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- Addendum:**
- valid Weighing Report and Equipment List
 - valid Control Surface Mass, Moment and Deflection Lists
 - Excerpt of Safety Harness FAG-12 Maintenance Manual (when fitted)
 - Maintenance Manual of Tow Hooks

It is recommended to use the Maintenance Manual together with the Flight Manual. This will provide the operator with additional information regarding systems, handling, servicing and maintenance instructions not found in this Manual.

Edition: Dec. 2001

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Prepared: 01.12.01	Verified: <i>W. Knapke</i>	Complies:
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Log of Revisions

No.	Pages affected	Description	LBA-Approval Signature / Date
1	0-2, 0-3, 0-4, 1-2, 1-5, 1-9, 2-1, 2-4, 2-5, 5-1, 5-2	(TB 8008) Various corrections, (Edition Feb. 2000)	LBA 11.07.00
2	0-2 to 0-4, 1-1, 1-1a, 2-1 to 2-10, 3-2, 3-3, 5-1, 5-2, 10-1, 14-2, 14-4, 14-12	(TB 8011) Tow hook time limit waived by manufacturer, inspection of airbrakes retracting under load, Warning regarding rod end bearings. Removal of the tail fin battery may be used for trimming. (Edition Dec. 2001)	25. 01. 02

Edition: Dec. 2001

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Prepared: 01.12.01	Verified: <i>Whapha</i>	Complies:
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Pages included

Chapter	Page	Date	Chapter	Page	Date	
0	0-1	July 1999	6	6-1	July 1999	
	0-2	Dec. 2001		6-2	July 1999	
	0-3	Dec. 2001		6-3	July 1999	
	0-4	Dec. 2001	8	8-1	July 1999	
1	1-1	Dec. 2001		8-2	July 1999	
	1-1a	Dec. 2001	9	9-1	July 1999	
	1-2	July 1999		10	10-1	Dec. 2001
	1-3	July 1999			10-2	July 1999
	1-4	July 1999	10-3		July 1999	
	1-5	Feb. 2000	11	11-1	July 1999	
	1-6	July 1999		11-2	July 1999	
	1-7	July 1999		12	12-1	July 1999
	1-8	July 1999			13	13-1
1-9	Feb. 2000	13-2				July 1999
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	2-3	Dec. 2001			14-1a	July 1999
	2-4	Dec. 2001			14-2	Dec. 2001
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4	4-1	July 1999	15	15-1	July 1999	
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Prepared: 01.12.01	Verified: <i>W. Hapler</i>	Complies:
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Description of Systems

Wing

Wing span variable by exchange of 15m winglets against 18m tips with Winglets.

Aileron Controls

Aileron system activated via pushrods guided in longitudinal motion ball bearings, connection of system by automatic coupling during rigging. Dynamic aileron mass balance in wing, aileron at 18m wingspan in two parts.

Elevator Controls

Elevator system activated via pushrods guided in longitudinal motion ball bearings, automatic coupling of system during rigging. 100% mass balance in vertical tail fin pushrod.

Rudder Controls

Rudder system activated via steel cables guided in polyamide tubing, no closed control circuit. 100% mass balance at rudder.

Wheel Brake

Feet operated, activated by bowden cable from rudder pedals.

Air Brakes

Activated via pushrods, guided partly in longitudinal motion ball bearings, partly in plain bearings. Automatic connection of system during rigging. Locking mechanism in wings. Upper surface double height air brakes with spring loaded cover blades. Friction damper in box to prevent oscillations during extension.

Water Ballast System

Two integral tanks per wing, maximum capacity per wing 95 Litres <25.1 US gallons, 20.9 Imp. gal.>. Two valves at under side of wing for loading and dumping. Automatic connection during rigging. Ventilation of wing integral tanks by root-rib ventilation. Ballast tank in the vertical tail fin allowing to compensate C.G. movement due to wing water ballast or weight of heavy pilots, capacity between 3.8 Litres <1.0 US gal., 0.84 Imp.gal.> and 12 Litres <3.2 US gal., 2.64 Imp. gal.>, depending on version (integral or slide-in tank, with or without battery receptacle). Maximum permissible compensation allowed for in tables.

Cockpit

Double fibreglas shell. Controls for air brakes, longitudinal trim and trim position indicator located on left cockpit side, trim locking lever at control stick. Control for tow cable release on left cockpit frame (operating both C.G. hook and nose hook), for pedal adjustment on seat, for ventilation on instrument panel cover, for landing gear and water ballast valves on right side of cockpit, for canopy opening on both sides. When operating right canopy lever over full possible travel, the forward canopy mounting becomes unlocked (emergency canopy release).

Canopy

One piece hinged up front with instrument panel cover. In case of an emergency exit, a spring loaded latch at the rear canopy edge acts as a temporary hinge for clean separation of the canopy from the fuselage. Optional camera mounts may be screwed to canopy frame.

Instrument Panel

Panel lifting together with canopy allowing unobstructed entry and exit. Depending on version, allows for installation of up to 10 instruments including radio.

Baggage Compartment

Baggage compartment behind pilot's shoulders is for light and soft materials only. Permanent installation of batteries or other equipment possible.

Oxygen System

Receptacle for oxygen bottles provided, size of bottles 3 or 4 litres, diameter 100 mm (3.94 in).

Landing Gear

Sprung and retractable, housed in a closed box, right hand operation. Tail skid including cable deflector or tail wheel optional.

Tail Fin Battery

The tail fin battery may removed to decrease Minimum Cockpit Load. It must be fitted in the baggage compartment, if there is no other battery installed.

Description of Systems

General Instructions

WARNING when working at control systems

Protection against corrosion (humidity entering pushrods) required formerly used inspection openings to check minimum reach of thread to be dropped.

Rod end bearings used may have different thread length with identical heads.

Therefore, before adjusting rod end bearings, remaining thread reach must be checked by dismantling.

<u>Thread diameter*pitch</u>	<u>Minimum reach</u>	<u>Rod end nomination</u>
M6*1 (Standard)	17 mm / 0.67 in	EM 6 R (used in single cases only)
M8*1,25 (Standard)	17 mm / 0.67 in	various versions possible
M10*1 (Fine thread)	17 mm / 0.67 in	PM6 long

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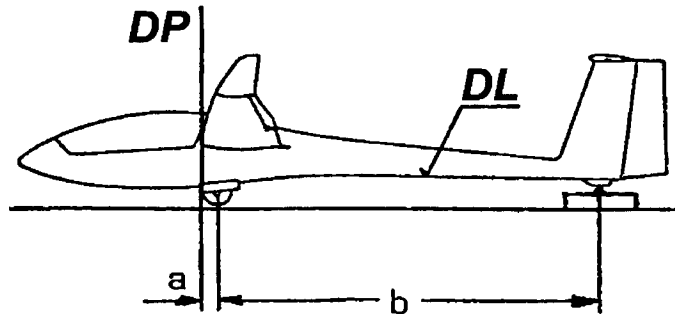
Page 1-1a

Prepared: 01.12.01	Verified: <i>W. Kasper</i>	Complies:
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Weight and Balance

Datum Line <DL>: Under side of fuselage boom placed horizontal
Datum Point <DP>: Leading edge of wing at root

1. **Determine total weight** (Empty or take-off weight) for both wing span versions, in most cases by weighing all parts and adding together. **When a tail fin battery is being used, weighing must always be done with tail fin battery installed.** Weigh mass of tail fin battery separately (3BR-199, 2.5 to 2.7 kg; <5.5 to 6 lbs>). For details see under Calculation of Loading Limits.
2. **Assemble the sailplane** in the 15 m version according to instructions in Flight Manual pages 4-1/2. For in-flight C.G. position, the pilot must be seated in the sailplane.
3. **Raise tail on weighing machine** until datum line is level using wooden blocks or adjustable rack. Check with levelling gauge.
4. **Measure distance ** from tail support to centre of landing gear axis.
5. Using plumb lead, determine points on floor perpendicular to left and right datum points, and points on floor perpendicular to centre of landing gear axis. **Measure distance <a>** from wheel axis to datum point.



