

Selete *Horizon*




SOL[®]
PARAGLIDERS

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WELCOME TO THE SOL TEAM!

Thank you for selecting a **SOL** harness. You have just acquired a high quality product, manufactured under one of the most demanding industry standards worldwide.

We trust your **HORIZON** will bring you many great life memories you will cherish forever.

We would like you to read this manual carefully and thoroughly. In it, you will find important information about using your new equipment.

In the event you should have any questions about its usage or should you wish to be updated on the latest news at **SOL**, we remain at your disposal:

Phone: 0055 47 3275 7753

Mail: export@solsports.com.br or info@solsports.com.br.

Don't forget to access our website often at: <http://www.solspargliders.com.br>

to keep current on the latest models' launchings, results and news from the world of paragliding.

Welcome to the SOL Team!

About SOL

Founded in 1991, after six months of research and many visits to several manufacturing facilities and suppliers, **SOL** began its production in partnership with the European brands Condor, Comet and Nova, and became autonomous in 1999 with its own testing and development centers.

From the beginning **SOL** has adopted the philosophy of utilizing certified designs, manufactured with imported materials of the highest quality by specialized and skilledtrained staff.

In 1995, the company moved to its current facility, occupying an area of 4.000 m² and has at its disposal a team of about 140 employees, of which many are pilots. **SOL** provides a comprehensive benefits package such as Health Plan, Life Insurance, partnerships with pharmacies, transportation vouchers, incentive getaways to employees who outperform each month, and education grants.

At **SOL**, we take extreme measures to maintain our machinery and manufacturing equipment current with the world market. This way, we safeguard our accuracy everyday in the production process, control and assuring the high quality of **SOL** brand and products throughout more than 72 countries around the world.

SOL is one of the few paragliding enterprises worldwide to have its own manufacturing facilities able to test every new model before making it available to the market, which fosters the reliability necessary for excellent performance when flying.

In early 2004 **SOL** became certified by DHV, which is the most respected regulating body of free-flying worldwide. Its mandate is to make sure its members have the capacity to reproduce faithfully the certified equipment on an industrial scale. Few facilities in the world possess this certification in their manufacturing process. **SOL** was one of the firsts to obtain it!

This is just one of the great accomplishments of this young and dynamic company, which presently is among the ten major paragliding and accessories manufacturers in the world!

Philosophy

SOL's philosophy is to introduce products that are considerably better than current ones, in order to guarantee significant advancements in four aspects: Safety, Performance, Ease of Operation and Innovation.

Safety:

The new product has to offer a level of safety that is at par or better than the one it is replacing.

Performance:

The new product must perform better than the one it is replacing.

Ease of Operation:

The new product must display higher levels and better operational ease than the one it is replacing.

Innovation:

New products must display real benefits to the user, facilitating free-flying, increased safety, or both.

The development process and design of every new product begins at the computer.

Drawing Software, 2D, 3D modeling and simulation are utilized before the actual manufacturing of prototypes, in order to ensure greater accuracy in each new design.

Introduction

SOL is producing a complete line of modern paragliders: from teaching to competition and acro all pilots will find their paragliders.

As in any other product of **SOL**, we are using always the best and most carefully chosen materials, they are granting a long life and a high security standard. All **SOL** paragliders are manufactured in our own industrial park.

The harness **HORIZON** is a compact, fully equipped harness, targetting high level competition pilots and long distance records seekers. In this manual you will find all important information about using your new equipment **HORIZON**.



RECOMENDATIONS

Please read this manual carefully and note the following details:

- Flying with this equipment shall be performed at the individual's own risk.
- The manufacturer and its representatives are not liable and therefore not responsible for any misuse nor mishandling of this equipment.
- Every pilot is responsible for the maintenance and assessment of equipment usability.

HORIZON - TECHNICAL SPECIFICATIONS



1. Speed system Cable's guide (Foot Stirrup)
2. Speed system Cable's guide
3. Reserve Handle
4. Rescue compartment
5. Seat
6. Neoprene safety cover on reserve bridle connection
7. 14 cm foam back protector EN/LTF certified
8. Two side pockets
9. Side plate for better load distribution
10. Two side pockets without zippers
11. Water back compartment (hydration)
12. Radio back compartment
13. Radio pocket
14. ID compartment
15. Independent bridles system for 2 rescues according to EN/LTF norm
16. Passage for hydration hose exit
17. Passage for Radio PTT
18. Back composed by ergonomic
19. Anatomic padded shoulders
20. Shoulders adjustments
21. Shoulders connection strap with whistle
22. Ventral Opening between 38 cm and 56 cm
23. One radio holder
24. Frontal Quick Lock T - Quick Flat (28mm)
25. Chest strap adjustments system
26. Regulagem lateral para a inclinação do encosto com fita de segurança
27. Independent ABS system
28. Side adjustments near the hip
29. System Speed pulley;
30. Foot Stirrup adjustments
31. Adjustment to fasten the speed system
32. Foot Stirrup

ADJUSTMENTS AND INSTALLATIONS

The **SOL**-Harness provide a variety of adjustment possibilities, so that the pilot is able to find his/her ideal flying position. The first adjustment must be done in a simulator where you can be hanging in order to make the adjustments. It may be necessary to take a few testing flights until the ideal setting is achieved, but the pilot will be rewarded with amazing comfortable flights.

