

Pilot's Manual

Harnesses

Tandem



Split Pilot²

Split Passenger²

Nov/2007



INDEX

Welcome to the SOL Family.....	32
About SOL.....	33
Philosophy.....	34
Introduction.....	35
Technical Innovations.....	36
Your Harness Includes.....	36
Pre-Flight Adjustments and Installation.....	37
Protection Installations.....	37
Carabiners Installation.....	38
Position Adjustment.....	38
Tandem Pilot - Tandem Passenger.....	39
Flight Position.....	40
Carabiners Opening.....	40
Tandem Spread Connection Installation.....	41
Reserve Parachute Installation.....	41
Water Landings.....	45
Speed System Installation.....	45
Towing Attack System Installation.....	45
Final Adjustments.....	45
Characteristics and Accessories.....	46
Pockets.....	46
Radio and Camelbak Case.....	46
Frontal Container.....	46
SOL Harness with Third Party Paragliders.....	47
Maintenance, Repairs and Cleaning.....	47
Maintenance.....	47
Repairs.....	47
Zipper.....	47
Pulleys.....	48
Cleaning.....	48
Warranty.....	50
Final Words.....	52
Technical Data.....	53
Weight vs. Height.....	53
Data.....	53
Legend.....	53



WELCOME TO THE SOL FAMILY!

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 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 **export@solports.com.br** or **info@solports.com.br**

Don't forget to access our website often at "**www.solports.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

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 m² 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;

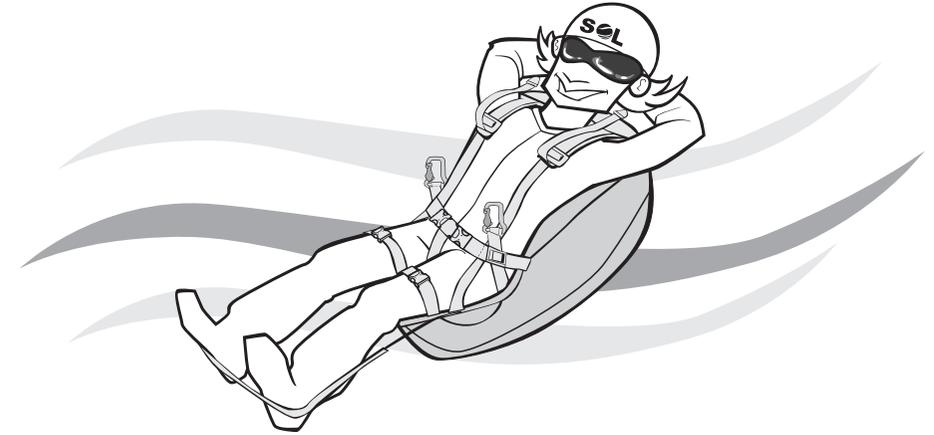
Ease of Operation: The new product must display higher levels and better operational ease than the one it is replacing;

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 aerobatics.

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:

- Abdomen adjustment
- Straps' Handle as per DHV regulation;
- Adjustable Quick "hook" Lock of 38-55 cm;
- ABS System;
- Spacious Side Pocket (Pilot);
- Spacious Baggage Pocket;
- PTT Gap for Radio (Pilot);
- Water Compartment Hose Gap (Pilot);
- Personal Identification Compartment;
- Radio Pocket;
- Water Compartment Pocket;
- Lateral Reinforcement for better load distribution;
- Side adjustment;
- Anatomic back support composed by IVA (Pilot);
- Shoulder strip connected to the seat;
- Reserve Parachute back container (Pilot);
- 14 cm back protector (Pilot);
- Room to fix Airbag (passenger);
- Independent leg support;
- Legs adjustment;
- Trimmer shoulder adjustment;
- Possibility to use board or IVA on the legs;

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.