6. Determine tail weight and deduct weight of auxiliary support used under 3) to get **net tail weight**.
7. Calculate C.G. position for empty vertical tail fin tank:

$$X_{cg} = \frac{\text{net tail weight} * b}{\text{total weight}} + a$$

8. Calculate C.G. position for full vertical tail fin tank:

$$X_{cg} = \frac{(\text{net tail weight} + \text{tail fin water weight}) * b}{\text{total weight} + \text{tail fin water weight}} + a$$

9. Calculate loading limits according to page 2-2.

Form for Weighing Report for copying see Maintenance Manual, page 14-4.

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Calculation of Loading Limits

1. Determine Minimum Cockpit Load for the **15 m wingspan** and **full and empty tail fin tank version** following procedure given on page 2-1 from table "Empty Weight C.G. Position", pages 2-5/6 <kg/mm> or pages 2-7/8 <in/lbs>.

When being used in a club, Minimum Cockpit Load should be 70 kg <154 lbs> for empty tail fin tank.

If it is higher, permanent ballast may be fitted under the forward seat portion, see Maintenance Manual page 11-1.

Minimum Cockpit Load for **tail fin battery (3BR-199) removed** (and installed in baggage compartment, when required) decreases by 10 kg <22 lbs>.

Finally, resulting Minimum Cockpit Load for full tail fin tank and tail fin battery installed should be entered in the following places:

 - a. in weighing report of inspection
 - b. in Flight Manual page 6-2 in **full tail fin tank including tail fin battery** column
 - c. in cockpit under instrument panel cover
 - d. in cockpit on data placard
2. Enter Minimum Cockpit Load for empty tail fin tank without tail fin battery into the following places:
 - a. in Flight Manual page 6-2 in **empty tail fin tank without tail fin battery** column
 - b. in cockpit under instrument panel cover, use smaller font size of this line.
 - c. in cockpit on data placard
3. Enter Minimum Cockpit Load for full tail fin tank without tail fin battery into the following places:

in Flight Manual page 6-2 in **full tail fin tank without tail fin battery** column
4. Enter Minimum Cockpit Load for empty tail fin tank with tail fin battery into the following places:

in Flight Manual page 6-2 in **empty tail fin tank with tail fin battery** column
5. Maximum approved Weight of Non-lifting Parts may vary between 239 kg and 249 kg <527 to 549 lbs>, depending on empty weight and empty weight C.G. position.

In contrast to methods used up to now, maximum weight of non-lifting parts can be determined in relation to empty weight and empty weight C.G. position according to table on page 2-4 and 2-5. See also examples on page 2-3.

Maximum weight of Non-lifting Parts should be entered into weighing report.
6. Determine Maximum approved Cockpit Load from table "Empty Weight C.G. Position", pages 2-6/7 <kg/mm> or 2-8/10 <in/lbs>. Maximum Cockpit Load normally should be 110 kg <242 lbs>, as given in empty weight C.G. table. It may be lower due to trim conditions, excessive equipment or repairs.

Calculate Maximum Cockpit Load on weighing report, see also examples on page 2-3.

Resulting Maximum Cockpit Load should be entered in the following places:

 - a. in weighing report of inspection
 - b. in Flight Manual, page 6-2
 - c. on Data Placard in cockpit
7. Empty Weight (perhaps increased by weight of permanently fitted trim ballast) should be entered in the following places:
 - a. in weighing report of inspection
 - b. in Flight Manual page 6-2 for calculation of maximum permissible water ballast weight
8. Battery position during weighing should be entered in the following places:
 - a. in weighing report and equipment list of inspection

For permanent installation of trim ballast weights, see Maintenance Manual page 11-1.

Form for Weighing Report see Maintenance Manual, page 14-4.

Edition: Dec. 2001

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Prepared: 01.12.01	Verified: <i>lekapla</i>	Complies:
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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 (tail fin tank empty, with tail fin battery)

For empty weight **265** kg <584 lbs> and empty weight C.G. position

659 mm <25.945 in> Minimum Cockpit Load according to table pages

2-6/7 or 2-8/10 is **80** kg <176 lbs>

Limit value **674** mm <26.535 in> greater than calc. value **659** mm <25.945 in>

Minimum Cockpit Load (tail fin tank empty, **no tail fin battery**) **70** kg <154 lbs>

2) Minimum Cockpit Load (tail fin tank **4.1** kg <9 lbs> full, with tail fin battery)

For empty weight **269.1** kg <593 lbs>, new empty weight C.G. position

715 mm <28.150 in>, Minimum Cockpit Load according to table pages

2-6/7 or 2-8/10 is **95** kg <209 lbs>

Limit value **718** mm <28.268 in> greater than calc. value **715** mm <28.150 in>

Minimum Cockpit Load (tail fin tank **12** kg <26 lbs> full, with tail fin battery)

For empty weight **277** kg <611 lbs>, new empty weight C.G. position

819 mm <32.244 in>, Minimum Cockpit Load according to table pages

2-6/7 or 2-8/10 is **140** kg <309 lbs>

Limit value **847** mm <33.346 in> greater than calc. value **819** mm <32.244 in>

3) Maximum Weight of Non-lifting Parts

Maximum non-lifting parts weight at empty weight **265** kg <584 lbs>

and empty weight C.G. position **659** mm <25.945 in> is according to

table pages 2-4/5 **239** kg <527 lbs>

4) Maximum permissible Cockpit Load

Fuselage with complete equipment,

battery, canopy and main pins **128.2** kg <283 lbs>

Horizontal tail **6.5** kg <14 lbs>

Cockpit Load (maximum 110 kg <242 lbs>) **104** kg <229 lbs>

Weight of Non-lifting Parts **238.7** kg <526 lbs>

Maximum Cockpit Load (max. 110 kg <242 lbs>) **104** kg <229 lbs>

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

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

	Empty Weight	C.G. position	Max. Cockpit Load	Minimum Cockpit Load				Permanently fitted Ballast Mass		Tail Tank-Volume	Date / Inspector
				WITH Tail Batterie and Tail Tank		WITHOUT Tail Batterie and Tail Tank		front	rear		
	[kg]	[mm]	[kg]	full	empty	full	empty	[kg]	[kg]	[ltr]	
15m	265	659	104	140	80	130	70	---	---	12.0	19.Jun.2001 G
18m	275										

The discrepancy between Maximum Cockpit Load of 104 kg <229 lbs> and Minimum Cockpit Load of 140 kg <309 lbs> with tail fin tank full (here entered for 12 Litre tank) indicates, that before each take off the installation position of the tail fin battery must be checked and functional check for the tail fin tank valve is required. If passage cannot be verified while blowing air through the valve, then perhaps water is still in the tank and therefore the high Minimum Cockpit Load value.

Edition: Dec. 2001

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Prepared: 01.12.01	Verified: <i>W. Knapke</i>	Complies:
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Calculation of Maximum Weight of Non-Lifting Parts

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 239 kg <527 lbs>.