For your first flight, choose calm weather conditions. Should you need to make further adjustments, it will be easier to find the ideal position after this first flight.



Attention

- Please install the back protector and the reserve/s before you make the adjustments of the **SOL**-Harness.
- Your safety is assured by straps integrated in the harness, by tablet beneath the seat, to avoid perforation and by the back protector.
- Never carry instruments that may perforate the harness backing in case of impact!

BACK PROTECTOR INSTALLATION

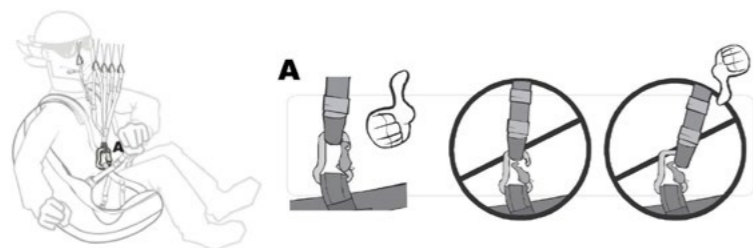


Atenção

- The back protector has to been installed through the lateral zipper (Figure 3)
- You have to use the back protector from **SOL** for **HORIZON**. With the use of other protectors the harness loses his certification.
- It's very important to fix the protector against movements. (Figure 1)
- After a hard landing on the protector, the harness and the protector has to be examined for damage.

- A damaged protector could not further be used, cause probably he doesn't match any more the test results. The certification expired. A change is necessary – it's also in your interest an safety. Please let all parts of the harness be examined. The activator for the reserve has to function 100%, also the mechanism of the carabiners.
- If necessary, you should ask for professional help to make sure it is properly function.

CARABINERS INSTALLATION



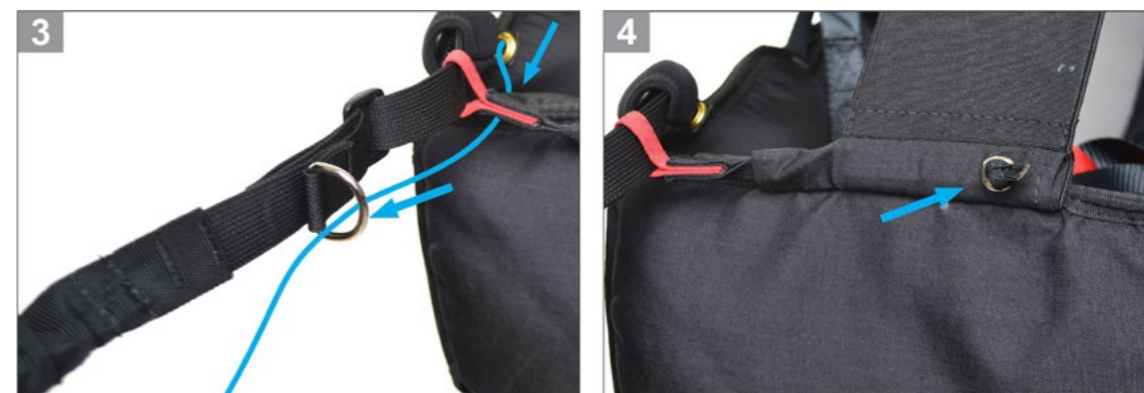
Attention

- Carabiners: Pay attention at each installed carabiner of the permission and/or other references of the producer. You have to look out regularly for thin fissures and/or mal-function. The carabiner has to close always 100%.
- If you choose to change the carabiners (even made of steel) at least each 5 years or after 250 flight hours you are making a wise decision.

