

DOWN

HG & PG rescue parachute system

MANUAL

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1. INTRODUCTION

DOWN is a rescue parachute system intended for use by paraglider and hang glider pilots. The system provides additional safety in flight. Nevertheless, there is no guarantee of 100% safety in emergencies. Although the DOWN is perfect for low-speed deployment, any emergency system can be misused, and therefore become unsafe.

At all times use the DOWN at your own risk. To reduce the risk of unsafe operation carefully view and understand all aspects of this Manual, properly fold and keep your rescue system.

2. SPECIFICATIONS

Parachute Canopy Shape	Pulled Apex	
Constructed Diameter	6.5 metres	
Canopy Surface Area	30 sq. metres	
Canopy Construction	Block/Bias 16 Gores	
Rigging Lines	Polyester -150	
Parachute Assembly Weight	2.1 kg	
Parachute Canopy Weight	1.9 kg	
Estimated Opening Time at	50 km/h	2.5 sec
	100 km/h	1.5 sec
Vertical Speed With Total Payload 100 kg	6.5 m/s	

Height loss depends upon both horizontal and vertical speed at the moment of deployment.

3. MAINTENANCE

As your parachute is made of nylon, it is sensitive to ultra violet radiation. The container and the deployment bag protect the canopy from exposure to direct sunlight. However, for maximum protection, always store your parachute away from sunlight.

Heat can also be destructive for nylon. Although nylon threads are destroyed at temperature exceeding 150°C, any heat has an ageing effect on the parachute.

Should your parachute become damp or wet, it should be opened and hung to dry in a shaded place. If organically based substances are spilt on the parachute, it should be washed by soaking in a solution of luke warm water and a mild liquid soap. Hand rinse thoroughly and hang to dry in a shaded place.

If organic acids or oils are spilt on the parachute, the contaminated area should be treated with a neutralizer. Unfold the canopy and leave it for a week to find out whether permanent damage has been caused by such contamination.

If your parachute needs repair, contact your dealer or the manufacturer.

To ensure the continued serviceability to your parachute, it is necessary to repack it every 120 days. Unlike a personal parachute used in registered aircraft, or a parachute used for intentional parachute descents, this equipment does not have to be packed by an authorised person, you can do it yourself.

For this reason, please, read carefully maintenance and packing procedures as detailed in this manual.

4. DEPLOYMENT PROCEDURES

The suggested minimum deployment height is 60-70 metres. However, should there be perfect horizontal and vertical speed of your paraglider/hang glider at the moment of deployment as well as your throw strength and direction, the minimum height for successful parachute deployment could be as low as 30 metres A.G.L. Even if you doubt that your parachute could be helpful, you should deploy it.

4.1. DEPLOYMENT WHEN FLYING A HANG GLIDER

Once you have decided to use your parachute, remove it from the container by pulling the handle and throw in the direction of least resistance, i.e. away from cables, tubes and the sail of hang glider. If spinning, throw it in the direction of the spin. If tumbling, wait until the ground can be seen before throwing. To perform the throw more effectively, grab hold of the hang glider frame with your other hand.

Opening time will depend upon the horizontal and vertical speed.

As the landing approaches, behave in the following way:

Do not attempt to stand straight for the landing. Brace yourself against the control bar so that the "A" frame or another part of the frame would be struck by the ground first. Then during the destruction of the frame your vertical speed will decrease and you will get softer landing.

NOTE: Check your arm reach in the prone position before sewing the parachute to the harness.

Make sure you can reach the emergency handle before you permanently fix the parachute to the harness.

Make sure your choice of position will not interfere with the control bar in all possible flight positions.

You may additionally need to raise the harness by shortening the suspension lines, to enable the parachute to clear the control bar.

4.2. DEPLOYMENT WHEN FLYING A PARAGLIDER

Once you have decided to use your parachute, remove it from the container by pulling the handle and throw it up at the angle of 45°. If spinning, throw it in the direction of the spin.

If failing, try that again after you have picked the canopy up.

Remember, there is no time to lose, so it is better to succeed at once.

For the landing, keep your knees slightly bent, land on both feet and use your leg muscles to absorb the shock. If necessary, roll over one shoulder in the classic parachutist style.

4.3. CAUTION

There are innumerable situations where it may be necessary to use your parachute. To achieve correct parachute deployment, thoroughly practice operation using the simulator extreme mode prior to actual use. To save your time in flight, carefully train to grab hold of the emergency handle with your hand. Before grabbing the handle it is necessary to look at it first, to ensure that your hand finds it easily.

4.4. WARNING

This system must not be used as a sport parachute, and users must be aware that it is intended solely as an emergency system. Although a test for landing on the firm surface has been carried out, we do not recommend you to be trained in such a mode.

