		14-12	Oct. 1999 (TB 4043)
	4-9	Apr. 15, 1992			
			15	15-1	Apr. 15, 1992
5	5-1	*Dec. 2002 (TB 4046)*			
	5-2	*Dec. 2002 (TB 4046)*			
	5-3	*Dec. 2002 (TB 4046)*			

Erstellt: 18.12.02	Geprüft:	Complies:

Calculation of Loading Limits continued

Examples for calculation of loading limits:
See also Maintenance Manual page 14-4, form Weighing Report

1) Minimum Cockpit Load

For empty weight ***255*** kg <562 lbs> and empty weight C.G. position ***665*** mm <26.181 in> Minimum Cockpit Load according to table pages 2-6/7 or 2-8/10 is ..... ***75*** kg <165 lbs>
Limit value ***680*** mm <26.772 in> greater than calc. value ***665*** mm <26.181 in>

2) Maximum Weight of Non-lifting Parts

Maximum non-lifting parts weight at empty weight ***255*** kg <562 lbs> and empty weight C.G. position ***665*** mm <26.181 in> is according to
table pages 2-4/5 (Normal water ballast bags)..... ***234*** kg <516 lbs>
table pages 2-4a/5a (**TB 4047, "V112"**) ..... ***254*** kg <560 lbs>

3) Maximum permissible Cockpit Load ..... ***Wing water bags***

		Normal	TB 4047, "V112"
Fuselage with complete equipment, battery, canopy and main pins .	130.6 kg <288 lbs>	***130.6*** kg <288 lbs>
Horizontal tail	6.3 kg < 14 lbs>	***6.3*** kg < 14 lbs>
Cockpit Load (maximum 110 kg <242 lbs>)	97 kg <214 lbs>	***110*** kg <242 lbs>
Weight of Non-lifting Parts	233.9 kg <516 lbs>	***246.9*** kg <544 lbs>
Maximum Cockpit Load (max. 110 kg <242 lbs>)	97 kg < lbs>	***110***kg <242 lbs>

.....

Maximum all-up mass ..... 525 kg <1157 lbs>

Entry in Flight Manual, page 6-2, for both examples above:

Empty Weight	C.G. position	Max. Cockpit Load	Minimum Cockpit Load	Permanently fitted Ballast Mass		Battery in tail fin	Wing Tank-Volume	Date / Inspector
				forward	*aft*	YES/NO		
[kg]	*[mm]*	*[kg]*	*[kg]*	*[kg]*	*[kg]*		*[kg]*	
255	***665***	***97***	***75***	***0***	***0***	***NO***	***160***	***19.Dec.2002 GS***
255	***665***	***110***	***75***	***0***	***0***	***NO***	***"V112"***	***19.Dec.2002 GS***

Erstellt: 18.12.02	Geprüft:	Complies:

Calculation of Maximum Weight of Non-Lifting Parts **Valid for Water bags "V112"**

Maximum weight of non-lifting parts of 255 kg <562 lbs> must be reduced in relation to empty weight at 15 m span and empty weight C.G. position **Xs** according to table below (For lbs/inch values see following page). Example: For empty weight C.G. position of ***665*** mm <26.181 in> and empty weight of ***255*** kg <562 lbs> the permissible weight of non-lifting parts is ***254*** kg <560 lbs>.