ACCELERATOR INSTALLATION

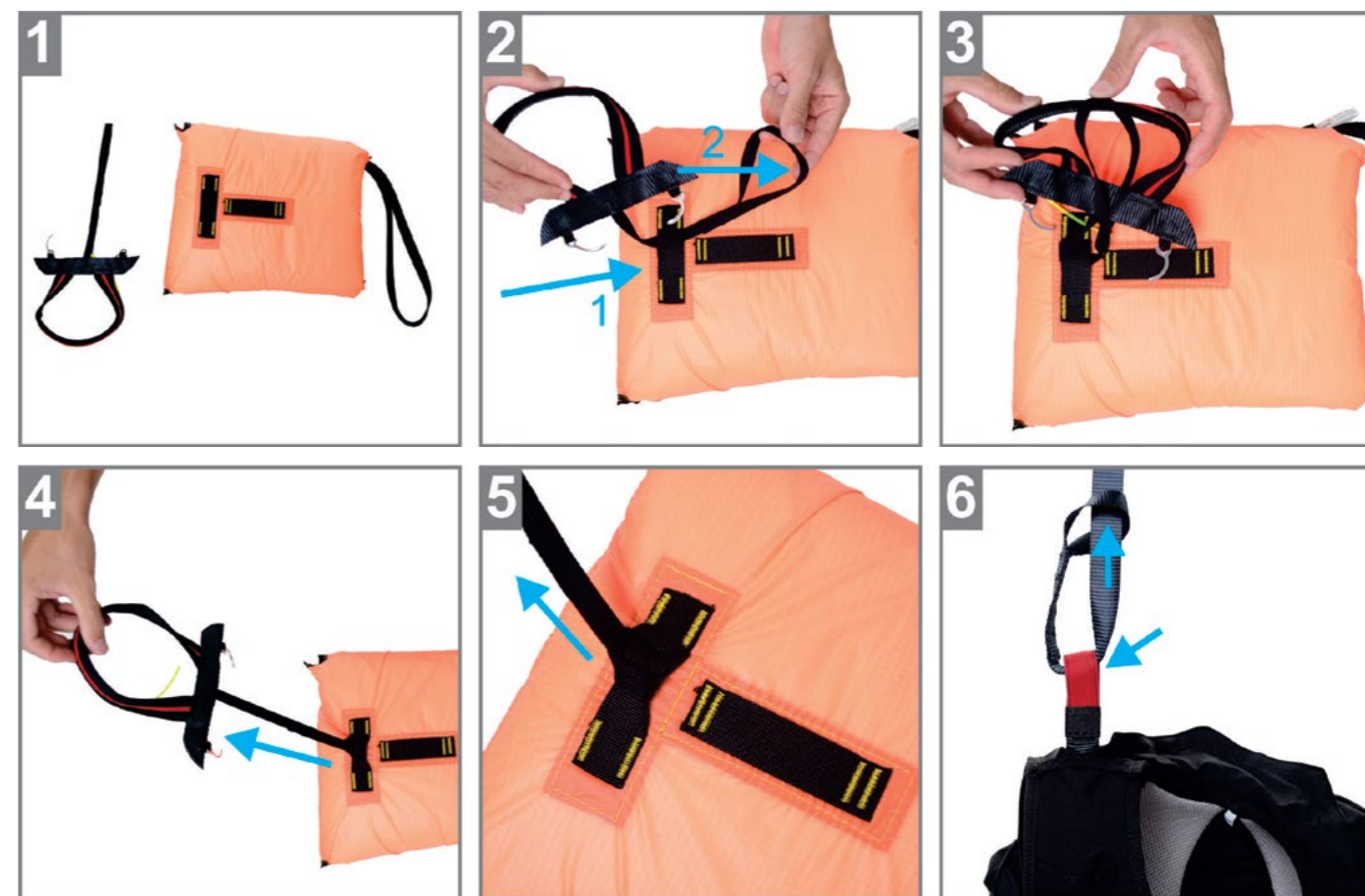


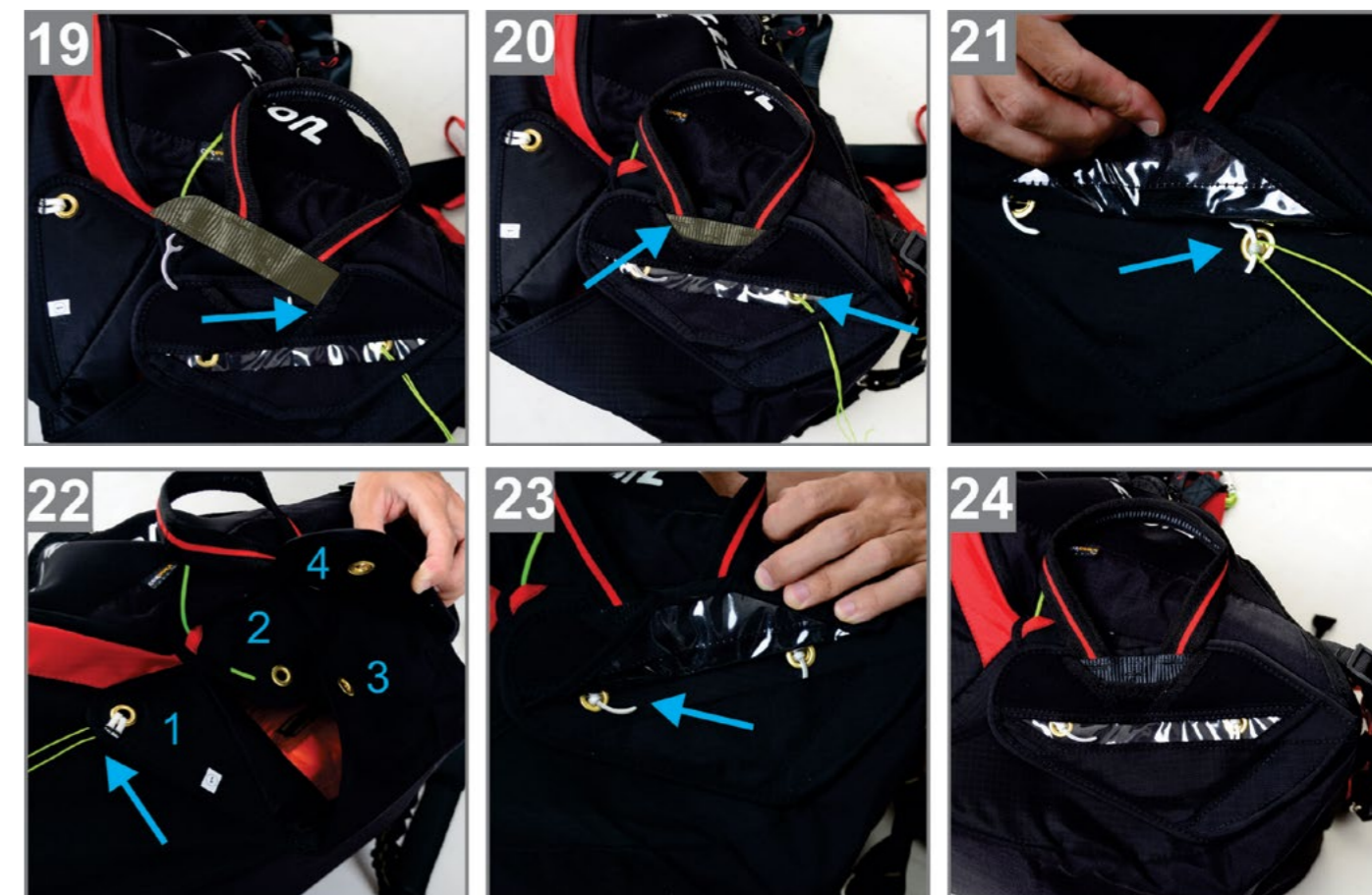
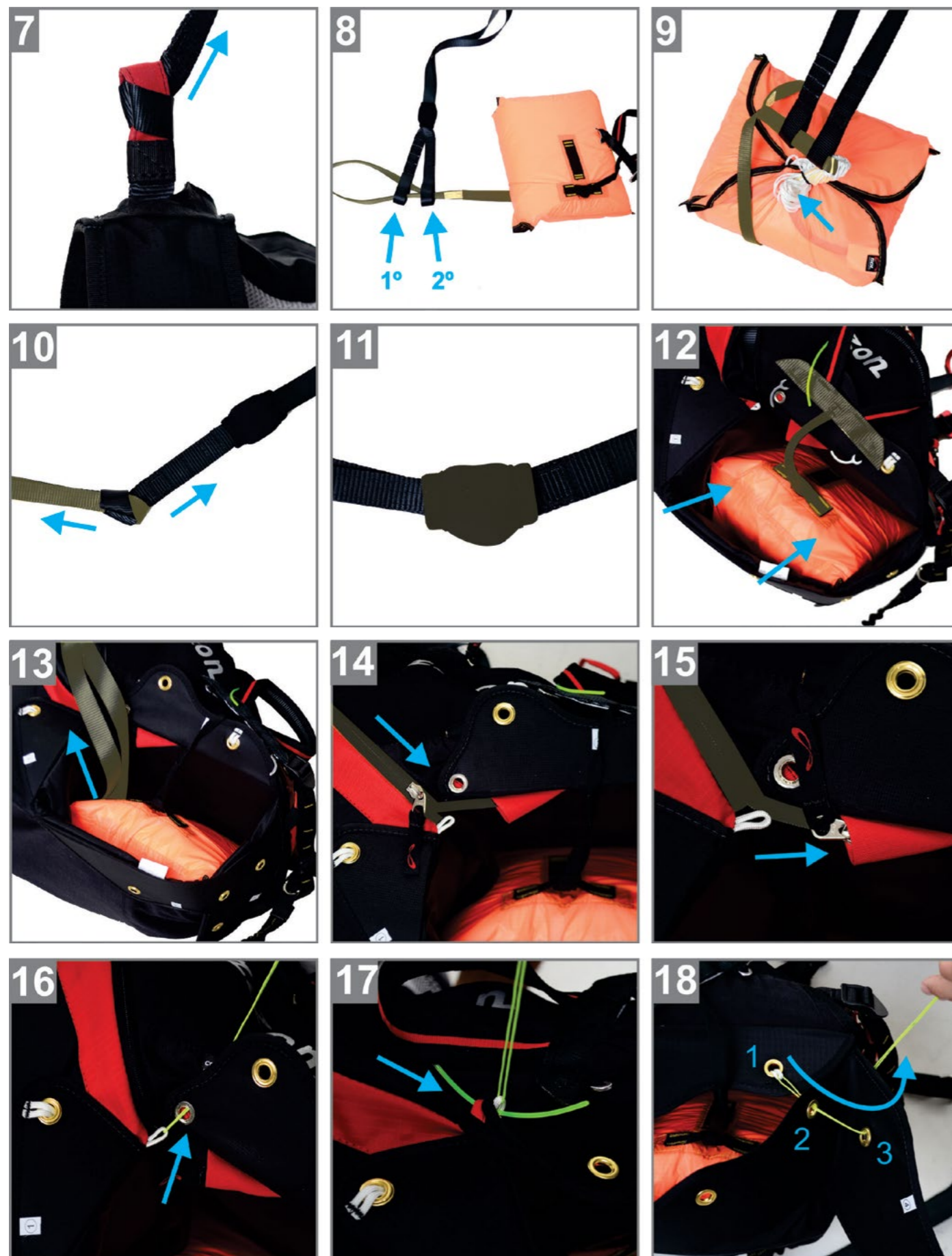
- All necessary buckles to adjust the speed system are found on the harness' body. Follow the instruction in the image. First you have to thread the line through the metal grommets in front of the seat.
- The use of passage 3 is optional, cause it may affect the length of the course of the accelerator. Place to change the duct. (image 4).



RESCUE PARACHUTE INSTALLATION

This harness is designed for one independent rescue parachute on the right side below the seat. Visualize the details of how to execute the rescue parachute installation. The procedure is the same for both sides. The purpose of this illustration is to help you understand the process. If necessary, you should ask for professional help to make sure it is properly installed.