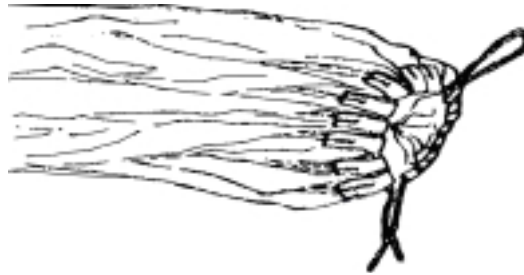
At all times operating the emergency system is the extreme case of emergencies being not entirely predictable.

5. PACKING INSTRUCTIONS

5.1. Lay the canopy on a folding table or another flat and clean surface which is wide and long enough to unfold the whole canopy and the rigging lines.

5.2. Air out the canopy, make sure that no gores cling to each other. Remove any unwanted material, grass etc.

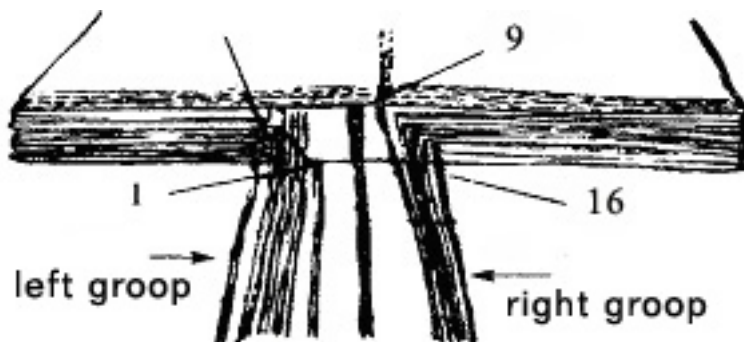
5.3. Insert any spare rope into 16 loops in the middle of the seams connecting the gores. Attach this rope to any fixed point.



Attach the main bridle to another fixed point, tensioning the rigging lines until they are straight with a force of approximately 5 kg.



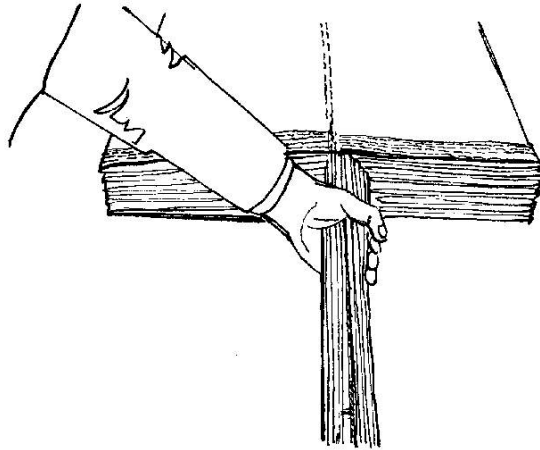
5.4. Place the lines on either side of the pull down line symmetrically, that is, the lines 1-8 on the left side and the lines 9-16 on the right.



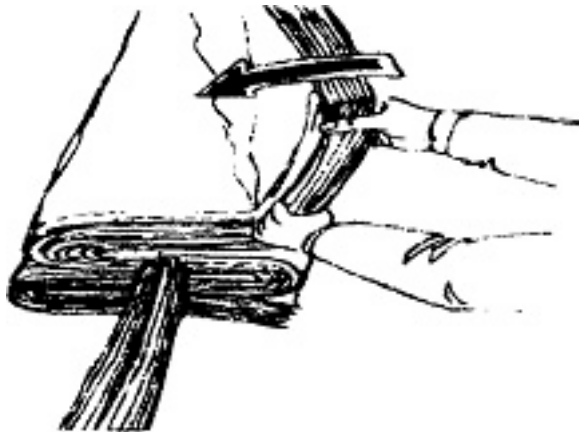
5.5. Place the bores identified by the lines 1-2, ... 8-9 to the left, and the bores identified by the lines 9-10, ... 16-1 to the right.

5.6. Make sure that each gore is folded properly and the seams of each bore are parallel, being straight and slightly tensioned. To achieve the desired effect you may use little sand bags.

