

# **Pilot's Manual**

**Harnesses**

**AMAZON**

**EASY 2**

**VIRTUE**



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## **WELCOME TO THE SOL FAMILY!**

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

We trust your Harness 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 at our Sales and Service Departments at the telephone **+55 (47) 3275-7753** and through the e-mail addresses **vendas@solsports.com.br** and **manutencao@solsports.com.br**.

Don't forget to access our website often at "**www.solsports.com.br**" to keep current on the latest models' launchings, results and news from the world of free flying. At this site you will also be able to:

Subscribe to our newsletter

Register your new paraglider for **SOL** Warranty eligibility

### **Welcome to the SOL Family!**

## **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 Paragliders** has adopted the philosophy of utilizing certified designs, manufactured with imported materials of the highest quality by specialized and skilled-trained staff.

In 1995, the company moved to its current facility, occupying an area of 3.200 m<sup>2</sup> and has at its disposal a team of 110 employees, 22 of which 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 120 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 Paragliders** 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** has a complete and the latest line of Harness available for all levels, ranging from early flying stages to acrobatics.

Since we spend a lot of time in the air, - whether testing our products, flying for leisure or breaking local and world records, nothing else makes more sense than taking advantage of these opportunities to develop and test our Harness, always in search of safety innovations, piloting and comfort.

Like any other **SOL** product, the materials used are carefully selected, assuring greater durability and high safety ratings. All the **SOL** Harnesses are manufactured at our own plant facility.

## TECHNICAL INNOVATIONS

### Your Harness Includes:

- Reserve Independent Bridle System, as per DHV regulation;
- Straps' Handle as per DHV regulation;
- Adjustable Quick "hook" Lock T Cobra of 38-55 cm;
- Extended Accelerator Pulley;
- Waist Fitting;
- Lateral Fitting with Trimmer and Safety Strap;
- ABS System;
- Quick Hook Leg Locking;
- Water Compartment Hose Gap
- PTT Gap for Radio
- Anatomic Shoulders' Cut
- Anatomic Back-Rest comprised of foam;
- Lateral Foam Protection (Amazon and Virtue)
- Spacious Side Pocket
- Sliding shoulder straps
- Shoulder Strap attached to seat;
- Lateral Reinforcement for better load distribution;
- Elastic setter for accelerator and foot support;
- Impact and Perforation Protection Shield;
- Sliding Reserve Parachute Container;
- Foot Support \*(Optional Easy 2)
- Spacious Baggage Pocket;
- Radio Pocket;
- Water Compartment Pocket;
- Personal Identification Compartment;

## PRE-FLIGHT ADJUSTMENTS AND INSTALLATIONS

The **SOL Harnesses** 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:

- Install the dorsal protection and the reserve parachute before adjusting your **SOL Harness**.

The pilot's safety on the **SOL Harness** is achieved by the straps throughout the entire Harness body by an anti-perforating board underneath the seat, lateral protection and foam dorsal.

#### Attention:

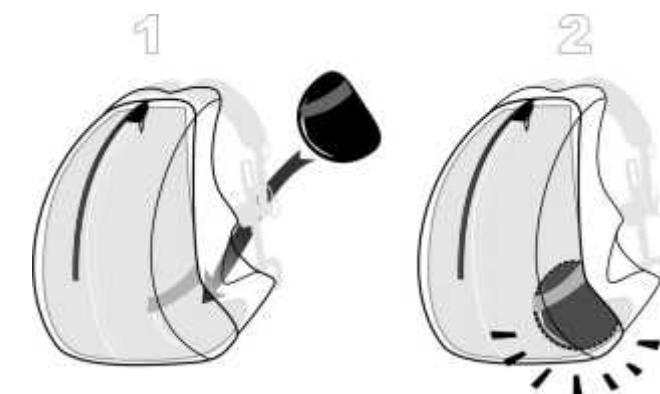
- Never carry instruments that may perforate the harness backing in case of impact!