The **SOL**-Harness features a rescue parachute installation system with easy access at the moment of grab and throw, by possessing an activator which has a shorter connection. Some layers of fabric covers the entrance recipients destined to the reserve (Figure 24), protecting the parachute from dust and humidity.

In case the pilot lands on water and gets the reserve wet, the rescue parachute should be removed from the harness, be dried and re-packed before it is placed back into the recipient (see the rescue parachute manual).

Attention

- Before every flight, inspect the activation handle and its pins, to make sure they are at the correct setting position.
- After the installation you should make a test.
- The container's size takes to account the reserve size which would be normal for the pilot's weight x harness size.
- There might be the case when large rescues parachute may not fit adequately in the smaller size harness.
- Never throw the reserve in flight-direction.



Pay special attention to the fact in which direction you must pull your rescue parachute in order to throw it out.

Rescue Parachute Compartment

The reserve parachute compartment on your harness was designed for most of the parachutes in the market.

In any case, you must install, simulate and perform all testing, so that you will not have any surprises in case you need to activate it. Any questions concerning its operation must be dealt with during the installation and setting of the harness before the first flight.

If you need a strong force to remove the rescue parachute, check the installation again. All questions about operation should be discussed during installation and adjustments. If you have doubts, please ask a SOL dealer or an authorized flight school.



Attention

- In case of a first combination between harness and reserve there has to be made a test of compability. This test has to be made from an authorized person or workshop!
- Never sit down in your harness for tests or other activities when it is layed on the ground, this can damage the harness, the rescue container and the whole rescue system.
- The reserve has to be packed and checked every year. This has to be done by an authorized workshop. Pay attention to the references in the owner's manual for your reserve. Each check is to be marked in the check protocol of the reserve.
- Reserve installation: After the first and each following installation has to be made a test (for ex. 2-years-check) to secure that the applicated force to pull the reserve lays between 2 and 5 daN.
- Follow the manufacturer instructions of rescue parachute (how to use, maintenance, inspections and folding)



HARNESS ADJUSTMENT FOR FLIGHT

Before the first flight, we suggest the pilot simulate his/her flying position hanging the harness on a harness tester, sitting on **SOL** Harness and trying to find the best position adjustment. This simulation becomes more realistic if the back pocket is filled with objects the pilot would normally carry during flight.

After adjusting the back, the pilot must choose the best body inclination, respecting a central vertical line. We don't advise a steep inclination, so that vision and access to commands are not jeopardized.

The shoulder strap is adjustable, varying according to the pilots' height. For better comfort, the shoulder straps support part of the dorsal weight. The pectoral strap regulates the distance between the two carabiners, which varies depending on the paraglider's size.

Flight position

Avoid a laying flying position, as this alters the paraglider's commands:

- Your command is shortened
- More vulnerable to a twist



HARNESS ADJUSTMENT

Visualize the details of how to adjust the **HORIZON** for flight:

Lateral adjustments



Atenção

- Make sure the setting is symmetric for your safety and comfort.

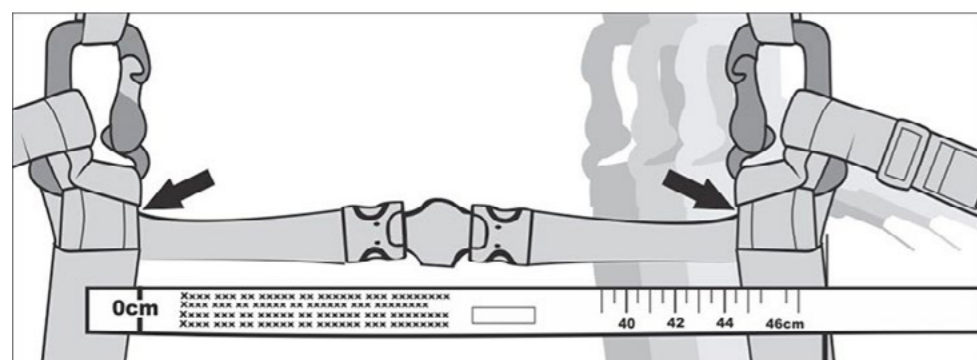
Lateral adjustments and Shoulder adjustment



1. Make sure the shoulder adjustments setting are symmetric for your safety and comfort.
2. The adjustable chest strap is fixed on the shoulder strap. This is for your comfort and safety. They better be aligned with the shoulders. In the lock is integrated an emergency whistle.
3. Ventral Opening.

Ventral Opening

The chest strap is responsible for the ventral opening, depending of the paragliders size. There is a measurement of the carabiners opening to which the paraglider was designed and tested. With **SOL** paragliders you must fly within these measurements. In case you are outside these measurements, the paraglider's behavior can not correspond to the certification:



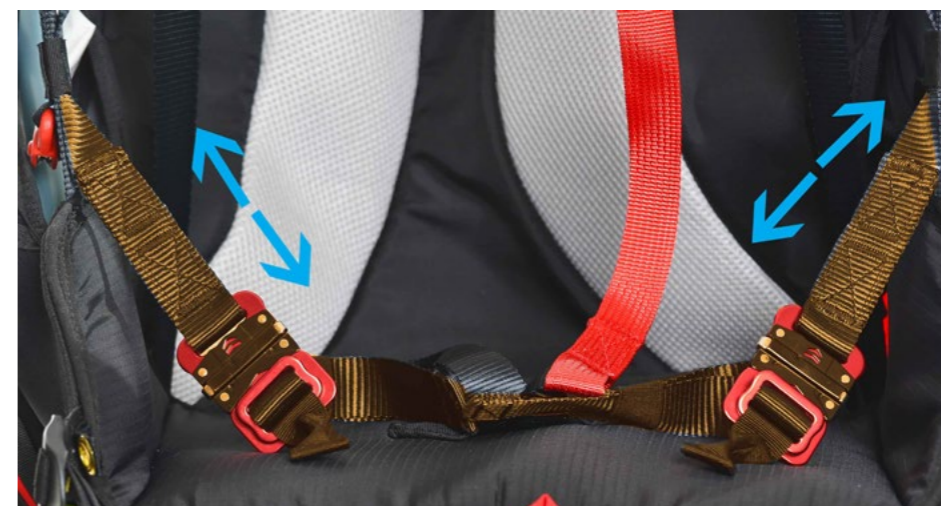
S	40 cm
M	42 cm
L	44 cm
XL	46 cm
XXL	46 cm

We have included a tape with your harness to help you set the exact measurement of distance between the carabiners. The measurement has to be made at the points indicated in the graphic above:

! Attention

- The distance has to be within the limits to obey the characteristics of the certification.

Legs Adjustments



! Attention

- Make sure the legs adjustments setting is symmetric for your safety and comfort.
- Check the correct closing buckles before the flight.

POCKETS



SOL harnesses feature several pockets. These pockets were designed in such way that they will keep its contents from falling accidentally during flight.

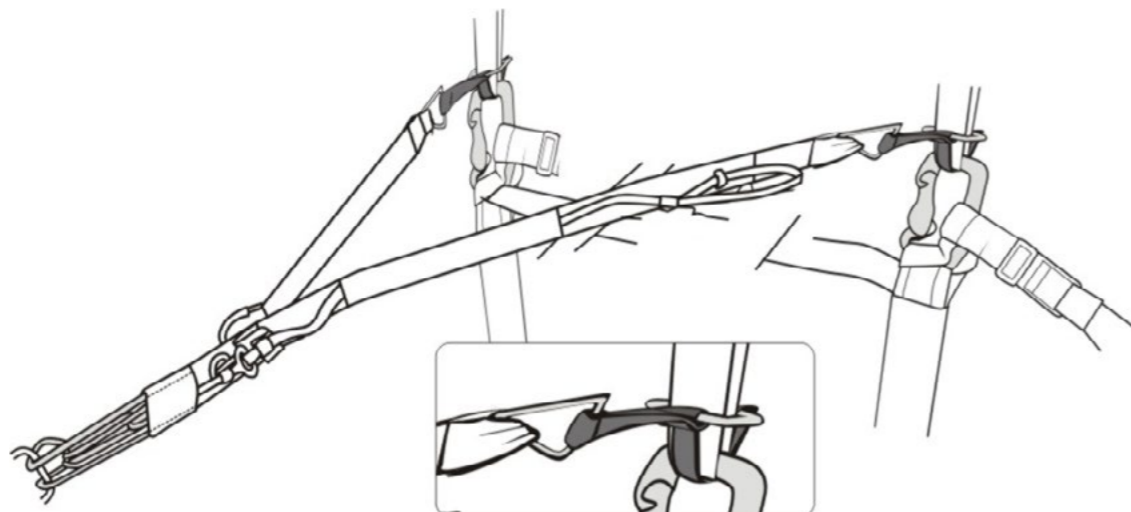
CAMELBACK COMPARTMENT

Your **HORIZON** harnesses has a camelback case located at the harness back. An opening allows the camelback hose exit next to the pilot, according as indicated. (see picture below).



TOWING ATTACK SYSTEM INSTTALATION

Your **SOL**-Harness can be flown by tow, as long as it is attached to the towing flight system (Towing Attack System). In turn, this must be fitted on the same carabiners that link the harness to the paraglider, being activated by an elastic band conveniently located, which when pulled, releases the equipment for flight. Please refer to the instructions concerning flight by tow in your paraglider's manual.



FINAL CHECK

Before you begin flying with your new **SOL** Harness, make sure to perform the following inspection in detail:

- All pockets are closed?
- The reserve parachute handle is in the correct position?

- Each hook (chest / leg) is connected and closed?
- The carabiner opening is correct?
- Using the harness **HORIZON** make sure that all hooks are closed, pay attention to the audible “click”. Also pay attention that no dirt or ice is getting in the mechanism. If necessary lubricate with se wing-oil.
- The cover could avoid to see the leg locks. Make sure that the locks are closed before you close the cover.

TANDEM FLIGHT

Your **HORIZON** harness is **NOT** designed for tandem flights.

WATER LANDING

Usually safety courses are taught over water, or a poorly calculated landing may force you to land in the water. In this event, you must be careful since the protector at the first moment will act as a floating device, therefore forcing your head into the water and you could be in danger of drowning. The foam, already saturated with water will get heavy and may naturally sink. In case of water landing open as fast as you can the locks and get out off the harness. After a water landing you must take the column protector off, seat board, reserve parachute, all lateral protectors and let them all dry under shade in a breezy area.