5.7. Join the two groups of lines and the pull down line, making one group of lines.



5.8. S-Fold each gore set reducing the width of the gores in this way.

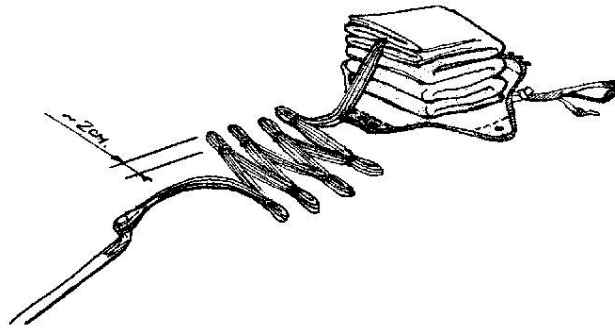


5.9. Detach the spare rope from the fixed point and remove it from all loops. Detach the main bridle also.

5.10. S-Fold the canopy beginning from the apex and put it into the inner bag.



5.11. Group the rigging lines in an S-form along the canopy base. Fix the lines with ten (2 x 5) rubber bands on a hang glider version or with 8 (2 x 4) rubber bands on a paraglider version.

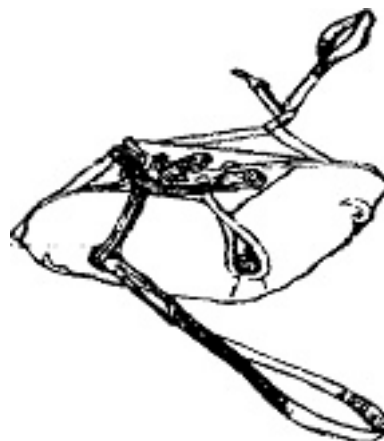


5.12. Put the lines onto the canopy.



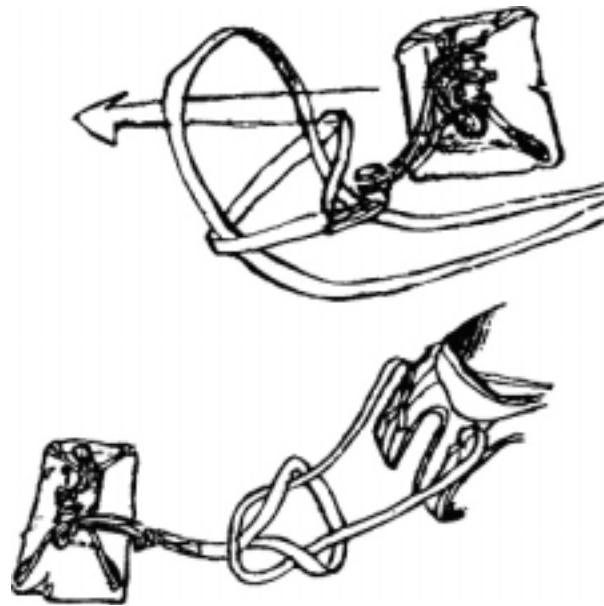
5.13. On one of the big flaps there are three rubber loops, each attached at two points. Close the big flaps pulling the middle rubber loop through the middle grommet of the opposite flap, from below. Pull the rigging lines through this rubber loop, leaving a loop of about 3-5 cm. Pull the left and the right rubber loops in sequence through the grommets of the opposite flap and the side flap.

NOTE: Further procedures are different when packing Paragliding (Section 6) and Hang Gliding (Section 7) versions.