Empty Weight G <kg>	Empty Weight C.G. position Xs <mm>										
	from 580	from 600	from 620	from 640	from 660	from 680	from 700	from 720	from 740	from 760	from 780
	to 599	to 619	to 639	to 659	to 679	to 699	to 719	to 739	to 759	to 779	to 799
255 -256				239	239	241	242	243	244	245	247
256 -257				239	239	241	242	243	244	246	247
257 -258				239	240	241	242	243	244	246	247
258 -259			239	239	240	241	242	243	245	246	247
259 -260			239	239	240	241	242	243	245	246	247
260 -261			239	239	240	241	242	244	245	246	
261 -262			239	239	240	241	242	244	245	246	
262 -263			239	239	240	241	243	244	245	246	
263 -264			239	239	240	241	243	244	245	246	
264 -265			239	239	240	242	243	244	245	247	
265 -266			239	239	240	242	243	244	245	247	
266 -267			239	239	241	242	243	244	246	247	
267 -268			239	239	241	242	243	244	246	247	
268 -269			239	239	241	242	243	245	246	247	
269 -270			239	240	241	242	243	245	246	247	
270 -271			239	240	241	242	244	245	246	247	
271 -272			239	240	241	242	244	245	246	248	
272 -273			239	240	241	242	244	245	246	248	
273 -274			239	240	241	243	244	245	246	248	
274 -275		239	239	240	241	243	244	245	247		
275 -276		239	239	240	242	243	244	245	247		
276 -277		239	239	240	242	243	244	246	247		
277 -278		239	239	240	242	243	244	246	247		
278 -279		239	239	241	242	243	244	246	247		
279 -280		239	239	241	242	243	245	246	247		
280 -281		239	239	241	242	243	245	246	247		
281 -282		239	239	241	242	243	245	246	248		
282 -283		239	240	241	242	244	245	246	248		
283 -284		239	240	241	242	244	245	246	248		
284 -285		239	240	241	242	244	245	247	248		
285 -286		239	240	241	243	244	245	247	248		
286 -287		239	240	241	243	244	245	247	248		
287 -288		239	240	241	243	244	246	247	248		
288 -289		239	240	242	243	244	246	247	248		
289 -290		239	240	242	243	244	246	247	249		
290 -291		239	240	242	243	245	246	247			
291 -292	239	239	240	242	243	245	246	247			
292 -293	239	239	241	242	243	245	246	248			
293 -294	239	239	241	242	243	245	246	248			
294 -295	239	239	241	242	244	245	246	248			
295 -296	239	239	241	242	244	245	247	248			
296 -297	239	240	241	243	244	245	247	248			
297 -298	239	240	241	243	244	245	247	248			
298 -299	239	240	241	243	244	245	247	248			
299 -300	239	240	241	243	244	246	247	248			
300 -301	239	240	241	243	244	246	247	249			

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Calculation of Maximum Weight of Non-Lifting Parts

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 527 lbs <239 kg>.

Empty Weight G <lbs>	Empty Weight C.G. position Xs <in>											
	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	
562-564			527	527	527	531	534	536	538	540	545	
564-567				527	527	531	534	536	538	542	545	
567-569				527	529	531	534	536	538	542	545	
569-571			527	527	529	531	534	536	540	542	545	
571-573			527	527	529	531	534	536	540	542	545	
573-575			527	527	529	531	534	538	540	542		
575-578			527	527	529	531	534	538	540	542		
578-580			527	527	529	531	536	538	540	542		
580-582			527	527	529	531	536	538	540	542		
582-584			527	527	529	534	536	538	540	544		
584-586			527	527	529	534	536	538	540	544		
586-589			527	527	531	534	536	538	542	544		
589-591			527	527	531	534	536	538	542	544		
591-593			527	529	531	534	536	540	542	544		
593-595			527	529	531	534	536	540	542	544		
595-597			527	529	531	534	538	540	542	544		
597-600			527	529	531	534	538	540	542	547		
600-602			527	529	531	534	538	540	542	547		
602-604			527	529	531	536	538	540	542	547		
604-606		527	527	529	531	536	538	540	544			
606-608		527	527	529	534	536	538	540	544			
608-611		527	527	529	534	536	538	542	544			
611-613		527	527	529	534	536	538	542	544			
613-615		527	527	531	534	536	538	542	544			
615-617		527	527	531	534	536	540	542	544			
617-619		527	527	531	534	536	540	542	544			
619-622		527	527	531	534	536	540	542	547			
622-624		527	529	531	534	538	540	542	547			
624-626		527	529	531	534	538	540	542	547			
626-628		527	529	531	534	538	540	544	547			
628-631		527	529	531	536	538	540	544	547			
631-633		527	529	531	536	538	540	544	547			
633-635		527	529	531	536	538	542	544	547			
635-637		527	529	531	536	538	542	544	547			
637-639		527	529	534	536	538	542	544	549			
639-642		527	529	534	536	540	542	544				
642-644	527	527	529	534	536	540	542	544				
644-646	527	527	531	534	536	549	542	547				
646-648	527	527	531	534	536	540	542	547				
648-650	527	527	531	534	538	540	542	547				
650-653	527	527	531	534	538	540	545	547				
653-655	527	529	531	534	538	540	545	547				
655-657	527	529	531	536	538	540	545	547				
657-659	527	529	531	536	538	540	545	547				
659-661	527	529	531	536	538	542	545	547				
661-664	527	529	531	536	538	542	545	549				

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Empty weight <kg>	Empty Weight C.G. Range (mm) at Maximum Cockpit Load of 110 kg and at Minimum Cockpit Load of:						
	70 kg	75 kg	80 kg	85 kg	90 kg	95 kg	100 kg
255	644 -650	644 -667	644 -685	644 -702	644 -719	644 -736	644 -753
256	642 -649	642 -666	642 -683	642 -700	642 -717	642 -734	642 -751
257	641 -648	641 -665	641 -682	641 -699	641 -716	641 -733	641 -750
258	639 -647	639 -664	639 -681	639 -698	639 -715	639 -732	639 -748
259	638 -646	638 -663	638 -680	638 -697	638 -714	638 -730	638 -747
260	637 -645	637 -662	637 -679	637 -696	637 -713	637 -729	637 -746
261	635 -644	635 -661	635 -678	635 -695	635 -711	635 -728	635 -744
262	634 -643	634 -660	634 -677	634 -694	634 -710	634 -727	634 -743
263	633 -642	633 -659	633 -676	633 -692	633 -709	633 -725	633 -742
264	631 -642	631 -658	631 -675	631 -691	631 -708	631 -724	631 -741
265	630 -641	630 -657	630 -674	630 -690	630 -707	630 -723	630 -739
266	629 -640	629 -656	629 -673	629 -689	629 -706	629 -722	629 -738
267	627 -639	627 -655	627 -672	627 -688	627 -704	627 -721	627 -737
268	626 -638	626 -654	626 -671	626 -687	626 -703	626 -719	626 -735
269	625 -637	625 -653	625 -670	625 -686	625 -702	625 -718	625 -734
270	623 -636	623 -653	623 -669	623 -685	623 -701	623 -717	623 -733
271	622 -635	622 -652	622 -668	622 -684	622 -700	622 -716	622 -732
272	621 -634	621 -651	621 -667	621 -683	621 -699	621 -715	621 -731
273	620 -634	620 -650	620 -666	620 -682	620 -698	620 -714	620 -729
274	618 -633	618 -649	618 -665	618 -681	618 -697	618 -712	618 -728
275	617 -632	617 -648	617 -664	617 -680	617 -696	617 -711	617 -727
276	616 -631	616 -647	616 -663	616 -679	616 -694	616 -710	616 -726
277	615 -630	615 -646	615 -662	615 -678	615 -693	615 -709	615 -725
278	614 -629	614 -645	614 -661	614 -677	614 -692	614 -708	614 -723
279	612 -629	612 -644	612 -660	612 -676	612 -691	612 -707	612 -722
280	611 -628	611 -643	611 -659	611 -675	611 -690	611 -706	611 -721
281	610 -627	610 -643	610 -658	610 -674	610 -689	610 -705	610 -720
282	609 -626	609 -642	609 -657	609 -673	609 -688	609 -704	609 -719
283	608 -625	608 -641	608 -656	608 -672	608 -687	608 -702	608 -718
284	607 -625	607 -640	607 -655	607 -671	607 -686	607 -701	607 -717
285	605 -624	605 -639	605 -655	605 -670	605 -685	605 -700	605 -715
286	604 -623	604 -638	604 -654	604 -669	604 -684	604 -699	604 -714
287	603 -622	603 -638	603 -653	603 -668	603 -683	603 -698	603 -713
288	602 -621	602 -637	602 -652	602 -667	602 -682	602 -697	602 -712
289	601 -621	601 -636	601 -651	601 -666	601 -681	601 -696	601 -711
290	600 -620	600 -635	600 -650	600 -665	600 -680	600 -695	600 -710
291	599 -619	599 -634	599 -649	599 -664	599 -679	599 -694	599 -709
292	598 -618	598 -633	598 -648	598 -663	598 -678	598 -693	598 -708
293	596 -618	596 -633	596 -648	596 -663	596 -677	596 -692	596 -707
294	595 -617	595 -632	595 -647	595 -662	595 -676	595 -691	595 706
295	594 -616	594 -631	594 -646	594 -661	594 -675	594 -690	594 -705
296	593 -615	593 -630	593 -645	593 -660	593 -675	593 -689	593 -704
297	592 -615	592 -630	592 -644	592 -659	592 -674	592 -688	592 -703
298	591 -614	591 -629	591 -643	591 -658	591 -673	591 -687	591 -702
299	590 -613	590 -628	590 -643	590 -657	590 -672	590 -686	590 -701
300	589 -613	589 -627	589 -642	589 -656	589 -671	589 -685	589 -700