MAINTENANCE, REPAIR AND CLEANING

Storing the equipment



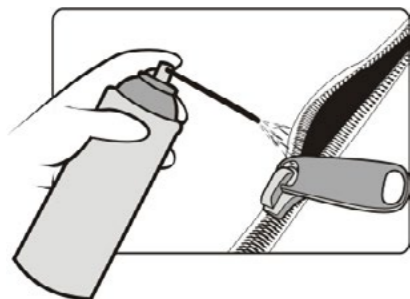
Maintenance

Your **SOL** Harness has to be sent regularly to the manufacturer or an authorized repair facility, in order that a professional inspection be performed.

A new licensed harness has to be sent for inspection after two years. All other inspections have to be made once a year.

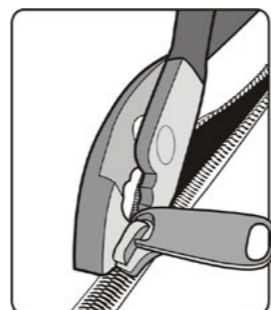
Avoid dragging your **SOL** Harness on the ground, on rocks or on wet surfaces. Prolonged exposure to UV light (sunlight), humidity and heat must be also avoided to prevent early and unnecessary material deterioration.

Zipper



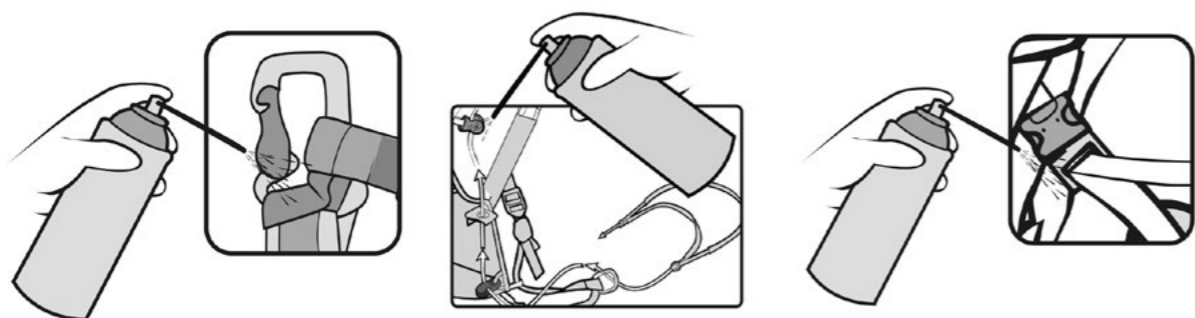
The zipper must open and close softly. If there is any difficulty to move it you must apply paraffin or a spray lubricant to diminish the attrition among the components. You will notice the difference when you move it.

It is possible most of the times you fix by yourself the zipper. In case it does not close any more just pull it until the beginning of the position and with a pliers press both sides of the zipper.



Pulleys

It is important you keep pulleys lubricated because in case they do not work may consume the speedy handle or axle, apply paraffin or lubricant spray, read carefully about the lubricant to avoid spots and fabric consume. Do not apply on the sewing lines.



Cleaning

Cleaning must be performed only when it is absolutely necessary. We recommend the use of water only with a smooth sponge or cloth. Do not use any chemical product, since it will damage the material permanently.

RECOMENDATION FOR A LONG LIFE

The harness fabric is made mainly out of Nylon, which like any other synthetic material is sensitive to UV light radiation, causing it to decompose and losing its mechanical resistance. For this reason, the unnecessary exposure to sun light, which carries a high UV radiation level in high altitudes must be avoided. It is highly recommended to leave the harness stored away and well protected when it's not being used.

Avoid storing the harness for long periods in areas with high humidity or heat, this causes premature aging of the materials. Keep away sand, stones or snow from entering the harness cells because any weight on the trailing edge slows the canopy down, possibly creating a stall, furthermore, sharp corners may cut the fabric.



In case of salt-water contact, the harness must be soaked and washed with fresh water. Salt water might decrease the sewing resistance even if soaked with fresh water. Never dry the harness directly under the sun. This must be done in a shaded area. After drying send the harness for inspection to the manufacturer or distributor. After an accident or long time without using the paraglider must be checked. Avoid storing the glider near fire and/or sharp objects. Any contact with acids should be avoided. In case of any doubts ask your distributor.

Armazenagem

Avoid storing the harness for a long time in the back of the car or under extreme sun. Heat could jeopardize the materials and/or the proper function. UV radiation destroys the molecular structure of the material.

Avoid storing the glider near fire and/or sharp objects. Any contact with acids should be avoided. In case of any doubts ask your distributor.

Inspection and repairs

The first inspection check is mandatory completing 24 months or 100 flights, whichever comes first. After the first inspection any harness has to be checked yearly or at each 100 flights, whichever comes first.

In case of excessive use (permanent spirals and other extreme maneuvers) the period of inspection has to be shorter.

It is of utmost importance to follow these guidelines. Without performing the mandatory inspections, the harness loses its certification and the respective **SOL** warranty becomes null and void.

Always check your equipment after an incident or in case the harness has been stored for a long time.

Repairs must be performed only by the manufacturer, distributor or authorized personnel. Minor repairs could be handled by yourself, although we recommend that repairs should be performed by the manufacturer or authorized personnel. They have the necessary materials and tools to maintain your harness. Replace materials only with the originals. Using any other the harness will lose his certification.

NATURE AND ENVIRONMENT

Please fly in accordance to preserve nature and environment.