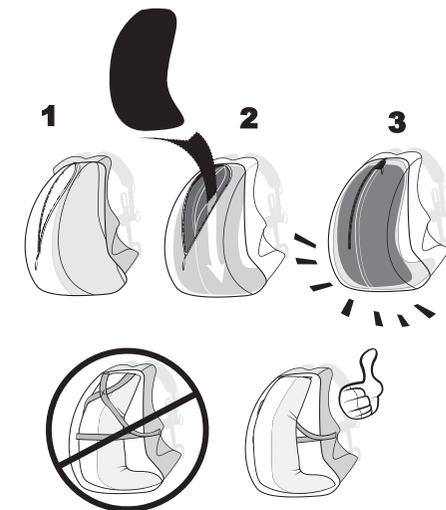
For your first flight, choose calm weather conditions. Should you need to make further adjustments, it will be easier to find the ideal position after this first flight.

Attention:

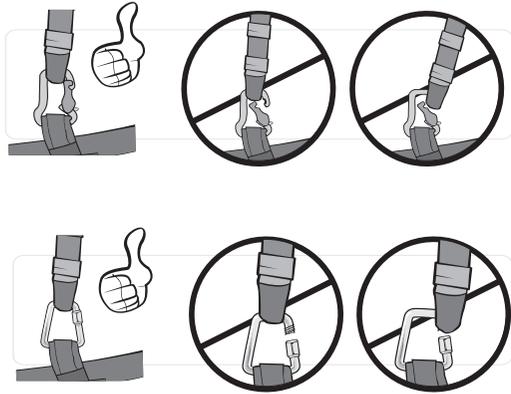
- Install the dorsal protection and the reserve parachute before adjusting your **SOL Harness**.
- Never carry instruments that may perforate the harness backing in case of impact!

PROTECTORS' INSTALLATIONS

Dorsal Protetor:



CARABINERS' INSTALLATION



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.

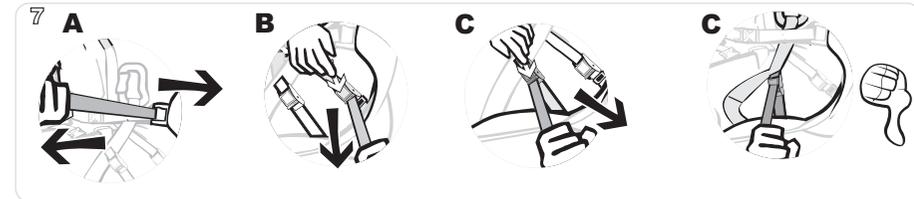
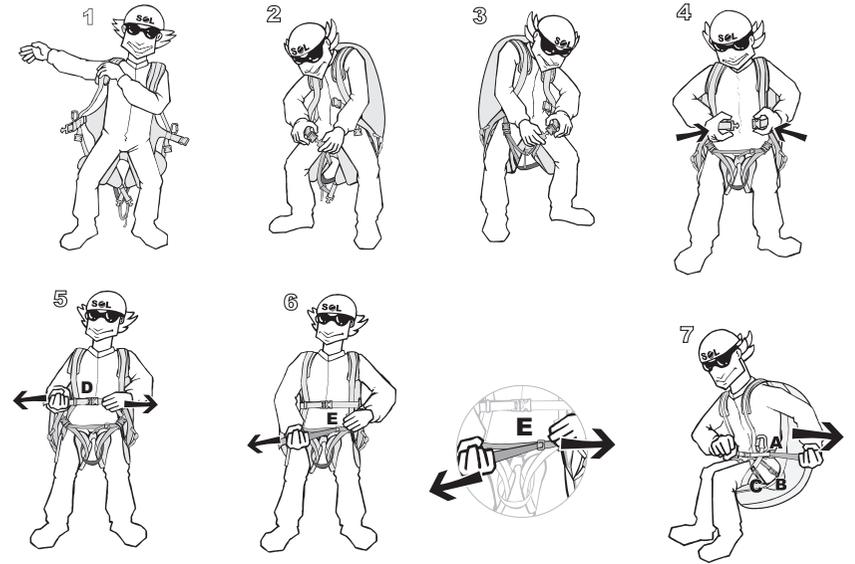
Attention:

-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.