Calculated C.G. position for weighed empty weight must be within limit values. Related cockpit loads are permissible Minimum Cockpit Load and Maximum Cockpit Load.

continued page 2-7

Erstellt: 01.12.01	Geprüft:	Complies:
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continued from page 2-6

Empty weight <kg>	Empty Weight C.G. Range (mm) at Maximum Cockpit Load of 110 kg and at Minimum Cockpit Load of:					
	105 kg	110 kg	120 kg	130 kg	140 kg	150 kg
255	644 -769	644 -786	644 -819	644 -853	644 -886	644 -919
256	642 -768	642 -785	642 -818	642 -851	642 -884	642 -917
257	641 -766	641 -783	641 -816	641 -849	641 -882	641 -915
258	639 -765	639 -782	639 -814	639 -847	639 -880	639 -913
259	638 -764	638 -780	638 -813	638 -846	638 -878	638 -911
260	637 -762	637 -779	637 -811	637 -844	637 -876	637 -909
261	635 -761	635 -777	635 -810	635 -842	635 -875	635 -907
262	634 -759	634 -776	634 -808	634 -840	634 -873	634 -905
263	633 -758	633 -774	633 -807	633 -839	633 -871	633 -903
264	631 -757	631 -773	631 -805	631 -837	631 -869	631 -901
265	630 -755	630 -772	630 -803	630 -835	630 -867	630 -899
266	629 -754	629 -770	629 -802	629 -834	629 -866	629 -897
267	627 -753	627 -769	627 -800	627 -832	627 -864	627 -896
268	626 -751	626 -767	626 -799	626 -831	626 -862	626 -894
269	625 -750	625 -766	625 -797	625 -829	625 -860	625 -892
270	623 -749	623 -765	623 -796	623 -827	623 -859	623 -890
271	622 -748	622 -763	622 -795	622 -826	622 -857	622 -888
272	621 -746	621 -762	621 -793	621 -824	621 -855	621 -886
273	620 -745	620 -761	620 -792	620 -823	620 -854	620 -885
274	618 -744	618 -759	618 -790	618 -821	618 -852	618 -883
275	617 -742	617 -758	617 -789	617 -820	617 -850	617 -881
276	616 -741	616 -757	616 -787	616 -818	616 -849	616 -879
277	615 -740	615 -755	615 -786	615 -817	615 -847	615 -878
278	614 -739	614 -754	614 -785	614 -815	614 -846	614 -876
279	612 -738	612 -753	612 -783	612 -814	612 -844	612 -874
280	611 -736	611 -752	611 -782	611 -812	611 -842	611 -873
281	610 -735	610 -750	610 -780	610 -811	610 -841	610 -871
282	609 -734	609 -749	609 -779	609 -809	609 -839	609 -869
283	608 -733	608 -748	608 -778	608 -808	608 -838	608 -867
284	607 -732	607 -747	607 -776	607 -806	607 -836	607 -866
285	605 -730	605 -745	605 -775	605 -805	605 -835	605 -864
286	604 -729	604 -744	604 -774	604 -803	604 -833	604 -863
287	603 -728	603 -743	603 -773	603 -802	603 -832	603 -861
288	602 -727	602 -742	602 -771	602 -801	602 -830	602 -859
289	601 -726	601 -741	601 -770	601 -799	601 -829	601 -858
290	600 -725	600 -739	600 -769	600 -798	600 -827	600 -856
291	599 -724	599 -738	599 -767	599 -797	599 -826	599 -855
292	598 -723	598 -737	598 -766	598 -795	598 -824	598 -853
293	596 -721	596 -736	596 -765	596 -794	596 -823	596 -852
294	595 -720	595 -735	595 -764	595 -792	595 -821	595 -850
295	594 -719	594 -734	594 -762	594 -791	594 -820	594 -848
296	593 -718	593 -733	593 -761	593 -790	593 -818	593 -847
297	592 -717	592 -731	592 -760	592 -789	592 -817	592 -845
298	591 -716	591 -730	591 -759	591 -787	591 -816	591 -844
299	590 -715	590 -729	590 -758	590 -786	590 -814	590 -842
300	589 -714	589 -728	589 -756	589 -785	589 -813	589 -841

Partly, given values for Minimum Cockpit Load exceed permissible Maximum Cockpit Load considerably. These values are required for the use of the vertical tail fin ballast tank as a distinct warning, that its use is limited.

Edition: Dec. 2001

Revision – 2 (TB 8011)