## PROTECTORS' INSTALLATIONS

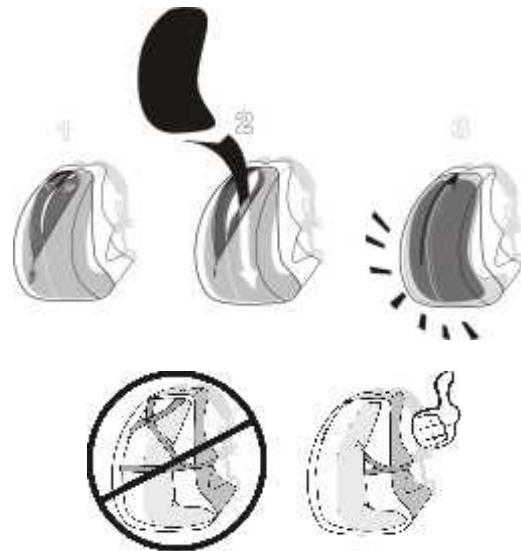
### Lateral Protetor (Amazon and Virtue)

#### Attention:

- The lateral protectors must be fed through the harness' frontal area.



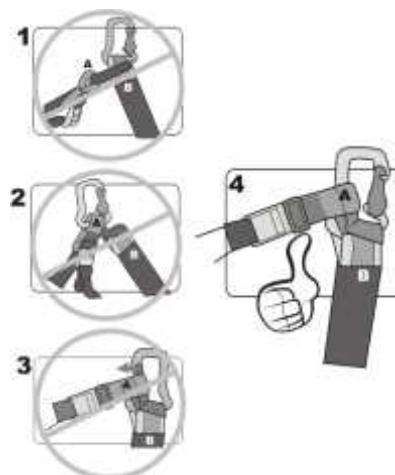
## Dorsal Protector:



### Attention:

The dorsal protector must be fed through the rear pocket!

## CARABINERS' INSTALLATION



## RADIO AND CAMELBACK CASE

**Amazon, Easy2** and **Virtue** harnesses have a radio and camelback case located at the harness back. An opening allows the radio cable and/or the camelback hose exit next to the pilot, according as indicated below:



## POSITION ADJUSTMENT

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.

### Attention:

-The pilot must maintain the pectoral strap distance at the specified measurement as shown in the manual, therefore the certification characteristics are not altered.

The legs' straps adjustment is very accommodating and allows for a wide range of heights. **SOL Harness** is equipped with leg locks, which works together with the pectoral strap, making the connection of pilot and harness.

## VIRTUE , EASY 2, AMAZON

Visualize the details of how to adjust the **Amazon, Easy2** and **Virtue Harnesses** for flight:



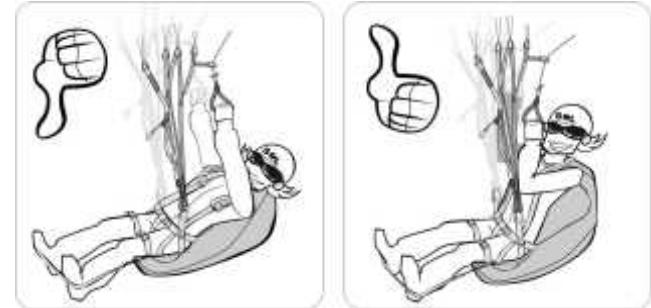
### Attention:

- The leg setting can not be too tight, to avoid jeopardizing good movement.
- Make sure the setting is symmetric.