OUT OF USE

If your glider gets out of use remember it cannot be recycled. Please give it to your distributor or your flying-school, they should know how handle it.

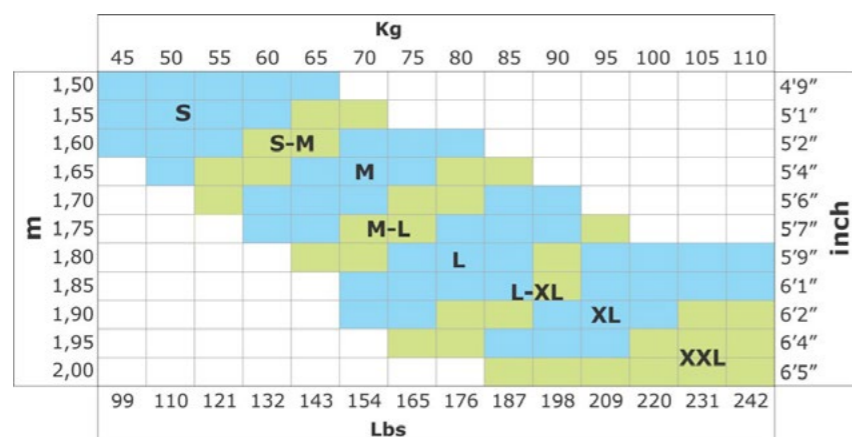
MEASURES

	S	M	L	XL	XXL	
Seat width	31	33	35	37	39	cm
Seat length	35	37	39	41	43	cm
Ventral height	41	41	43	45	45	cm
Weight HORIZON*	3,7	3,9	4,1	4,4	4,6	kg

*Observation: protector, seat and foot stirrup included.

Maximum pilot weight allowed: 120 kg/120dkN. The harness is a light flight equipment.

REFERENCE TABLE: HEIGHT X WEIGHT



Attention

- This table is only a reference. Speak with your seller or flight school to know your exact harness size.

WARRANTY

SOL warranty - 1 years/100 hours

Every harness manufactured has a Warranty of 1 Years or 100 Hours of Flight, whichever comes first.

Our development technology, through the utilization of quality materials and the adoption of new manufacturing processes, allows us to offer you, our client this added bonus.

This warranty is defined as repair or substitution of the defective equipment parts determined by the producer.

Warranty Terms

- This warranty is valid for all harnesses with LTF, EN or AFNOR certification, rated for leisure use only.
- This warranty does not include harness rated for professional use (school, competitions, aerobatics, etc).
- This warranty is defined as repair or substitution of the defective harness parts determined by the producer.

Warranty Pre-requisites

- A three-copied filled-out form: One copy to be sent to **SOL Paragliders** within 30 days after purchase; one copy to the sales person and one copy to the purchaser.
- All flights must be logged providing information on date, place and length of flight.
- The equipment must be kept in accordance with the instructions provided in this manual. All the storage, folding, cleaning and care instructions must be carefully taken.
- Maintenance and inspections can only be performed by the manufacturer or authorized shop and must be properly documented.
- The owner is responsible for all shipping expenses to and from the manufacturer.
- In order to make a plea for repair or equipment exchange, or equipment repair, which shall be decided and performed only **SOL Paragliders**, the owner must send the manufacturer the following:
 - The harness in question, and copies of all previous inspections and flight registry.
 - Original copy of the Warranty Registration Form **SOL Paragliders**.

This Warranty Does Not Cover

- Any alterations on original fabric colors, lines and risers.
- Any damage caused by chemical products, sand, friction, cleaning products or salt water.
- Any damage caused as a result of errors during operation of the harness, incidents or emergency situations.
- Any damage caused by inadequate operation of the harness.
- A harness that may have been subjected of any alteration from the original design and without proper permission from **SOL Paragliders**.
- Damages caused by inappropriate transport, storage or settings of the harness.
- Damages caused by the use of not compatible components with the harness.
- Damages caused by the use of inappropriate packaging for the transport.
- Harness without original identification label and serial number.
- Handling inadequately to the instructions given in the owner's manual.

FINAL WORDS

Safety is the major theme of our sport. In order to fly safely, pilots must train, study, practice and be alert to the dangers around us.

In order to achieve excellent safety levels, we must fly regularly as much as possible, don't go beyond our limitations and avoid exposing ourselves to unnecessary dangers.

Learning to fly is a slow process and takes years, so don't pressure yourself. If conditions are not favorable, keep your equipment stored away.

Don't overestimate your skills and be honest with yourself. Every year we see many accidents which in most cases could be prevented with a minor adjustment.

We are a part of the community in which we live: friends, family and even people we don't necessarily know worry about us. Our obligation towards this community is to keep ourselves healthy and that at each landing we will be one landing happier than before. We fly so that we can feel more alive.

We wish you good and safe flights with your **HORIZON**

SOL Paragliding Team

MAINTENANCE MANUAL

Owner:	
Adress:	
Fone:	
Date:	

Item	O.K.	Observation
Harnesses Seams		
Straps Seams		
Pulleys		
Zipper		
Carabiners		
Buckles		
Rescue Parachute Compartment		
Bridles and connection		
Straps		
Fabrics		
Rescue parachute handle		
Dorsal protector		
Speedbar		
Chest buckle		
Lateral adjustments		
ABS System		
Seat		
Observations:		