Tandem Pilot – Tandem Passenger

Visualize the details of how to adjust the harnesses for flight:



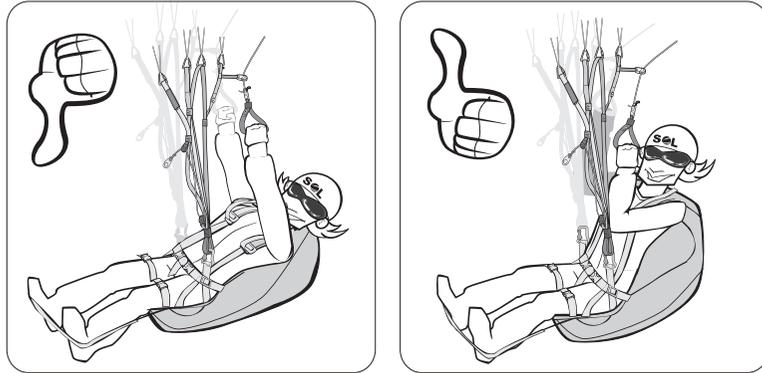
Attention:

-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



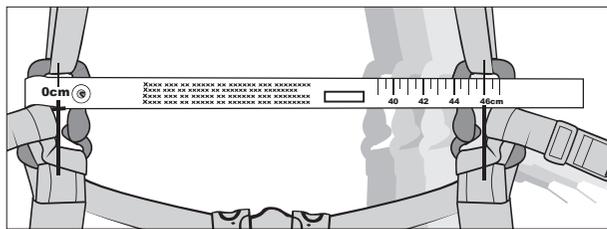
Opening the Carabiners

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:

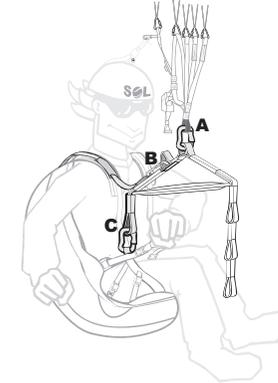
Distance between carabiners according to the paraglider size:

Tamden 44cm

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



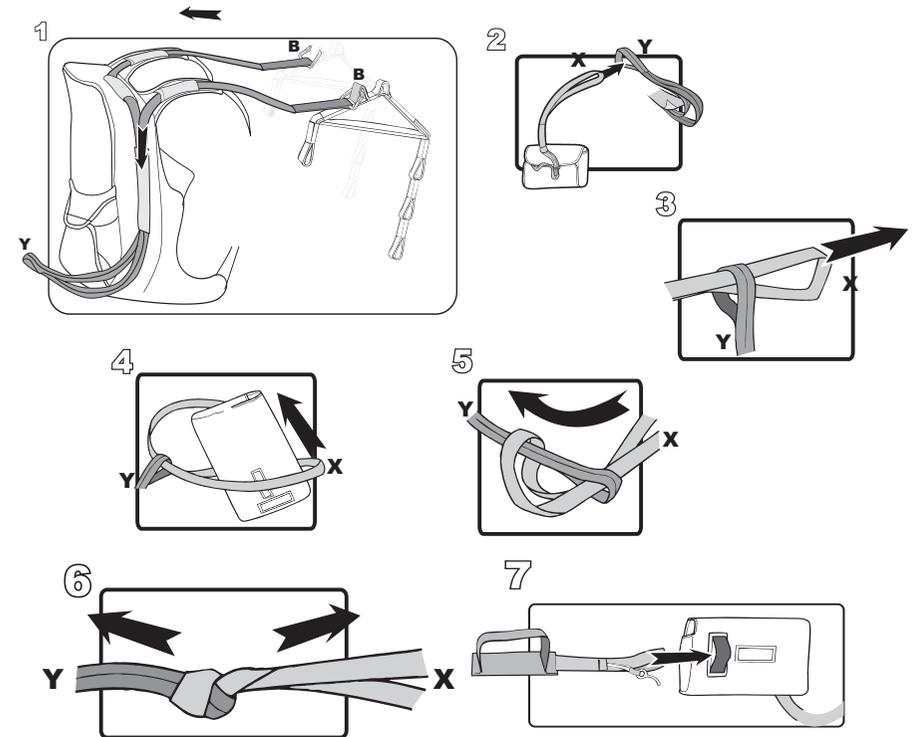
TANDEM SPREAD CONNECTION INSTALLATION



- A - Paraglider risers attachment
- B - Reserve parachute attachment
- C - Separator -harness attachment