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Erstellt: 01.12.01	Geprüft:	Complies:
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Empty Weight (lbs)	Empty Weight C.G. Range (inches) at Maximum Cockpit Load of 242 lbs and for a Minimum Cockpit Load of:					
	154 lbs	165 lbs	176 lbs	187 lbs	198 lbs	209 lbs
562	25.354 -25.591	25.354 -26.260	25.354 -26.969	25.354 -27.638	25.354 -28.307	25.354 -28.976
564	25.276 -25.551	25.276 -26.220	25.276 -26.890	25.276 -27.559	25.276 -28.228	25.276 -28.898
567	25.236 -25.512	25.236 -26.181	25.236 -26.850	25.236 -27.520	25.236 -28.189	25.236 -28.858
569	25.157 -25.472	25.157 -26.142	25.157 -26.811	25.157 -27.480	25.157 -28.150	25.157 -28.819
571	25.118 -25.433	25.118 -26.102	25.118 -26.772	25.118 -27.441	25.118 -28.110	25.118 -28.740
573	25.079 -25.394	25.079 -26.063	25.079 -26.732	25.079 -27.402	25.079 -28.071	25.079 -28.701
575	25.000 -25.354	25.000 -26.024	25.000 -26.693	25.000 -27.362	25.000 -27.992	25.000 -28.661
578	24.961 -25.315	24.961 -25.984	24.961 -26.654	24.961 -27.323	24.961 -27.953	24.961 -28.622
580	24.921 -25.276	24.921 -25.945	24.921 -26.614	24.921 -27.244	24.921 -27.913	24.921 -28.543
582	24.843 -25.276	24.843 -25.906	24.843 -26.575	24.843 -27.205	24.843 -27.874	24.843 -28.504
584	24.803 -25.236	24.803 -25.866	24.803 -26.535	24.803 -27.165	24.803 -27.835	24.803 -28.465
586	24.764 -25.197	24.764 -25.827	24.764 -26.496	24.764 -27.126	24.764 -27.795	24.764 -28.425
589	24.685 -25.157	24.685 -25.787	24.685 -26.457	24.685 -27.087	24.685 -27.717	24.685 -28.386
591	24.646 -25.118	24.646 -25.748	24.646 -26.417	24.646 -27.047	24.646 -27.677	24.646 -28.307
593	24.606 -25.079	24.606 -25.709	24.606 -26.378	24.606 -27.008	24.606 -27.638	24.606 -28.268
595	24.528 -25.039	24.528 -25.709	24.528 -26.339	24.528 -26.969	24.528 -27.598	24.528 -28.228
597	24.488 -25.000	24.488 -25.669	24.488 -26.299	24.488 -26.929	24.488 -27.559	24.488 -28.189
600	24.449 -24.961	24.449 -25.630	24.449 -26.260	24.449 -26.890	24.449 -27.520	24.449 -28.150
602	24.409 -24.961	24.409 -25.591	24.409 -26.220	24.409 -26.850	24.409 -27.480	24.409 -28.110
604	24.331 -24.921	24.331 -25.551	24.331 -26.181	24.331 -26.811	24.331 -27.441	24.331 -28.031
606	24.291 -24.882	24.291 -25.512	24.291 -26.142	24.291 -26.772	24.291 -27.402	24.291 -27.992
608	24.252 -24.843	24.252 -25.472	24.252 -26.102	24.252 -26.732	24.252 -27.323	24.252 -27.953
611	24.213 -24.803	24.213 -25.433	24.213 -26.063	24.213 -26.693	24.213 -27.283	24.213 -27.913
613	24.173 -24.764	24.173 -25.394	24.173 -26.024	24.173 -26.654	24.173 -27.244	24.173 -27.874
615	24.094 -24.764	24.094 -25.354	24.094 -25.984	24.094 -26.614	24.094 -27.205	24.094 -27.835
617	24.055 -24.724	24.055 -25.315	24.055 -25.945	24.055 -26.575	24.055 -27.165	24.055 -27.795
619	24.016 -24.685	24.016 -25.315	24.016 -25.906	24.016 -26.535	24.016 -27.126	24.016 -27.756
622	23.976 -24.646	23.976 -25.276	23.976 -25.866	23.976 -26.496	23.976 -27.087	23.976 -27.717
624	23.937 -24.606	23.937 -25.236	23.937 -25.827	23.937 -26.457	23.937 -27.047	23.937 -27.638
626	23.898 -24.606	23.898 -25.197	23.898 -25.787	23.898 -26.417	23.898 -27.008	23.898 -27.598
628	23.819 -24.567	23.819 -25.157	23.819 -25.787	23.819 -26.378	23.819 -26.969	23.819 -27.559
631	23.780 -24.528	23.780 -25.118	23.780 -25.748	23.780 -26.339	23.780 -26.929	23.780 -27.520
633	23.740 -24.488	23.740 -25.118	23.740 -25.709	23.740 -26.299	23.740 -26.890	23.740 -27.480
635	23.701 -24.449	23.701 -25.079	23.701 -25.669	23.701 -26.260	23.701 -26.850	23.701 -27.441
637	23.661 -24.449	23.661 -25.039	23.661 -25.630	23.661 -26.220	23.661 -26.811	23.661 -27.402
639	23.622 -24.409	23.622 -25.000	23.622 -25.591	23.622 -26.181	23.622 -26.772	23.622 -27.362
642	23.583 -24.370	23.583 -24.961	23.583 -25.551	23.583 -26.142	23.583 -26.732	23.583 -27.323
644	23.543 -24.331	23.543 -24.921	23.543 -25.512	23.543 -26.102	23.543 -26.693	23.543 -27.283
646	23.465 -24.331	23.465 -24.921	23.465 -25.512	23.465 -26.102	23.465 -26.654	23.465 -27.244
648	23.425 -24.291	23.425 -24.882	23.425 -25.472	23.425 -26.063	23.425 -26.614	23.425 -27.205
650	23.386 -24.252	23.386 -24.843	23.386 -25.433	23.386 -26.024	23.386 -26.575	23.386 -27.165
653	23.346 -24.213	23.346 -24.803	23.346 -25.394	23.346 -25.984	23.346 -26.575	23.346 -27.126
655	23.307 -24.213	23.307 -24.803	23.307 -25.354	23.307 -25.945	23.307 -26.535	23.307 -27.087
657	23.268 -24.173	23.268 -24.764	23.268 -25.315	23.268 -25.906	23.268 -26.496	23.268 -27.047
659	23.228 -24.134	23.228 -24.724	23.228 -25.315	23.228 -25.866	23.228 -26.457	23.228 -27.008
661	23.189 -24.134	23.189 -24.685	23.189 -25.276	23.189 -25.827	23.189 -26.417	23.189 -26.969

Calculated C.G. position for weighed empty weight must be within limit values. Related cockpit loads are permissible Minimum Cockpit Load and Maximum Cockpit Load.

continued page 2-9

Edition: Dec. 2001

Revision – 2 (TB 8011)

Page 2-8

Prepared: 01.12.01	Verified: <i>Wkapka</i>	Complies:
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continued from page 2-8

Empty Weight (lbs)	Empty Weight C.G. Range (inches) at Maximum Cockpit Load of 242 lbs and for a Minimum Cockpit Load of:			
	220 lbs	231 lbs	242 lbs	265 lbs
562	25.354 -29.646	25.354 -30.276	25.354 -30.945	25.354 -32.244
564	25.276 -29.567	25.276 -30.236	25.276 -30.906	25.276 -32.205
567	25.236 -29.528	25.236 -30.157	25.236 -30.827	25.236 -32.126
569	25.157 -29.449	25.157 -30.118	25.157 -30.787	25.157 -32.047
571	25.118 -29.409	25.118 -30.079	25.118 -30.709	25.118 -32.008
573	25.079 -29.370	25.079 -30.000	25.079 -30.669	25.079 -31.929
575	25.000 -29.291	25.000 -29.961	25.000 -30.591	25.000 -31.890
578	24.961 -29.252	24.961 -29.882	24.961 -30.551	24.961 -31.811
580	24.921 -29.213	24.921 -29.843	24.921 -30.472	24.921 -31.772
582	24.843 -29.173	24.843 -29.803	24.843 -30.433	24.843 -31.693
584	24.803 -29.094	24.803 -29.724	24.803 -30.394	24.803 -31.614
586	24.764 -29.055	24.764 -29.685	24.764 -30.315	24.764 -31.575
589	24.685 -29.016	24.685 -29.646	24.685 -30.276	24.685 -31.496
591	24.646 -28.937	24.646 -29.567	24.646 -30.197	24.646 -31.457
593	24.606 -28.898	24.606 -29.528	24.606 -30.157	24.606 -31.378
595	24.528 -28.858	24.528 -29.488	24.528 -30.118	24.528 -31.339
597	24.488 -28.819	24.488 -29.449	24.488 -30.039	24.488 -31.299
600	24.449 -28.780	24.449 -29.370	24.449 -30.000	24.449 -31.220
602	24.409 -28.701	24.409 -29.331	24.409 -29.961	24.409 -31.181
604	24.331 -28.661	24.331 -29.291	24.331 -29.882	24.331 -31.102
606	24.291 -28.622	24.291 -29.213	24.291 -29.843	24.291 -31.063
608	24.252 -28.583	24.252 -29.173	24.252 -29.803	24.252 -30.984
611	24.213 -28.543	24.213 -29.134	24.213 -29.724	24.213 -30.945
613	24.173 -28.465	24.173 -29.094	24.173 -29.685	24.173 -30.906
615	24.094 -28.425	24.094 -29.055	24.094 -29.646	24.094 -30.827
617	24.055 -28.386	24.055 -28.976	24.055 -29.606	24.055 -30.787
619	24.016 -28.346	24.016 -28.937	24.016 -29.528	24.016 -30.709
622	23.976 -28.307	23.976 -28.898	23.976 -29.488	23.976 -30.669
624	23.937 -28.268	23.937 -28.858	23.937 -29.449	23.937 -30.630
626	23.898 -28.228	23.898 -28.819	23.898 -29.409	23.898 -30.551
628	23.819 -28.150	23.819 -28.740	23.819 -29.331	23.819 -30.512
631	23.780 -28.110	23.780 -28.701	23.780 -29.291	23.780 -30.472
633	23.740 -28.071	23.740 -28.661	23.740 -29.252	23.740 -30.433
635	23.701 -28.031	23.701 -28.622	23.701 -29.213	23.701 -30.354
637	23.661 -27.992	23.661 -28.583	23.661 -29.173	23.661 -30.315
639	23.622 -27.953	23.622 -28.543	23.622 -29.094	23.622 -30.276
642	23.583 -27.913	23.583 -28.504	23.583 -29.055	23.583 -30.197
644	23.543 -27.874	23.543 -28.465	23.543 -29.016	23.543 -30.157
646	23.465 -27.835	23.465 -28.386	23.465 -28.976	23.465 -30.118
648	23.425 -27.795	23.425 -28.346	23.425 -28.937	23.425 -30.079
650	23.386 -27.756	23.386 -28.307	23.386 -28.898	23.386 -30.000
653	23.346 -27.717	23.346 -28.268	23.346 -28.858	23.346 -29.961
655	23.307 -27.677	23.307 -28.228	23.307 -28.780	23.307 -29.921
657	23.268 -27.638	23.268 -28.189	23.268 -28.740	23.268 -29.882
659	23.228 -27.598	23.228 -28.150	23.228 -28.701	23.228 -29.843
661	23.189 -27.559	23.189 -28.110	23.189 -28.661	23.189 -29.764