## Flight Position

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

- Your command is shortened
- More vulnerable to a twist



## Opening the Carabiners

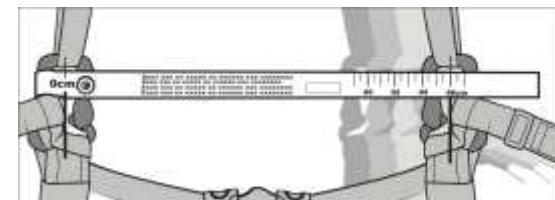
Depending on the paraglider size, there is a measurement of the carabiners opening to which the paraglider was designed and tested. With **SOL** paragliders you must fly within these measurements. In case you are outside these measurements, the paraglider's behavior can not correspond to the certification:

Distance between carabiners according to the paraglider size:

S	40
M	42
L	44
XL	46

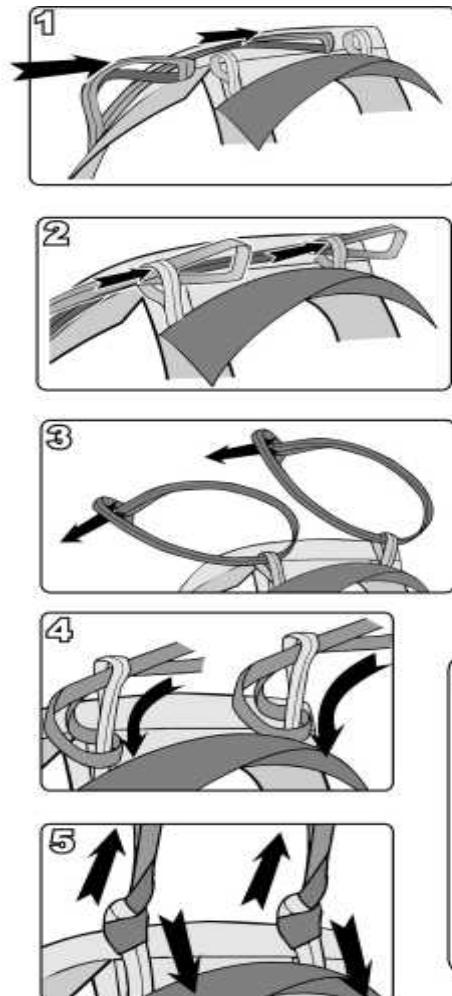
Double 44

We have included a tape with your harness to help you set the exact measurement of distance between the carabiners.