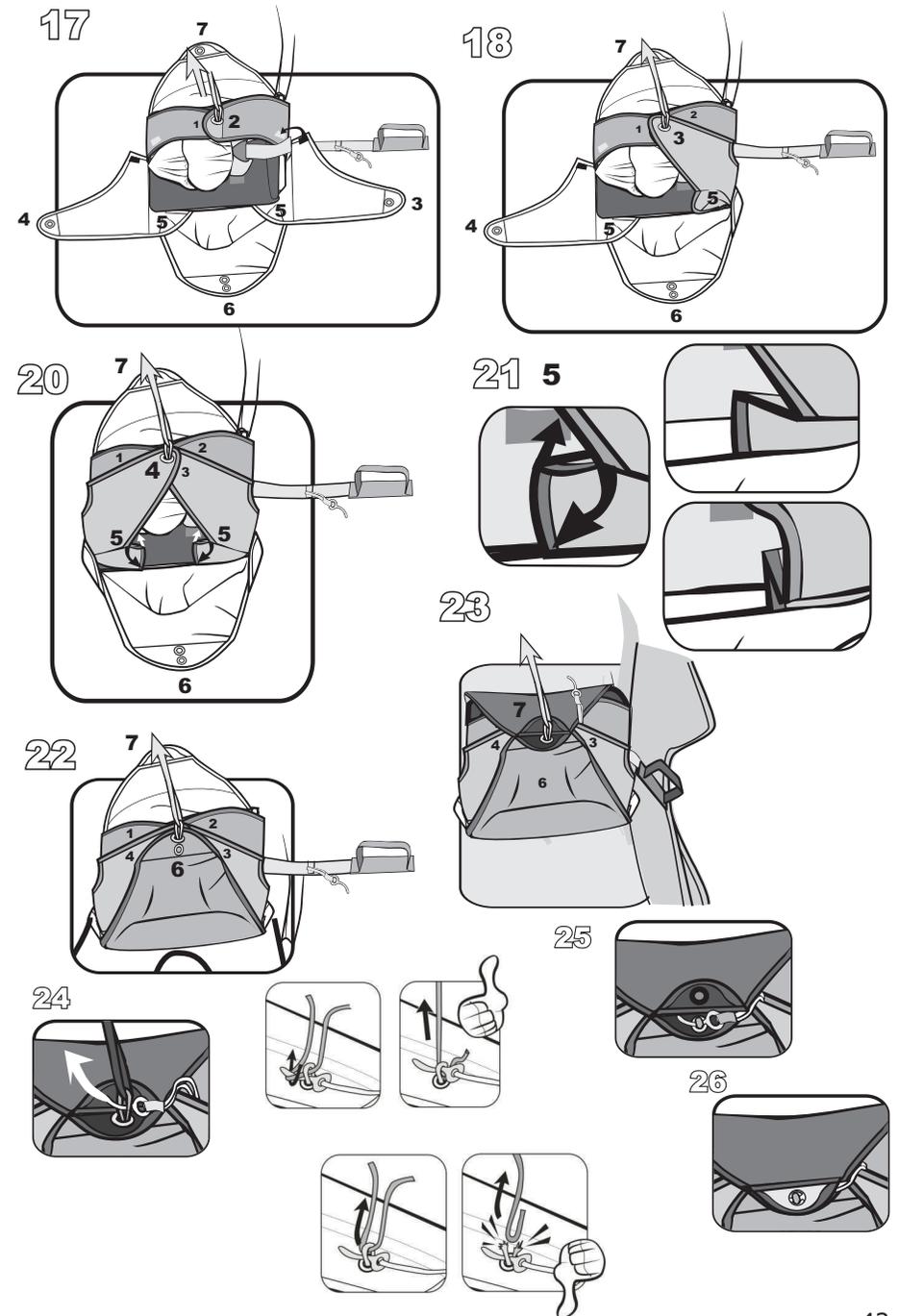
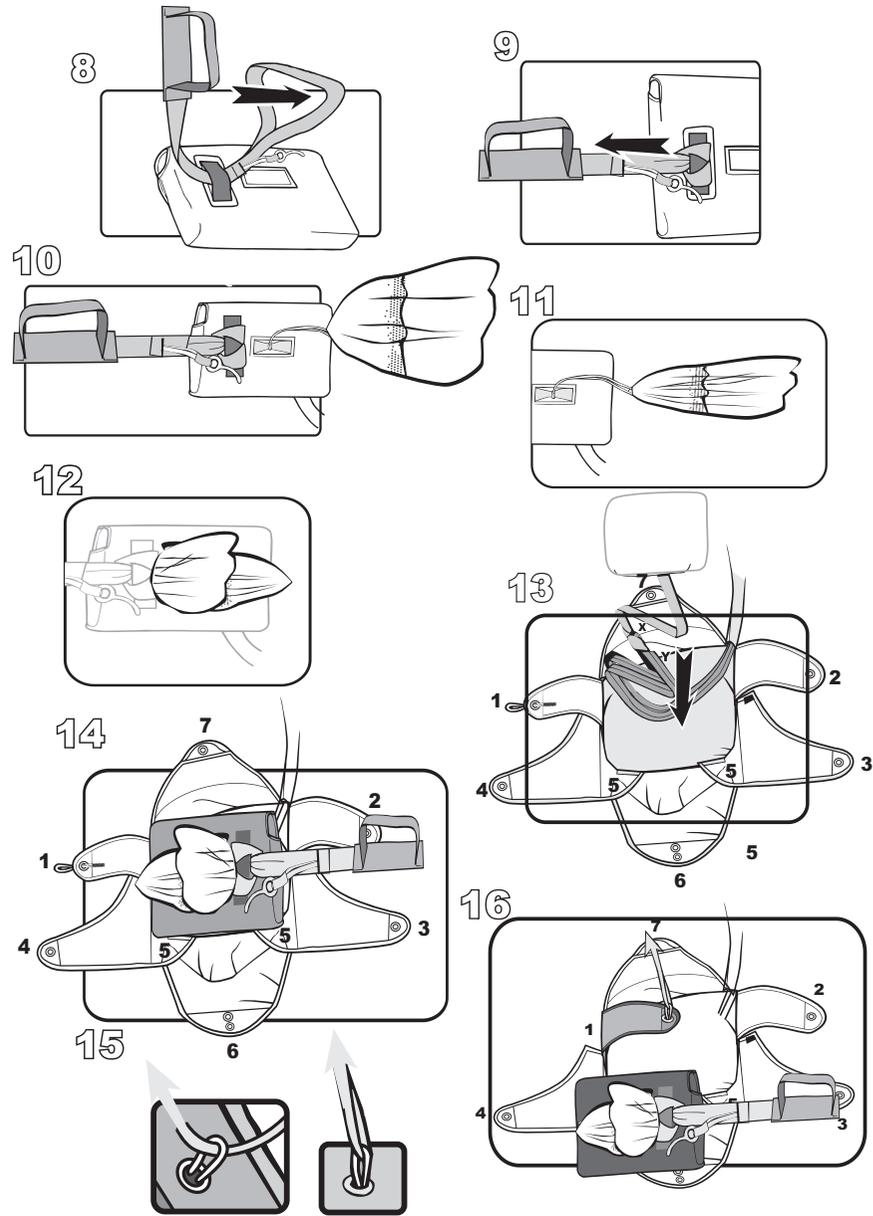
RESERVE PARACHUTE INSTALLATION

