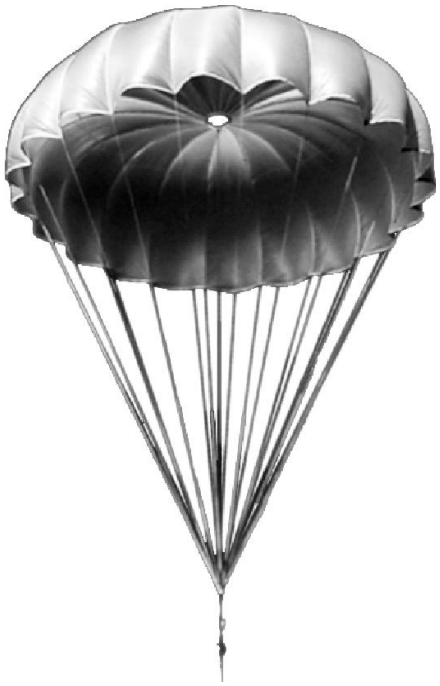

OWNERS MANUAL
B-SAFE 105

light weight reserve system for the Paraglider

edition 31.03.2009

www.pro-design.at

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1. GENERAL GUIDELINES

The light weight reserve parachute B-SAFE 105 was developed for the use with Paragliders. Our first principle when developing this chute was to make a rescue device with quick deployment time, low sink rate and highest possible loading capacity for a light weight canopy with smallest packing volume. Because of the high shock loads during deployment only materials with high elasticity and stability are used.

The special packing method, which was tested in different trials, guarantees a fast deployment. Immediately after the opening of the inner container the opening of the chute starts, which means the basis starts to fill with air. The special packing ensures a fast and symmetrical opening. DHV certification test showed that the B-SAFE 105 was among the best light weight canopy designs with highest payload (relatively seen to the area, light weight and small size) and very fast opening feature.

The advanced canopy design of the B-SAFE 105 guarantees for a stable decent with low pendulum effect and an acceptable touch down speed of the pilot on ground.

The construction of the inner container supports the fast deployment. A pilot chute is attached to the container. This small chute ensures that the rescue chute moves away from the pilot immediately even if the container has not been thrown away powerfully and helps to pull away the inner container from the folded canopy. The container's shape guarantees a fast deployment and makes packing easy.

B-SAFE 105
Flat round canopy (annular) with center line and big skirt opening. Because of that the projected area is bigger at the same normal area, wich means lower sink rate and faster opening. The canopy is made of a special light weight but very strong material with low porosity.

2. USE WITH PARAGLIDERS

It is important that the pilot after the opening of the rescue chute pulls down the Paraglider with one of the rear risers. This avoids a V-position of the two canopies and the pilot to move into a horizontal position. It is also important that the rescue chute is correctly attached with a V- attachment bridle at two points, either at both carbines or at the shoulder straps.

3. LIMITATIONS

The B-SAFE 105 may only be used as a rescue system with Paragliders. It is not permitted to use this rescue device as a skydiving chute or as a normal flying chute.

4. DURATION OF USE

The permissible duration of use is 10 years with an inspection by the manufacturer every two years. If it is packed you are allowed to use it for 4 months then it is recommended to re-pack (DHV recommendation).

5. TECHNICAL DATA

model:	B-SAFE 105
number of panels:	24
layout area m2:	30,1
load with 6,8m/s in kg:	105
type:	round annular canopy
recomm. load in kg:	105
max. load in kg:	105
load with 5,5m/s in kg:	90
weight in grams:	1413

6. DEPLOYMENT INSTRUCTIONS

Explanation:
If you decide to use the rescue system, follow the below described sequence:

1. Look for the handle.
2. Grab the handle.
3. Wait for an appropriate moment and throw the container into the free airspace powerfully.
4. The releasing power which the container needs for opening has a range between 5 and 7 kg due to the break link (knotted thread), and depending on the harness/handle design

Explanation:
Not much power is necessary to release the rescue package and to throw it away. Even if you have to react very quickly in a dangerous situation, you should grab the handle and then make sure that the opening of the rescue chute is not obstructed by your glider. Wait for an appropriate moment and throw the container into the free airspace powerfully.
Simulate the worst case on the ground by grabbing the handle until you are sure you can find it even with your eyes closed. If you are trained well your action in a dangerous situation will be safer and more efficient.

WARNING
Manufacturer and seller of the rescue system B-SAFE 105 do not take any liability for risks in Paragliding. Also accidents, loss, improper handling, improper maintenance, direct and indirect damages, which occur through the use of the rescue system are in the responsibility of the pilot. It has to be clear to every pilot that this is a rescue system, which was built to be used as the last chance if you are in an emergency situation during flight. The rescue chute reduces the sink rate of pilot and Paraglider and makes an emergency landing possible. The use of the rescue chute

has to be seen as a rescue opportunity but does not guarantee a safe rescue. If the rescue chute is opened for no reason, serious injury for pilot and damage for the glider can occur, especially at low altitudes.