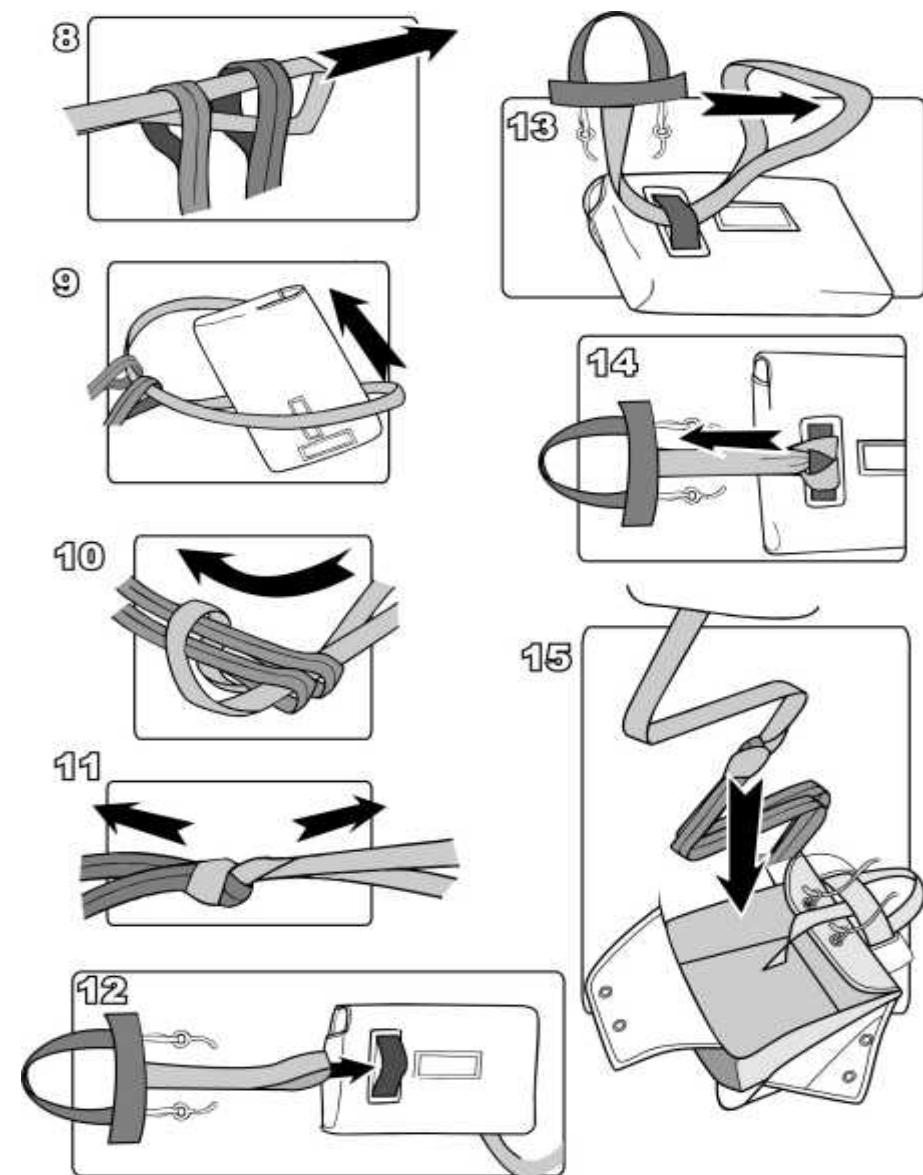
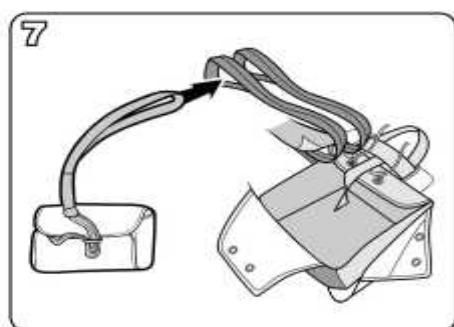
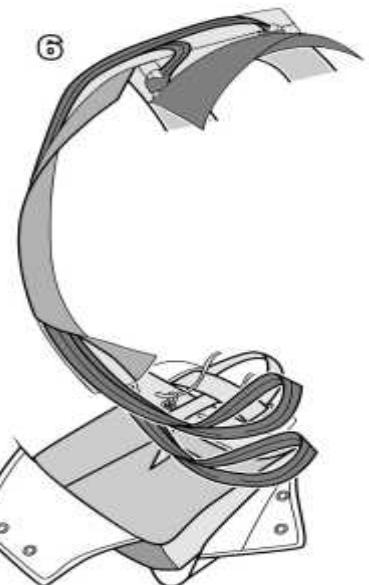
## RESERVE PARACHUTE INSTALLATION

Visualize the details of how to execute the reserve parachute installation. 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.