Empty Weight G <kg>	Empty Weight C.G. position Xs <mm>											
	from 560 to 579	from 580 to 599	from 600 to 619	from 620 to 639	from 640 to 659	from 660 to 679	from 680 to 699	from 700 to 719	from 720 to 739	from 740 to 759	from 760 to 779	from 780 to 799
245 -246	250	250	250	251	252	253	254	256	257	258	259	260
246 -247	250	250	250	251	252	253	254	256	257	258	259	261
247 -248	250	250	250	251	252	253	255	256	257	258	259	261
248 -249	250	250	250	251	252	253	255	256	257	258	260	261
249 -250	250	250	250	251	252	254	255	256	257	258	260	261
250 -251	250	250	250	251	252	254	255	256	257	259	260	261
251 -252	250	250	250	251	253	254	255	256	257	259	260	261
252 -253	250	250	250	251	253	254	255	256	258	259	260	261
253 -254	250	250	250	251	253	254	255	256	258	259	260	261
254 -255	250	250	250	252	253	254	255	257	258	259	260	262
255 -256	250	250	250	252	253	254	255	257	258	259	260	262
256 -257	250	250	250	252	253	254	256	257	258	259	261	262
257 -258	250	250	251	252	253	254	256	257	258	259	261	262
258 -259	250	250	251	252	253	255	256	257	258	260	261	262
259 -260	250	250	251	252	253	255	256	257	258	260	261	262
260 -261	250	250	251	252	253	255	256	257	259	260	261	262
261 -262	250	250	251	252	254	255	256	257	259	260	261	263
262 -263	250	250	251	252	254	255	256	258	259	260	261	263
263 -264	250	250	251	252	254	255	256	258	259	260	262	263
264 -265	250	250	251	253	254	255	256	258	259	260	262	263
265 -266	250	250	251	253	254	255	257	258	259	260	262	263
266 -267	250	250	251	253	254	255	257	258	259	261	262	263
267 -268	250	250	252	253	254	255	257	258	259	261	262	263
268 -269	250	250	252	253	254	256	257	258	260	261	262	264
269 -270	250	250	252	253	254	256	257	258	260	261	262	264
270 -271	250	250	252	253	254	256	257	258	260	261	262	264
271 -272	250	251	252	253	255	256	257	259	260	261	263	264
272 -273	250	251	252	253	255	256	257	259	260	261	263	264
273 -274	250	251	252	253	255	256	257	259	260	262	263	264
274 -275	250	251	252	254	255	256	258	259	260	262	263	264
275 -276	250	251	252	254	255	256	258	259	260	262	263	264
276 -277	250	251	252	254	255	256	258	259	261	262	263	265
277 -278	250	251	252	254	255	257	258	259	261	262	263	265
278 -279	250	251	253	254	255	257	258	259	261	262	264	265
279 -280	250	251	253	254	255	257	258	260	261	262	264	265
280 -281	250	251	253	254	255	257	258	260	261	262	264	265
281 -282	250	251	253	254	256	257	258	260	261	263	264	265
282 -282	250	252	253	254	256	257	258	260	261	263	264	265
282 -284	250	252	253	254	256	257	259	260	261	263	264	266
284 -285	250	252	253	254	256	257	259	260	262	263	264	266

Erstellt: 18.12.02	Geprüft:	Complies:

Calculation of Maximum Weight of Non-Lifting Parts **Valid for Water bags "V112"**

Maximum weight of non-lifting parts of 562 lbs <255 kg> must be reduced in relation to empty weight and empty weight C.G. position **Xs** according to table below (For kg/mm values see preceding page).

Example: For empty weight C.G. position of ***26.181*** in <665 mm> and empty weight of ***562*** lbs <255 kg> the permissible weight of non-lifting parts is ***560*** lbs <254 kg>.

Empty Weight G <lbs>	Empty Weight C.G. position Xs <in>											
	from 22.047 to 22.795	from 22.835 to 23.583	From 23.622 to 24.370	from 24.409 to 25.157	from 25.197 to 25.945	from 25.984 to 26.732	from 26.772 to 27.520	from 27.559 to 28.307	from 28.346 to 29.094	from 29.134 to 29.882	from 29.921 to 30.669	from 30.709 to 31.457
540 -542	551	551	551	553	556	558	560	564	567	569	571	573
542 -545	551	551	551	553	556	558	560	564	567	569	571	575
545 -547	551	551	551	553	556	558	562	564	567	569	571	575
547 -549	551	551	551	553	556	558	562	564	567	569	573	575
549 -551	551	551	551	553	556	560	562	564	567	569	573	575
551 -553	551	551	551	553	556	560	562	564	567	571	573	575
553 -556	551	551	551	553	558	560	562	564	567	571	573	575
556 -558	551	551	551	553	558	560	562	564	569	571	573	575
558 -560	551	551	551	553	558	560	562	564	569	571	573	575
560 -562	551	551	551	556	558	560	562	567	569	571	573	578
562 -564	551	551	551	556	558	560	562	567	569	571	573	578
564 -557	551	551	551	556	558	560	564	567	569	571	575	578
557 -569	551	551	553	556	558	560	564	567	569	571	575	578
569 -571	551	551	553	556	558	562	564	567	569	573	575	578
571 -573	551	551	553	556	558	562	564	567	569	573	575	578
573 -575	551	551	553	556	558	562	564	567	571	573	575	578
575 -578	551	551	553	556	560	562	564	567	571	573	575	580
578 -580	551	551	553	556	560	562	564	569	571	573	575	580
580 -582	551	551	553	556	560	562	564	569	571	573	578	580
582 -584	551	551	553	558	560	562	564	569	571	573	578	580
584 -586	551	551	553	558	560	562	567	569	571	573	578	580
586 -589	551	551	553	558	560	562	567	569	571	575	578	580
589 -591	551	551	556	558	560	562	567	569	571	575	578	580
591 -593	551	551	556	558	560	564	567	569	573	575	578	582
593 -595	551	551	556	558	560	564	567	569	573	575	578	582
595 -597	551	551	556	558	560	564	567	569	573	575	578	582
597 -600	551	553	556	558	562	564	567	571	573	575	580	582
600 -602	551	553	556	558	562	564	567	571	573	575	580	582
602 -604	551	553	556	558	562	564	567	571	573	578	580	582
604 -606	551	553	556	560	562	564	569	571	573	578	580	582
606 -608	551	553	556	560	562	564	569	571	573	578	580	582
608 -611	551	553	556	560	562	564	569	571	575	578	580	584
611 -613	551	553	556	560	562	257	569	571	575	578	580	584
613 -615	551	553	558	560	562	567	569	571	575	578	582	584
615 -617	551	553	558	560	562	567	569	573	575	578	582	584
617 -619	551	553	558	560	562	567	569	573	575	578	582	584
619 -622	551	553	558	560	564	567	569	573	575	580	582	584
622 -624	551	556	558	560	564	567	569	573	575	580	582	584
624 -626	551	556	558	560	564	567	571	573	575	580	582	586
626 -628	551	556	558	560	564	567	571	573	578	580	582	596