7. PACKING INSTRUCTIONS

1. The rescue chute B-SAFE 105 is easy to pack. Accuracy is the most important thing when packing the chute. The right sequence of the opening is the most important requirement for a fast and faultless deployment of the rescue system. This fact was one of the important guidelines during construction. Our experience is that a simple construction is more functional and faultless.
Only the right way of packing ensures a fast and save opening. Keep on hold to the instructions very accurate. Pilots, who are less experienced in packing rescue systems are recommended to have the rescue chute packed by a professional.
2. To pack the chute in the right way you may need two persons. Moreover you need an approx 50cm cord and a carbine with line or belt. The rest you are working on should be clean, dry and should be an even place. The surface should not bring static charge onto the chute because this could prevent the chute from opening.
3. First make sure that all top skirt lines have the same length and the top forms one base (Photo 1). The middle line has to be in the center that the top is pulled symmetrically during the opening (Photo 2).
4. For the next step you need a spare line, which has another color than the chute. This line has to be removed later on. The spare-line has to be put through the packing loops (Photo 3). All together the spare line should catch as many packing loops as the chute has panels. (B-SAFE 105, 24 panels). Count the packing loops that you do not forget one of them (Photo 4). Only then the two ends of the spare line are tied together.
5. Now fix the line on the packing loops on one side on the ground and the bridle (end of the lines) on the other side using a carbine and a belt which is fixed somewhere, so that lines and canopy are tensioned. Start folding the 24 panels in the way that you lay down on the ground 12 panels on left side and 12 panels on right side, panel number 1 up (Photo 5). One person folds the canopy on the basis side, the other person on the other/skirt side (actually on the packing loops side, as skirt is pulled in by center line).
6. Count again and again the panels left and right that on each side you have the same amount of panels, 12 panels on each side with panel number 1 on top (Photo 6).
7. Check the lines for free running, sort them straight and seperate the lines into 2 bundles with left hand 12 lines and right and 12 lines, center line running in the middle (Photo 7), all in order to make sure lines are free, straight and not entangled (Photo 8).
8. Follow up the center line to the canopy and make sure it goes straight into the canopy directly to the skirt and that no panel was folded inside/accross the center line.
9. Now tighten again all lines in one bundle and have them lay straight on the ground (Photo 9).
10. Fold canopy into thirds, first on one side (Photo 10) and then on the other side (Photo 11). Well flatten canopy all along (pressing out all air inside) and fold canopy all the way up in a parallel way.

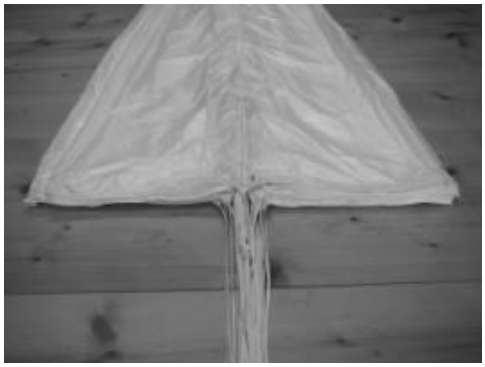
11. Untighten the lines, removing carbine on the bridle what you initially fixed to get tension on, remove line on the packing loops (very important!, do not forget!) (Photo 12).
12. Place inner container just aside the basis of the canpopy as shown (Photo 13) and start folding the canopy into S-folds one by one (Photos 14-16) in the way that canopy has about the measurements of the inner container.
13. Put folded canopy into the inner container, make that carefully that S-folds stay in a clean and sorted way (Photo 17). Lines from basis come outside on the side of the inner container in a straight sorted bundle.
14. Lay lines in 8-fold bundles, lay them in 2 separate bundles (Photos 18-19). Lay as many layers of lines on the bundles so that the remaining lines are about 1m left straight (Photo 20).
15. Fix line bundles with rubber rings by placing the rubers each side over the line loops as shown (Photo 21). Don’t make the ruber rings to tight.
16. Place the 2 line bundles close to the canopy into the container and guide the remaining lines through the slit in the middle of the container (Photo 22).
17. Now close the flap of the container by guiding the center rubber ring through the left side flap slit and then through the front flap slit, make a line loop through the rubber ring (Photo 23). Then close the right side of flap same way and make a line loop through the rubber ring (Photo 24). Finally close the left side of flap same way and make a line loop through the rubber ring (Photo 25).
Packing is now finished.