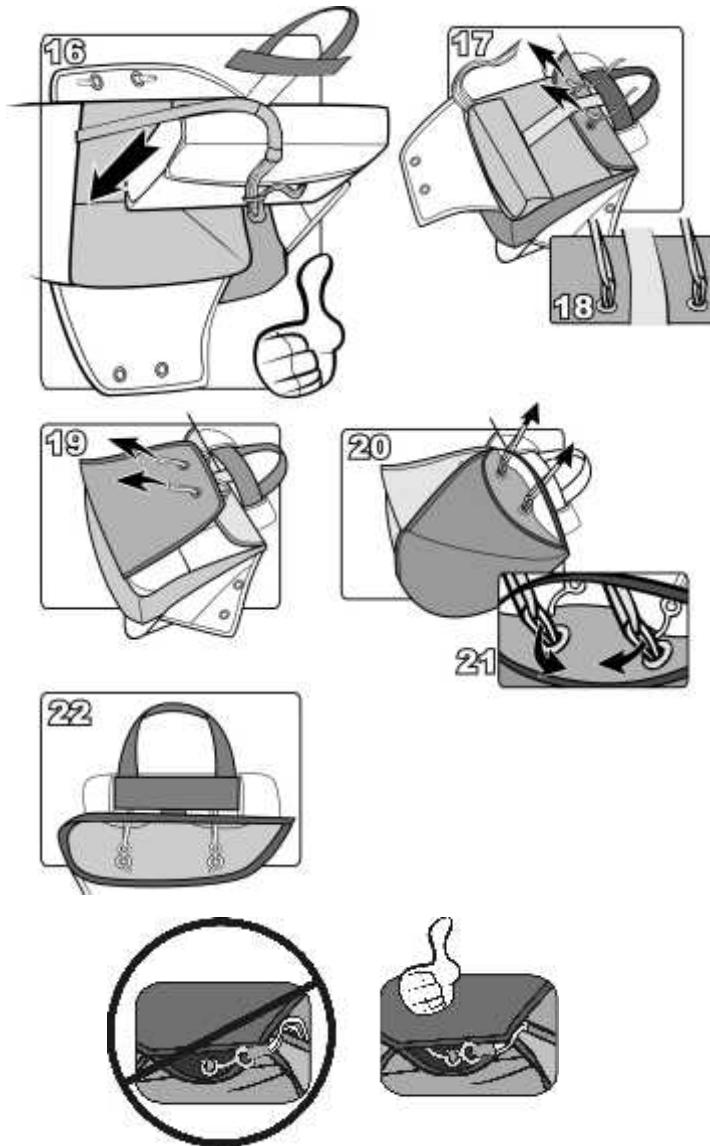
### Attention:

Illustration 5: Pull the bridles firmly to stop an involuntary opening to avoid a dangerous contact in the event of a reserve opening.



### Attention:

Illustration 11: Pull the bridles firmly to stop an involuntary opening to avoid a dangerous contact in the event of a reserve opening.



**SOL Harness** features a reserve 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 19), protecting the parachute from dust and humidity.

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

#### Attention:

- Before every flight, inspect the activation handle and its pins, to make sure they are at the correct setting position.
- 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 reserves may not fit adequately in the smaller size harness.



**Pay special attention to the fact that you must pull your reserve in order to throw it out.**

## RESERVE 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.



#### Attention:

- 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.

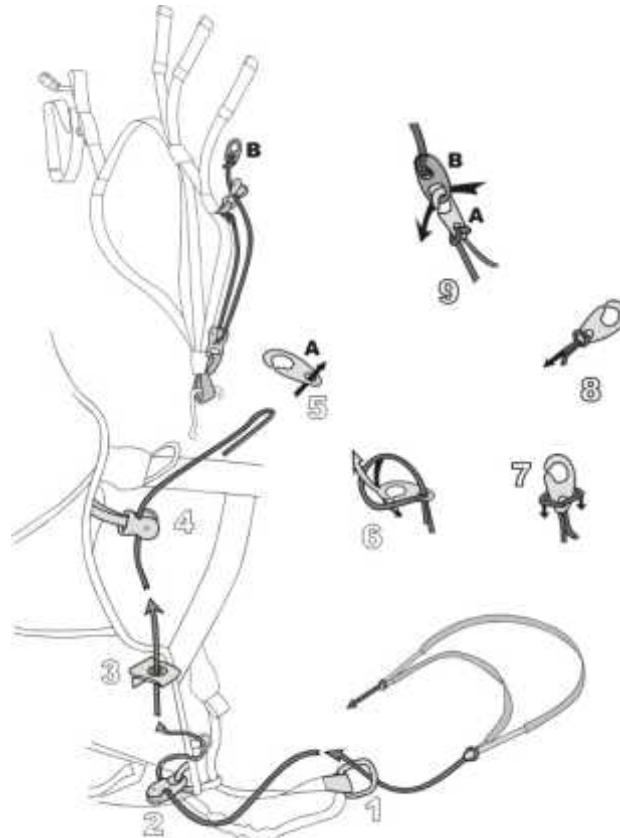
## WATER LANDING

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.