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.



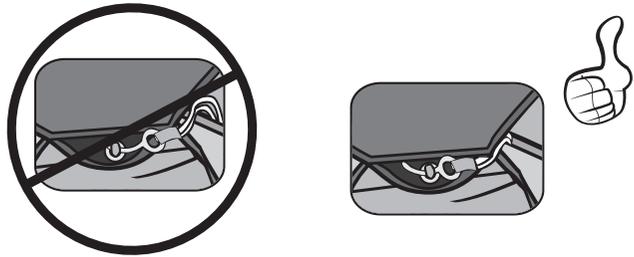
Attention:

Illustration 6: Pull the bridles firmly to stop an involuntary opening to avoid a dangerous contact in the event of a reserve opening.



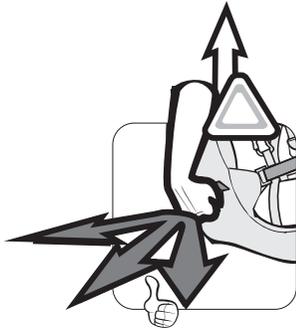
Attention:

-Before every flight, inspect the activation handle and its pins, to make sure they are at the correct setting position.



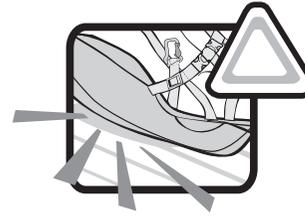
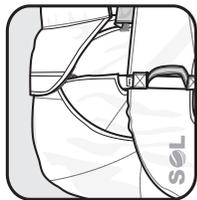
Attention:

-Before every flight inspect the opening handle.
-In case the pilot land in the water and the parachute gets wet, he/she must remove the parachute from the harness, dry it and install in the proper compartment. (See in the Reserve manual)
-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.

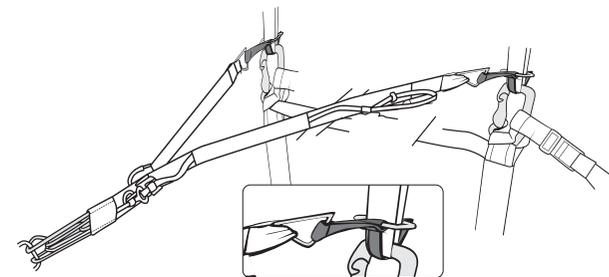
After a water landing you must take the column protector off, seat board, reserve parachute, all lateral protectors and let them all dry under shade in a breezy area.

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.

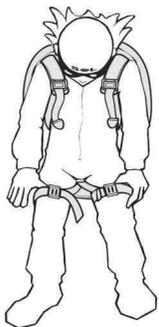
Please refer to the instructions concerning flight by tow in your paraglider's manual.



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.

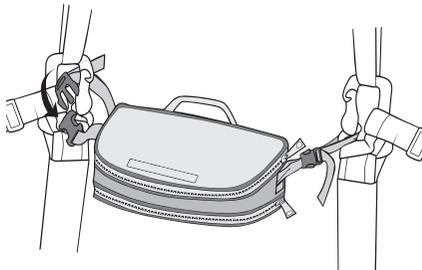
RADIO AND CAMELBAK CASE

Tandem Pilot and Passanger harnesses have a radio and hidrobac case located at the harness back. An opening allows the radio cable and/or the hidrobac hose exit next to the pilot, according as indicated below:



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.