Erstellt: 18.12.02	Geprüft:	Complies:

5.1 TIME BETWEEN OVERHAUL (TBO)

1. C.G. hook	TOST	Europa G 73:	**2000 take-offs)***
	or TOST	Europa G 72	
	or TOST	Europa G 88	
2. Nose hook	TOST	E 75 or E 72:	**2000 take-offs)***
	or TOST	E 85	

)* See also Maintenance- and Operating Instructions of manufacturers.

5.2 AIRWORTHINESS LIMITATIONS SECTION

This Airworthiness Limitations Section is LBA-approved.

LBA-approved:



27. AUG. 2003

5.3 LOG OF REVISIONS FOR AIRWORTHINESS LIMITATIONS SECTION

No.	Pages affected	Description	LBA-Approval Signature / Date
1	5-1, 5-2 5-3	Structural life limit increased to 12000 h. Schroth safety harness added.	 27. AUG. 2003

Erstellt: 18.12.02	Geprüft:	Complies:

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5.4 AIRWORTHINESS LIMITATIONS

1. Sailplane structural life limit: **3000** hours total flying time
The life limit may be increased according to the procedure outlined on page 5-3 stepwise up to **12000** hours total flying time.

2. Safety harness Gadringer
Bagu 5402 lap belt with multiple point buckle
Schugu 2700 shoulder strap **Webbing life limit 12 years from manufacturing date**
.....See also Maintenance- and Operating
.....Instructions of manufacturers

3. Safety harness Autoflug
FAG-7H lap belt with multiple point buckle
FAG-7D shoulder strap **Webbing life limit 12 years from manufacturing date**
.....See also Maintenance- and Operating
.....Instructions of manufacturers

4. Safety harness SchrothType 4-01-1A52xx with multiple point buckle
Lap belt and shoulder strap **Webbing life limit 12 years from manufacturing date**
(Not entered digits xx nominate webbing colour:
Standard colours: 06 dark blue; 91 blue, 66 red, 14 grey)
.....See also Maintenance- and Operating
.....Instructions of manufacturers

Note: Repair damage prior to next flight.

When in doubt, weather a "small repair" or a "major repair" is necessary, contact the manufacturer.

"Major repairs" must be accomplished in accordance with Rolladen-Schneider repair methods at national authorities-certified repair stations rated for composite aircraft structure work, at FAA Certificated Repair Stations, or by other qualified persons authorised to perform maintenance on composite structures.

Certain "major repairs" may only performed by the manufacturer due to necessary jigs. This has to be checked with the manufacturer for the case in question.

5.5 INSPECTION SEQUENCE TO INCREASE SERVICE LIFE

1. **General**
   Results of supplementary serviceability tests at main spar booms for wings proved, that service life of GRP sailplanes may be increased to 12.000 hours if airworthiness of each single sailplane (in addition to annual inspections) is checked according to a special multi-step inspection programme.

2. **Schedule**
   When the sailplane has reached 3000 hours service life an inspection according to the programme mentioned under 3. Must be carried out. If the result of the inspection is positive or found defects repaired properly, the service life of this sailplane will be increased by 3000 hours to 6000 hours (1. Step).

   The inspection routine should be repeated when reaching 6000 hours. With a positive result or found defects repaired properly, service life will be increased by another 3000 hours to 9000 hours (2. Step).

   The inspection routine should be repeated when reaching 9000 hours. With a positive result or found defects repaired properly, service life will be increased by 1000 hours each to 10000 hours (3. Step), 11000 hours (4. Step) and 12000 hours (5. Step).

3. The valid **Inspection Programme** should be requested from the manufacturer stating serial number and service time.

4. Inspections should be carried out at the manufacturer or an adequately licences repair shop.

5. Results of inspections must be recorded in an inspection report, commenting to each inspection step. If inspections are not carried out at the manufacturer, a copy of the report must be sent to them for analysis.

6. This inspection does not affect annual inspections.