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.

## SPEED SYSTEM INSTALLATION

All necessary buckles to adjust the speed system are found on the harness' body. The cables must be fed initially through the pulleys in front of the seat.

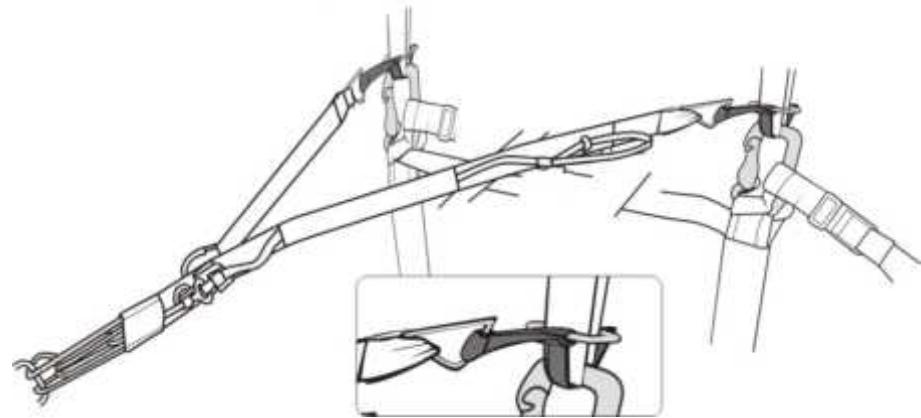


## TOWING ATTACK SYSTEM INSTALLATION

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 ADJUSTMENTS

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



- 1º) If all pockets are closed correctly;
- 2º) If reserve parachute handle is in the correct position;
- 3º) If each hook-up, legs and chest, are connected;
- 4º) If distance between the carabiners is according to the paragliders' certification.

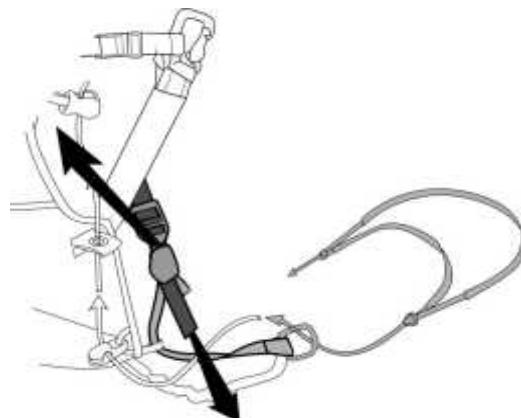
## CHARACTERISTICS AND ACCESSORIES

### Pockets:

**SOL Harness** feature a large rear and lateral pockets, with running locks. These pockets were designed in such way that they will keep its contents from falling accidentally during flight.

### Foot Support:

The **Harness Virtue , on Easy 2 (Optional), Amazon** feature feet support.

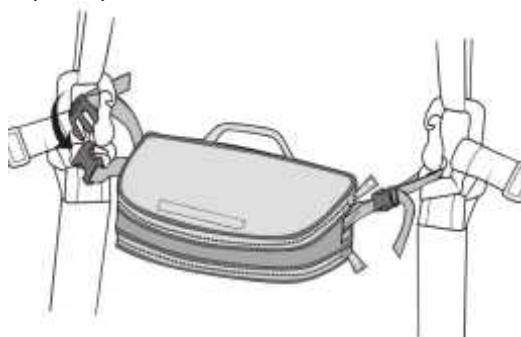


### Attention:

The **Harness Virtue , Easy 2** and **Amazon** were not certified with foot stirrup

### Frontal Container:

**SOL Harness** line allows for the attachment of a special reservoir (container), where the pilot may carry his/her electronic instruments during flight.