Calculated C.G. position for weighed empty weight must be within limit values. Related cockpit loads are permissible Minimum Cockpit Load and Maximum Cockpit Load.

continued page 2-10

Prepared: 01.12.01	Verified: <i>W. Schaefer</i>	Complies:
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continued from page 2-9

Empty Weight (lbs)	Empty Weight C.G. Range (inches) at Maximum Cockpit Load of 242 lbs and for a Minimum Cockpit Load of:		
	287 lbs	309 lbs	331 lbs
562	25.354 -33.583	25.354 -34.882	25.354 -36.181
564	25.276 -33.504	25.276 -34.803	25.276 -36.102
567	25.236 -33.425	25.236 -34.724	25.236 -36.024
569	25.157 -33.346	25.157 -34.646	25.157 -35.945
571	25.118 -33.307	25.118 -34.567	25.118 -35.866
573	25.079 -33.228	25.079 -34.488	25.079 -35.787
575	25.000 -33.150	25.000 -34.449	25.000 -35.709
578	24.961 -33.071	24.961 -34.370	24.961 -35.630
580	24.921 -33.031	24.921 -34.291	24.921 -35.551
582	24.843 -32.953	24.843 -34.213	24.843 -35.472
584	24.803 -32.874	24.803 -34.134	24.803 -35.394
586	24.764 -32.835	24.764 -34.094	24.764 -35.315
589	24.685 -32.756	24.685 -34.016	24.685 -35.276
591	24.646 -32.717	24.646 -33.937	24.646 -35.197
593	24.606 -32.638	24.606 -33.858	24.606 -35.118
595	24.528 -32.559	24.528 -33.819	24.528 -35.039
597	24.488 -32.520	24.488 -33.740	24.488 -34.961
600	24.449 -32.441	24.449 -33.661	24.449 -34.882
602	24.409 -32.402	24.409 -33.622	24.409 -34.843
604	24.331 -32.323	24.331 -33.543	24.331 -34.764
606	24.291 -32.283	24.291 -33.465	24.291 -34.685
608	24.252 -32.205	24.252 -33.425	24.252 -34.606
611	24.213 -32.165	24.213 -33.346	24.213 -34.567
613	24.173 -32.087	24.173 -33.307	24.173 -34.488
615	24.094 -32.047	24.094 -33.228	24.094 -34.409
617	24.055 -31.969	24.055 -33.150	24.055 -34.370
619	24.016 -31.929	24.016 -33.110	24.016 -34.291
622	23.976 -31.850	23.976 -33.031	23.976 -34.213
624	23.937 -31.811	23.937 -32.992	23.937 -34.134
626	23.898 -31.732	23.898 -32.913	23.898 -34.094
628	23.819 -31.693	23.819 -32.874	23.819 -34.016
631	23.780 -31.614	23.780 -32.795	23.780 -33.976
633	23.740 -31.575	23.740 -32.756	23.740 -33.898
635	23.701 -31.535	23.701 -32.677	23.701 -33.819
637	23.661 -31.457	23.661 -32.638	23.661 -33.780
639	23.622 -31.417	23.622 -32.559	23.622 -33.701
642	23.583 -31.378	23.583 -32.520	23.583 -33.661
644	23.543 -31.299	23.543 -32.441	23.543 -33.583
646	23.465 -31.260	23.465 -32.402	23.465 -33.543
648	23.425 -31.181	23.425 -32.323	23.425 -33.465
650	23.386 -31.142	23.386 -32.283	23.386 -33.386
653	23.346 -31.102	23.346 -32.205	23.346 -33.346
655	23.307 -31.063	23.307 -32.165	23.307 -33.268
657	23.268 -30.984	23.268 -32.126	23.268 -33.228
659	23.228 -30.945	23.228 -32.047	23.228 -33.150
661	23.189 -30.906	23.189 -32.008	23.189 -33.110

On this page, given values for Minimum Cockpit Load exceed permissible Maximum Cockpit Load considerably. These values are required for the use of the vertical tail fin ballast tank as a distinct warning, that it's use is limited.

Prepared: 01.12.01	Verified: <i>Wchapka</i>	Complies:
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Ordinary Inspections continued