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.

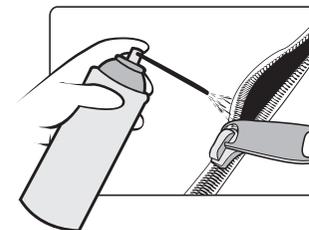
Repairs:

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

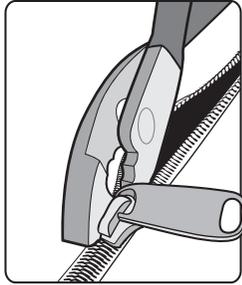
We advise you however to get it done by the manufacturer or authorized repair shop, where the materials utilized and technical expertise are second to none.

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.

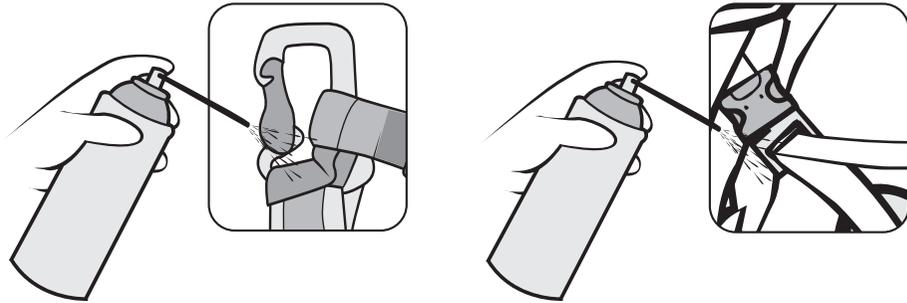


In most cases, you will be able to repair the zipper yourself. In case the slider is not able to close the zipper, bring it to the starting point and with some pliers lightly tighten the slider on both sides.



Pulleys, Carabiners and auto Buckles

It is very important to maintain all pulleys, Carabiners, Auto Buckles 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 and deterioration
Make sure not to overspill lubricant on the sewn material.

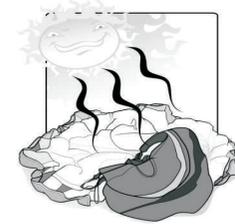


Cleaning:

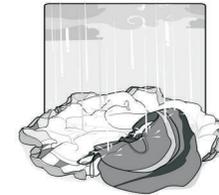
Use water and neutral soap to clean your **SOL Harness**, avoiding scrubbing over the sewn areas.



Deterioration – Recommendations for a long life:



- The harnesses fabrics are mainly made of polyester and polyamide which as any other synthetic material suffers ultraviolet radiation (UV), decomposing and losing its mechanic resistance and increasing its consuming. That's why it must avoid the UV exposition, especially at great heights.
- We recommend keeping your harness well protected when it is not being used.
- Avoid ground attrition when handling your harness that helps diminishes consuming.



- In case your equipment gets wet try to dry it exposing it to sun at less time possible.
- To dry completely your harness you should remove from its compartments the back protector, board and side protectors in case you have them.
- In case of contact with sea water, the harness must be rinsed with fresh water. The sea water may diminish the sewing resistance even when is rinsed with fresh water.
- In case your reserve gets wet together with your harness see how to procedure in your Reserve Manual.
- The harnesses SOL must be taken for inspection at the manufacturer or distributor once a year:



SOL SPORTS HARNESS WARRANTY

The ***SOL SPORTS HARNESS*** warranty is limited for 1 (one) year. During this period the warranty is valid for materials and mistakes on manufacturing processes being observed under predefined conditions. This warranty is valid for every ***SOL*** harness, AFNOR, CEN or DHV certified, rated for leisure use only. This does not include professional equipments (school, competitions, aerobatics, etc).