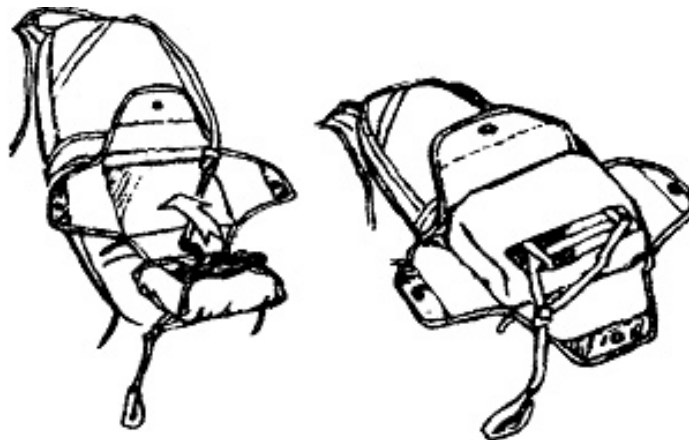


6. PACKING THE PARAGLIDING VERSION

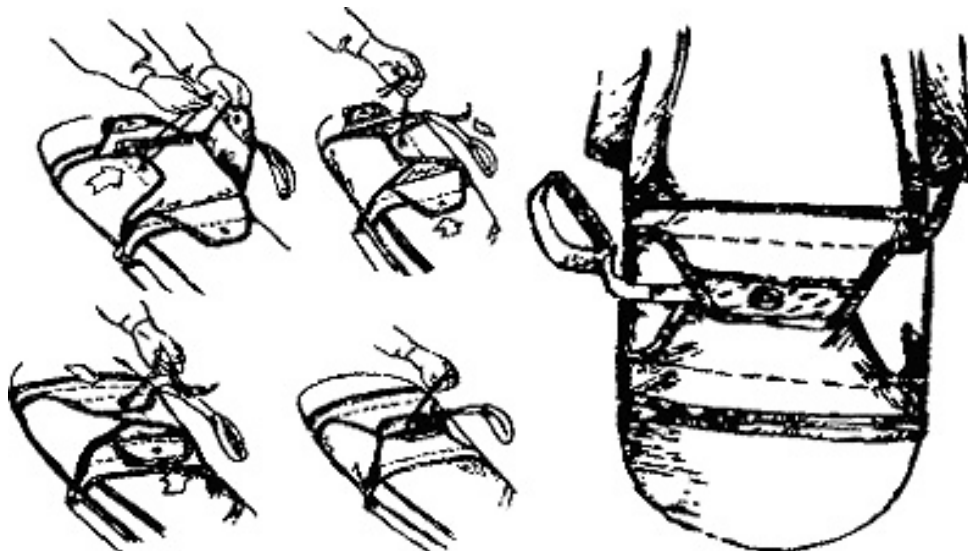
6.1. Connect the main bridle to the harness bridle with the running knot.



6.2. Put the container with the parachute into the innerbag. Remove the deployment handle to the left or to the right suitable position to operate with.



6.3. Pull any piece of rope through the loop on the flap of the inner bag. Then, in sequence pull it through the grommets of the side, bottom and top flaps. Pull out the loop and lock it with the stud placed on the handle. Attach the handle to the side of the harness with velcro.



7. PACKING THE HANG GLIDING VERSION

The Hang Gliding version is different from Paragliding version in:

- more longer bridle of 5 m;
- deployment handle;
- outer bag.

7.1. Group the main bridle of the parachute in an S-form, leaving the end long enough to pass it along the harness and the main bridle of the harness. Put the two rubber loops attached at two points on the folds of the main bridle of parachute.

7.2. Put the main bridle of the parachute into the inner bag. Put container with the parachute onto it with rubber loops at the bottom. The deployment handle should be on the top.

7.3. Pull two pieces of the rope through the loops on the bottom flap and pull the flap through the deployment handle.

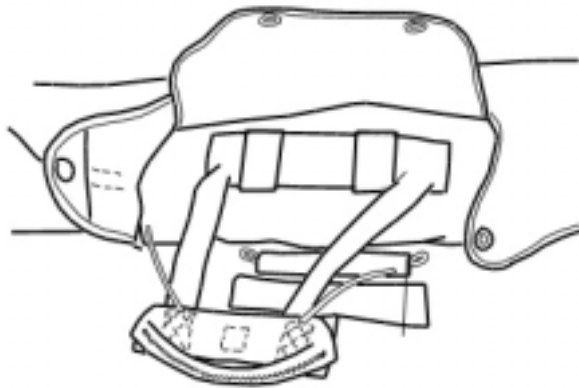
7.4. Pull the first piece of the rope through the corresponding grommet of the top flap, pull out the loop and lock it with one stud.

7.5. Pull the second piece of the rope through the second grommet of the top flap, then through the grommet of the back flap, then through the grommet of the front flap. Pull out the loop and lock it with the second stud. Attach the handle to the velcro on the outer bag.

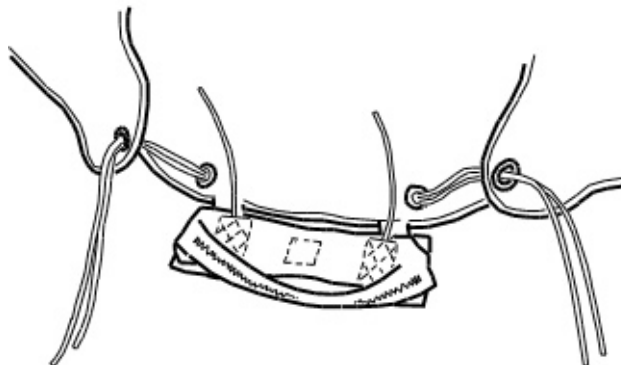
Your parachute system is ready to operate.

8. PACKING HANG GLIDING VARIANT OF A RESCUE CHUTE INTO A HALF-HIDDEN CONTAINER

8.1. Group the main bridle of the parachute in an S-form, leaving the end long enough to pass along the harness and the harness main bridle. Place the parachute bridle inside the container, then put the container with the chute inside, leaving the handle outside.



8.2. Pull two pieces of the rope through the loops to lock the container. Pull the rope pieces through the respective grommets on the top flap and then through the grommets of the respective side flaps.



8.3. Pull the loops out and lock them with the wire ends of the parachute handle.