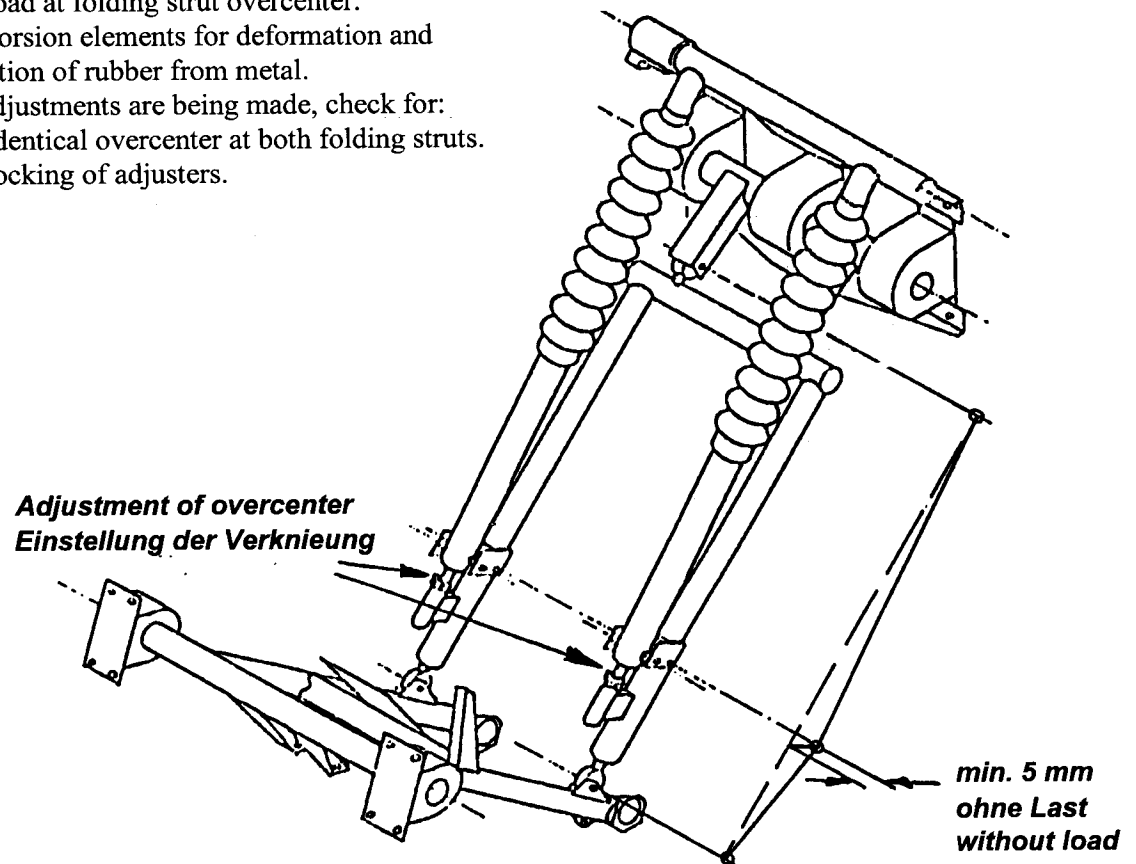
Annual Inspection continued

7. Check air brakes:

- (a) friction damper at outer side of air brake box for proper operation of damper rods.
- (b) friction pads free from grease.
- (c) Check bearings of air brake levers for corrosion and possible jamming/blocking under load:
 - pull with about 25 kg <55 lbs> force at upper end of each lever in flight direction
 - simultaneously retract (do not counterhold at cockpit lever!).
 - if need be, repair bearing according to separately available repair instruction.

8. Check landing gear for:

- (a) overcenter of folding strut:
 - (1) adjustable overcenter should be 5 mm <0.2 in>, gear without load.
 - (2) value increases with load.
- (b) preset load at folding strut overcenter.
- (c) rubber torsion elements for deformation and separation of rubber from metal.
- (d) when adjustments are being made, check for:
 - (1) identical overcenter at both folding struts.
 - (2) locking of adjusters.



9. Perform Annual Inspection according to checklist, chapter 14.

The annual inspection checklist contains items (aileron lateral bearing play, aileron vent holes), which may only be checked after removing seals. Unless changes are suspected (for instance lateral control surface gaps differing from design values, see also page 4-1), it is illogical to remove (destroy) seals just for inspection purpose. Existence of washer at fixed bearings can be checked after lifting sealing lids cautiously.

Ordinary Inspections continued

Annual Inspection continued

10. Check the following items of the water ballast system:
- Wing and vertical tail fin water tanks for external tightness.
 - Wing tanks and 12 Litre tail fin tank for leaks into structure (irregular surface mirror finish visible).
 - Ventilation and drain tubes for free passage.
 - Existence of tail fin tank filling markings under translucent rudder sealing.
 - Wire meshing in filling funnel is mandatory to establish proper function of vertical tail fin valve. Tail tank leaks must be repaired (the slide-in tank may be removed for repair). The vertical tail filling tube adapter is **Minimum equipment**.
 - Tail fin tank discharge time for 12 Liter tank, filled with 7.6 Liters: Maximum 120 Seconds.
11. Check thermometer zero indication using water with ice-water mixture at the temperature pick-up.
12. Check **canopy locking and emergency release function**:
 Measure force required to open canopy emergency release according to following steps (If this measurement or an operational check is performed without a helper, the spring at the rear end temporary hinge bolt becomes deformed and must be exchanged):
- "pilot" in seat with spring gauge.
 - both canopy locking levers opened.
 - Helper at front canopy end to avoid lifting of canopy by gas spring.
 - Force required to open right side emergency release max. 15 kg <33 lbs>.
 - After force measurement, the pilot pushes the rear end temporary hinge bolt free and lifts the canopy at opening levers, the helper holds the front end on the opener. With canopy fully open, the helper pushes the connecting pin upward and engages canopy to opener by turning driving lug anti-clockwise.
- When emergency release force is too high, grease all moving parts, contact manufacturer if necessary.
13. Inspect **function of LS-latch at emergency canopy release**
 Measure force required to lift canopy rear edge free from spring:
Reference value 8 to 15 kg <18 to 33 lbs>
 If force required is considerably lower, the spring must be exchanged to ensure proper functioning of canopy jettison.
14. Empty weight C.G. should be redetermined (see chapter 2):
- when equipment is **different** compared to valid equipment list, file new equipment list
 - with equipment unaltered, **every four years**.
- Appropriate forms see chapter 14.

Extraordinary Inspections

Extraordinary inspections should be performed depending on circumstances (rough landings, ground loops etc.)

- landing gear functioning, attachment and drive, rubber torsion springing elements for deformation, landing gear box for damage.
- tail skid bonding or tail wheel attachment, function and tyre pressure.
- wings. Fuselage and tail unit for damage (cracks, buckling, compression).
- tangential tubes across fuselage for straightness.
- control system function, free movement and deflections.


Prepared: 01.12.01	Verified: <i>Whopka</i>	Complies:
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Airworthiness Limitations Section

This Airworthiness Limitations Section is LBA-approved.

LBA-approved:

Log of Revisions for Airworthiness Limitations Section

No.	Pages affected	Description	LBA-Approval Signature / Date
1	5-1, 5-2	C.G. and nose hook limitation clarified. (TB 8008)	LBA 11.07.00
2	5-1, 5-2	C.G. and nose hook time limitation abolished by manufacturer. (TB 8011)	 25. 01. 02 <i>[Signature]</i>

Edition: Dec. 2001

Revision – 2 (TB 8011)

Page 5-1

Prepared: 01.12.01	Verified: <i>[Signature]</i>	Complies:
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Placards and Markings

Numbers refer to placards, for positions of placards see page 10-3.

LS 8-18 Checklist

This sailplane must be operated in compliance with operating limitations stated in the form of markings, placards and Flight Manual.

1. Main pins secured ?
2. Horizontal tail secured ?
3. Winglets secured ?
4. Test controls ?
5. Tail fin valve operating checked ?
6. When water ballast, then always in wings and tail tank !
7. Check loading conditions
8. Check tail dolly removed
9. Fasten seat belt harness
10. Connect parachute static line
11. Lock air brakes
12. Check trim position
13. Check release system
14. Lock canopy

>1< at under side of instrument panel

Tyre Pressure on right
3 - 3.5 bar landing gear door
43.5 to 50.8 psi

Tyre Pressure Above tail wheel,
2.5 - 3.5 bar when fitted
36.3 to 50.8 psi

Maximum Baggage Weight 5 kg / 11 lbs at main bulkhead
(Soft items only)

ROLLADEN-SCHNEIDER Flugzeugbau GmbH			
TYPE	LS 8-18		
TCDS	402		
Serial No.	8xxx	Made in	
Registration	D-xxxx	Germany	

>4< Type placard at main bulkhead

MINIMUM COCKPIT LOAD : _____ kg / lbs
Minimum Cockpit Load with empty tail tank: _____ kg/lbs
>2< under instrument panel cover

Rolladen-Schneider Flugzeugbau GmbH
Type: **LS 8-18** Serial Number: **8** _____
Data Placard