### Attention:

This reservoir can not be used if the emergency parachute is mounted on the frontal position. In this case, it is possible to acquire a container which will fit the reserve parachute and the instruments.

### Tandem Flight

The **Amazon, Easy2** and **Virtue Harnesses** were not designed for tandem flights.

### SOL Harness with third party paragliders:

**SOL Harness** doesn't have any usage restriction when combined with other brands of paragliders. Refer to your paraglider's manual.

## MAINTENANCE, REPAIR AND CLEANING

### Maintenance:

We recommend that your **SOL Harness** be sent to the manufacturer or an authorized repair facility (*licensed once every two years*), in order that a professional inspection be performed.

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.

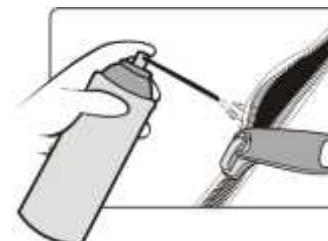
### Repairs:

Small repairs and minor parts replacements can be done by you.

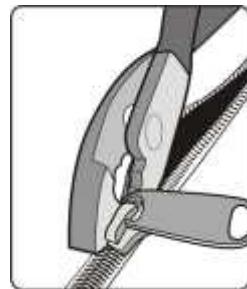
We advise you however to get it done by the manufacturer or authorized repair shop, where the materials utilized and technical expertise are second to none.

### ZIPPER

The zipper should open and close softly and the slider should travel through its path easily. If you experience any trouble with the slider, you should apply a little wax or lubricant spray to minimize the abrasiveness between the parts.

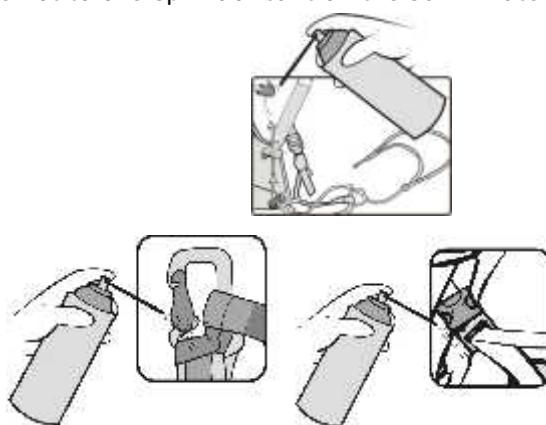


In most cases, you will be able to repair the zipper yourself. In case the slider is not able to close the zipper, bring it to the starting point and with some pliers lightly tighten the slider on both sides.



### Pulleys, Carabiners and auto Buckles

It is very important to maintain all pulleys, Carabiners, Auto Buckels well lubricated, as this will keep from stressing the speed system lines and axel. Apply wax or lubricant spray. Read about lubricants, so you can avoid stains and fabric deterioration.  
Make sure not to overspill lubricant on the sewn material.



### Cleaning:

Use water and neutral soap to clean your **SOL Harness**, avoiding scrubbing over the sewn areas.

## TECHNICAL DATA

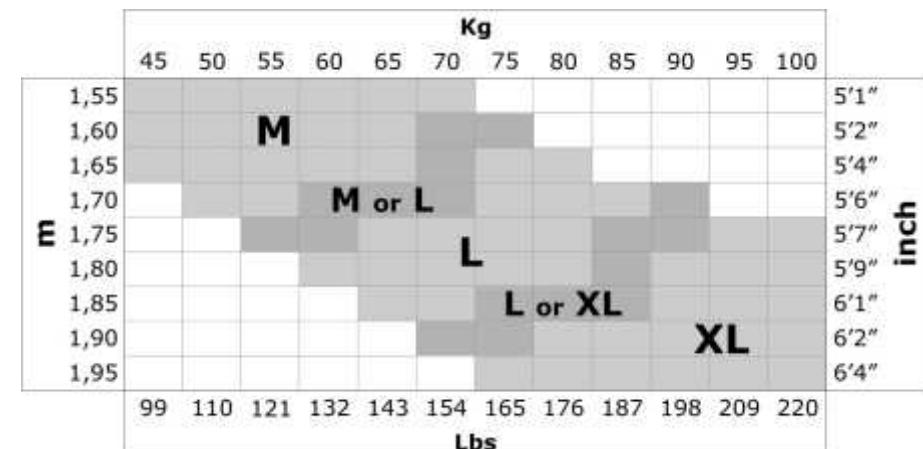
Maximum pilot weight allowed: 100 kg DHV