1. same lenghts?

2. correctly connected?

3. use line to put through packing loops

4. go through all packing loops not forgetting one



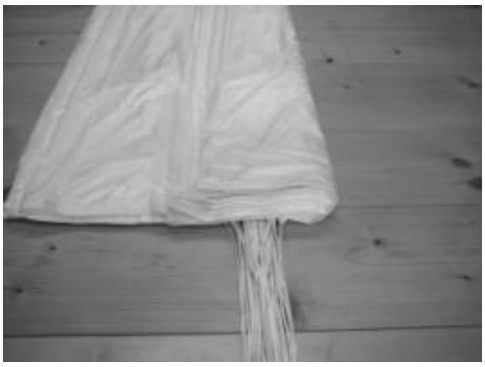
5. fold panels left and right same amount (each 12), with panel number 1 up

6. count again if left and right symetrically

7. separate line bundles, left and right same number of lines, center line in the middle

8. check lines for free running without entanglement

9. tighten lines

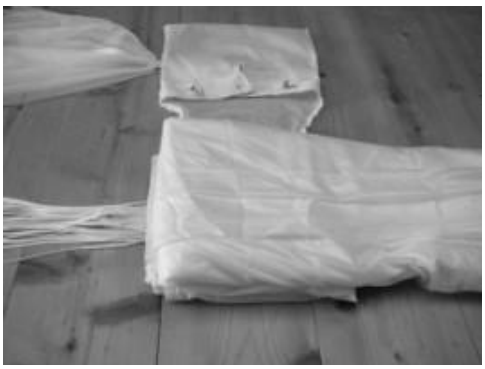


10. fold canopy into thirds, first on one side ..

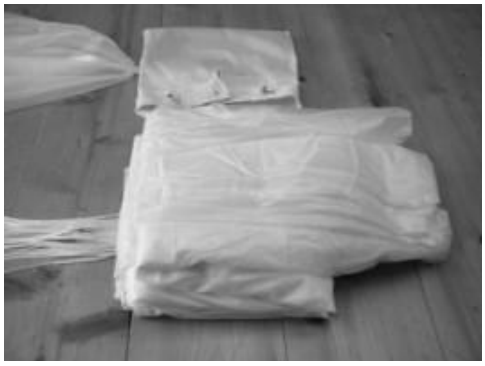
11. .. then on the other side

12 remove line from packing loops (very important, don't forget!)

13. place inner container aside folded basis



14. fold canopy into S-folds ..



15. .. more folds ..

16. .. until finished

17. put folded canopy into inner container as shown

18. put lines into 8-bundle ..

19. .. and a second 8-bundle

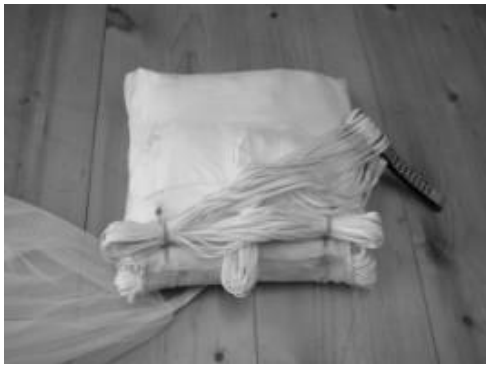
20. rest of lines to be kept straight, for about 1m

21. place rubber rings over ends of 8-bundles

22. place line bundles close to canopy and guide the following lines through slit of containe

23. close flap by guiding center rubber ring through left side flap slit and then through front flap slit, make a line loop through rubber ring

24. close right side of flap same way and make a line loop through rubber ring



25. close left side of flap same way and make a line loop through rubber ring .. finished!

26. to connect bridle to harness connectior bridle you may use a carbine

18. Put the rescue container into the outer container like it is mentioned in the owners manual of your harness! For the connection of the bridle of the reserve with the bridle of the harness you may use a sufficient strong carbine (Photo 26).
DO NOT FORGET TO REMOVE THE SPARE-LINES.
19. Check the function by a test opening!