Airspeed Limits (IAS)	km/h	mph	Kt.
Winch Launch / Auto-Tow	140	87	76
Aerotow	190	118	103
In Rough Air	190	118	103
Never exceed (VNE)	280	174	151

Maximum Take-off Mass 525 kg (1157 lbs) including Water Ballast
Aerobatic manoeuvres not approved

Weight Limitations

Maximum Cockpit Load _____ kg _____ lbs
Minimum Cockpit Load _____ kg _____ lbs
Minimum Cockpit Load with tail fin tank empty
and without tail battery _____ kg _____ lbs

Minimum Cockpit Loads for all combinations of tail tank and tail battery see Flight Manual pages 6-1/2.
Lighter pilots must compensate lack of weight as suggested in Flight Manual

>3< at right cockpit side

Ball of bearing at forward horizontal tail
Must be fixed attachment on vertical tail fin

Batt. I	Electrical switch
Batt. II	positions
OFF	

Serial No.:

Reg. Signs:

Year of Manuf.:

<input type="checkbox"/>	Check wing air brake levers für corrosion at lower end.		
<input type="checkbox"/>	Pull with about 25 kg <55 lbs> force at upper end of each lever in flight direction, simultaneously retract without twisting upper member (do not counterhold at cockpit lever!).		
<input type="checkbox"/>	When under load of last item locking at wing structure results, then bearings at related lever must be exchanged immediately by repair station according to repair instruction "Air Brake Levers".		
<input type="checkbox"/>	Bearings should be exchanged within 6 months, when corrosion is clearly visible, but no locking or jamming occurs.		
<input type="checkbox"/>	Valid C.G. weighing dated _____	Flight Hours	Entry of Cockpit Load in Cockpit + Flight Manual checked, unaltered
<input type="checkbox"/>	Valid Equipment List dated _____	Total _____ hr.	
<input type="checkbox"/>		Last Ann.. _____ hr.	Changed to _____ kg/lbs
<input type="checkbox"/>		Take-offs	
<input type="checkbox"/>		Total _____	
<input type="checkbox"/>		Last Ann.. _____	

<input type="checkbox"/>	Inspect automatic couplings for possible wrong rigging
<input type="checkbox"/>	Permanent installation of equipment in baggage compartment according to chapter 11
<input type="checkbox"/>	Special inspection hints according to chapter 3 taken care of
<input type="checkbox"/>	Technical Bulletins performed: _____
<input type="checkbox"/>	AD's performed: _____
<input type="checkbox"/>	TB-AD-List page 14-1 updated
<input type="checkbox"/>	TB-AD Accomplishment List for Repetitive Inspections page 14-2 obeyed
<input type="checkbox"/>	TB-AD Accomplishment List for Repetitive Inspections page 14-2 updated

Findings / Complaints / Remedies

No.	Findings	Remedy / Repair	Inspector

Place: _____ Date: _____ Stamp: _____ Signature: _____

Edition: Dec. 2001

Revision – 2 (TM 8011)

Page 14-12

Prepared: 01.12.01	Verified: <i>W. Kasper</i>	Complies:
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Serial Number: _____

Reg. Signs: _____

Year of Manuf.: _____

List opened date: _____

Signature: _____


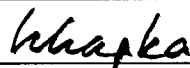
Page No. 1

TB LBA- AD	Components concerned	Steps / Modification	Interval	Date Fl.-hours Stamp Inspector	Datum Fl.-hours Stamp Inspector	Datum Fl.-hours Stamp Inspector	Datum Fl.-hours Stamp Inspector	Datum Fl.-hours Stamp Inspector
	<i>C.G. hook</i> G: _____ S/N.: _____	<i>Overhaul</i>	<i>2000 take-offs</i>					
	<i>Nose hook</i> E: _____ S/N.: _____	<i>Overhaul</i>	<i>2000 take-offs</i>					
	<i>Seat belt harness</i> S/N.: _____ S/N.: _____	<i>Overhaul Exchange Webbing</i>	<i>12 years</i>					
	<i>ELT ACK E01 Batteries Duracell MN 1300</i>	<i>Exchange</i>	<i>According to printed Date of expiry</i>	<i>until</i>				
	<i>ELT-Remote Control Battery PX 28 (Alkaline) PX28L (Lithium)</i> <small>(Cross out non-applicable)</small>	<i>Exchange</i>	<i>max. 4 years max. 8 years</i> <small>(Cross out non-applicable)</small>	<i>until</i>				

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Prepared: 01.12.01 	Verified: 	Complies:
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Serial No.: _____ | Reg. Signs: _____ | Year of Manuf.: _____

Component Mass (check when equipment altered or every fourth year)

Right wing + WL	kg/lbs	Maximum all- up Weight	525 kg / 1157 lbs
Left wing + WL	kg/lbs	Maximum Weight of Non-Lifting Parts at	kg/lbs
Fuselage + Canopy + Main pins	kg/lbs	W: _____ kg/lbs, Xcg: _____ mm/in	
		according to Table pages 2- 4/2- 5	
Minimum Equipment permanently inst.	kg/lbs	Fuselage (completely equipped)	kg/lbs
		Horizontal Tail	kg/lbs
Addit. Equipment	kg/lbs	Cockpit Load (max. 110 kg or 242 lbs)	kg/lbs
Horizontal Tail	kg/lbs	Weight of Non-Lifting Parts	kg/lbs
Empty Mass 15m<W>	kg/lbs	Winglet left	kg/lbs
		right	kg/lbs
Empty Mass 18 m	kg/lbs	18 m Tip left	kg/lbs
		right	kg/lbs

Fixed Ballast Weight Position:

In tail fin: _____ kg/lbs
 _____ kg/lbs

Battery Position: _____

Tail battery _____ kg/lbs
 weight (2.5 - 2.7 kg / 5.5 - 6 lbs)

Weighing and Empty Mass C.G. Determination (check when equipment altered or every fourth year)

Technical data according to TCDS Datum point <DP>: Leading edge of wing at root
 Datum line <DL>: Under side of fuselage boom horizontal

Empty mass <W>	kg/lbs	Distance wheel axis- Datum point <a>	mm/in
Nett tail mass <W2>	kg/lbs	Distance wheel axis- Tail support 	mm/in
Tail fin water <Wa>	kg/lbs		

<p style="text-align:center;"><u>with tail tank full and tail battery</u></p> <p>For wing span 15m <49ft> (W2+Wa+B)*b ----- + a = Xcg ----- + _____ = _____ mm W+Wa+B lbs</p> <p>Empty Mass: _____ kg/lbs Empty Mass C.G. range from: _____ mm/in to: _____ mm/in Cockpit Load range from: _____ kg to: _____ kg/lbs</p>	<p style="text-align:center;"><u>with tail tank empty and tail battery</u></p> <p>----- * ----- + _____ = _____ mm lbs</p> <p>_____ kg/lbs _____ mm/in to: _____ mm/in _____ kg/lbs to: _____ kg/lbs</p>
---	---

Minimum Cockpit Loads:	Tail tank Ltr. full		Tail tank empty
	kg / lbs	With tail battery	kg / lbs
	kg / lbs	Without tail battery	kg / lbs

Maximum Cockpit load:..... kg / lbs limited by C.G. Table / Weight of Non-Lifting Parts

Weight and Balance Placard and Minimum Cockpit Load Placard in cockpit as well as entry in Flight Manual page 6- 2 have been checked/updated. Equipment during weighing/calculation see equipment list dated: _____

Note: See also maintenance manual, chapter 2. State dimensions used. Redetermine distances a and b, because of possibly altered suspension level.

Place: _____ Date: _____ Stamp: _____ Signature: _____

Edition: Dec. 2001 Revision - 2 (TB 8011) Page 14-4

Prepared: 01.12.01	Verified: <i>lehapha</i>	Complies:
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