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

Warranty Terms :

- 1^o) This warranty is valid for materials and mistakes on manufacturing processes of the harness being observed under predefined conditions.
- 2^o) This warranty is valid for every ***SOL*** harness , AFNOR, CEN or DHV certified, rated for leisure use only. This does not include professional equipments (school, competitions, aerobatics, etc.).

Warranty Conditions :

- 1^o) A three part form should be filled in correctly and sent to ***SOL Sports*** within 30 days after purchase. One copy is kept by the owner and another one is kept by the dealer.
- 2^o) The equipment has to be operated and maintained strictly following the instructions given in the owner's manual. This includes the storage, folding and cleaning of the harness.
- 3^o) The maintenance and checking of the harness has to be done only by the manufacturer or an authorized repair shop and a record should also be kept.
- 4^o) The harness has to be inspected annually or after every 100 flight hours if this amount of flights is reached before one year. Without this annual inspection, the harness loses its certification and the warranty.
- 5^o) All shipping and handling expenses are paid by the owner.
- 6^o) The final decision on exchanging or repairing the respective harness will be decided by ***SOL Sports***. The owner need to send to ***SOL Sports*** :
 - a)The respective harness to be exchanged or fixed and a copy of all inspections and the flight log.
 - b)The original copy of the SOL Paragliders warranty form.

This Warranty Does Not Cover :

- 1) Alterations of its original fabric, straps and hardware;
- 2) Damages caused by chemical means, sand, friction, cleaning products or salt water;
- 3) Damages caused by inappropriate handling, accidents or emergency situations;
- 4) Damages caused by inappropriate operation of the harness;
- 5) Harnesses that have suffered any kind of alteration from its original form without ***SOL***'s official authorization;
- 6) Damages caused by inappropriate transport, storage or settings of the harness;
- 7) Damages caused by the use of not compatible components with the harness;
- 8) Damages caused by the use of inappropriate packaging for the transport;
- 9) Harnesses without original identification label and serial number;
- 10) 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 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.

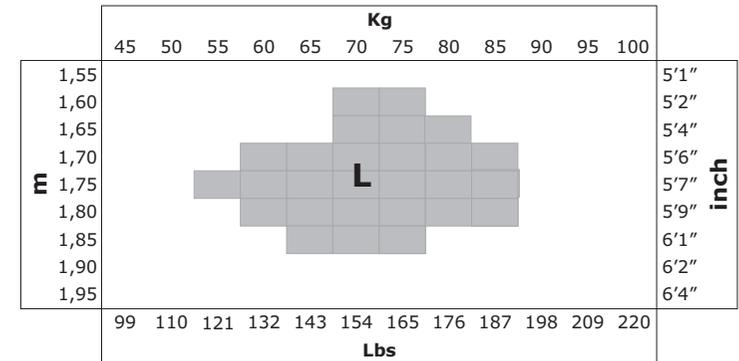
We wish you good and safe flights with your **SOL Harness**.

SOL Paragliding Team

Data / Dados:

Tandem	Split Pilot										3,1Kg
	Split Passenger										2,9Kg

Weight x Height



Attention:

-This is just a reference table. It can not be used as exclusive resource for size decision. Consult your dealer.

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	Bolso 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	Leichtschellen
	Auto buckles	Bouclerie automatique	Fechos automáticos	Schnellverschlüsse
	Auto buckles and safe T-bar	Bouclerie T-anti oubli	Fechos automáticos-T	Schnellverschlüsse-T safe
	Auto buckles and safe V-bar	Bouclerie V-anti oubli	Fechos automáticos-V	Schnellverschlüsse-V safe
	Bottom reserve container	Poche de parachute inférieure	Container de reserva inferior	Rettungsschirmcontainer unter Sitz
	Back reserve container	Poche de parachute dorsale	Container de reserva dorsal	Rettungsschirmcontainer am Rücken
	Trimmer	Compensateur	Trimmer	Trimmer