8. MAINTENANCE

To keep the rescue system in good condition, keep hold on to the following advices:

- Store the rescue system in a dry room with normal temperature. If the humidity is too high the canopy will stick together what could prevent an opening.
- Every four months you should open the chute check and pack it. The periodical packing makes sure that the rescue system is always ready to use and you get more confident with packing.
- Every two years you should bring your rescue system to PRO-DESIGN or to a proffessional packer to have it checked.
- After each rescue opening the rescue chute has to be checked by the manufacturer.
- Under no circumstances you should try to repair the chute yourself. Even small damages have to be repaired by the manufacturer.
- Oils, fats and paints may not get close to the rescue system because this stuff could damage the material.
- Protect the rescue system against direct sunshine because Nylon can get damaged by UV-radiation.
- If the canopy or the lines are soiled clean them only with water and give them enough time to dry before you pack again. Do not use detergents. Hang up the chute in a dry room in which the air can circulate (Not in the garage or in the basement!) Do wait until the chute is dry before you pack it.
- If the chute gets in contact with salt water it has to be swept with normal water.
- Make sure that there are no grass, insects or other items between the widths before you pack the chute.
- The surface you are packing on should not damage the rescue system and should not charge it statically.
- On the last page of the included packing proof you find the checking proof in which all repairs and checks have to be recorded.

DISCLAIMER AND SAFETY NOTICE

By the purchase of our equipment, you are responsible for being a certified paraglider pilot and you accept all risks inherent with paragliding activities including injury and death. Improper use or misuse of equipment greatly increases these risks. Neither PRO-DESIGN nor the seller of equipment shall be held liable for personal or third party injuries or damages under any circumstances. The pilot is in charge for the start-up of the product. The operating licence and warranty expires, if any inappropriate repairs or technical changes are being done.
The airworthiness is to be controlled before each flight. Launching is only allowed with a flightworthy equipment. Moreover the pilot must catch up on the present weather conditions before each start and constantly observe weather development. Launch should only be proceeded, if the further weather development allows for a safe flight operation.
This product was developed for Paragliding and is not suitable for Free-fall and therefore not suitable for sky diving.
Moreover we disclaim liability, if one or several of the following points apply:

- Launching beyond permitted weight range
- wind velocities more than 15 km/h and/or turbulent weather conditions
- Launching into lee sides
- Launching in rain, fog or snow fall
- Flying in clouds
- Aerobatics
- Extreme flying manoeuvre with angles over 30°
- Less experience or training of the pilot
- Incomplete, not certified or damaged equipment (helmet, emergency chute, etc..)
- Winch towing with non-certified winch or non-certified Pilot and/or winch operator
- Non-certified changes on harness

Please note:
If any aspect of the use of our equipment remains unclear, please contact your local paragliding instructor, reseller or the importer in your country.

WARRANTY

Extent of the Guarantee
1. PRO-DESIGN guarantees for every product which has been delivered after 01.01.2008 for the period of 1 year. This guarantee covers failures caused by material or production problems for which PRO-DESIGN should be responsible.
2. This Guarantee is valid for all DHV-certified products from PRO-DESIGN, that are used for leisure flights. The guarantee does not include products which are used for educational or professional purposes.
The following points are also excluded from the guarantee:
a) Color fading from the fabric
b) Damage by solvents, fuel, chemicals, sand or sea water.
c) Accidental damage before, during and after the flight caused by accidents and emergency situations
d) Damage caused by negligence
e) Damage caused by force majeure
Terms of Guarantee
1. The product is to be used and maintained in accordance with the instructions that are part of the manual and other documents. This includes in particular careful drying, cleaning and storage of the product.
2. All prescripted checks and repairs are to be carrried out exclusively by PRO-DESIGN or by technical aviation companies that have been explicitly charged with such repairing or checking by PRO-DESIGN. Every modification or repair has to be documented completely and correctly according the guidelines issued by PRO-DESIGN.

Warranty
Any claim under the warranty which is accepted will be handled as follows:
1. If a warranty claim is accepted for a product which is not more than 6 months old, it will be repaired at no charge.
2. If a warranty claim is accepted for a chute which is more than 6 months old or which has had more use, it will be replaced by a used product which is either at least equal in value to, or better than, the original product.

3. The customer also has the option of acquiring a new product if an appropriate amount is paid to make up the difference in value.

Good faith
PRO-DESIGN is under no obligation beyond those described above. It is possible, however, that it will make a good faith settlement.

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PACKING- AND CHECKING BOOKLET

RESERVE SYSTEM B-SAFE 105

Type: B-SAFE 105
Manufacturer: PRO-DESIGN
Zimmeterweg 4
A-6020 Innsbruck, Austria

Date of manufacture: .....
Serial number: .....
Certification number: .....
Recommended max. load: 105 kg
Max. permissibe load: 105 kg

SUMMARY OF PACKING- AND CHECKING PERIODS

DATE	WORK DONE	DEPLOYMENTS	RESULTS	SIGNATURE

It is recommended to have the reserve system re-packed and checked every 4 months. If you do not follow this advice, slow opening or even failure of the operation may result.

CHECKS

NUMBER	WORK DONE	RESULTS	NEXT CHECK	DATE, SIGNATURE
1	First general check			

To be re-checked every two years.

Changes reserved.