(Pruf-Nr. 11071400-11071421 SOL FLEX AB (ABS) )

Tamanho da Selete	M	L	XL
Seat width (cm)	35	37	39
Seat length (cm)	36	38	40
Height of connection point (cm)	39	41	43
Harness Virtue (Kg) (Without Back Protector, Seat, Reserve Parachute, Carabiners and Lateral Protectors)	5,3	5,6	5,9
Harness Easy (Kg) (Without Back Protector, Seat, Reserve Parachute, Carabiners and Lateral Protectors)	3,8	4,3	4,7
Harness Amazon (Kg) (Without Back Protector, Seat, Reserve Parachute, Carabiners and Lateral Protectors)	5,0	5,4	5,8

- Back Protector: 0.7Kg
- Sitting Board: 0.8Kg
- Lateral Protectors(Amazon e Virtue): 0.2Kg

### Weight x Height



### Data:

<b>Amazon</b>	Q <sub>18cm</sub>	□	○	□	□	○○	□	○	V	■	■	■	■
<b>Easy 2</b>	Q <sub>18cm</sub>	□	○	□	□	○○	□	○	V	■	■	■	■
<b>Virtue</b>	Q <sub>18cm</sub>	□	○	□	□	○○	□	○	V	■	■	■	■

## Legend:

	English	Français	Português	Deutsch
	Back protector 14cm	Potection dorsale 14cm	Protetor Dorsal 14cm	Rücken Protektor 14cm
	Back protector 18cm	Potection dorsale 18cm	Protetor Dorsal 18cm	Rücken Protektor 18cm
	Airbag Cygnus	Airbag Cygnus	Airbag Cygnus	Airbag Cygnus
	Side protector	Protection latérale	Protetor lateral	Seiten Protektoren
	Side pocket	Poche latérale	Bolsa lateral	Seiten Taschen
	Back pocket	Poche dorsale	Bolsa dorsal	Rücken Stautaschen
	Foot stirrup	Cale-pieds	Apoio de pé	Beinstrecker
	Reserve bridles	Sangle de reserve	Fita para o reserva	Verbindungsleine für Rettungsschirm
	Speed pulley	Poulie d' accélérateur	Roldana para acelerador	Beschleuniger Lenkrolle
	Double speed pulley	Double poulie d' accélérateur	Roldana dupla para acelerador	Beschleuniger Doppel Lenkrolle
	Lightweight buckles	Bouclerie légère	Fechos leves	Leichtschnallen
	Auto buckles	Bouclerie automatique	Fechos automático	Schnellverschlüsse
	Auto buckles and safe T-bar	Bouclerie T-anti oubli	Fechos automático-T	Schnellverschlüsse-T safe
	Auto buckles and safe V-bar	Bouclerie V-anti oubli	Fechos automático-V	Schnellverschlüsse-V safe
	Bottom reserve container	Poche de parachute inférieure	Container de reserva inferior	Rettungsschirmdcontainer unter Sitz
	Back reserve container	Poche de parachute dorsale	Container de reserva dorsal	Rettungsschirmdcontainer am Rücken
	Trimmer	Compensateur	Trimmer	Trimmer

## 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 inmost 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 **SOL HARNESS**.

*SOL Paragliding Team*

