# Crest



**Woody** Valley

Manual Edition 1.0 - 09.2021





# **Woody** Valley

Congratulations on your purchase of a WOODY VALLEY product. We would like to remind you that all our products are the result of meticulous research in constant collaboration with pilots from all over the world. That's why your opinion is so important to us. Your experience and collaboration help us constantly improve our harnesses, to always get the best out of every Woody Valley creation.

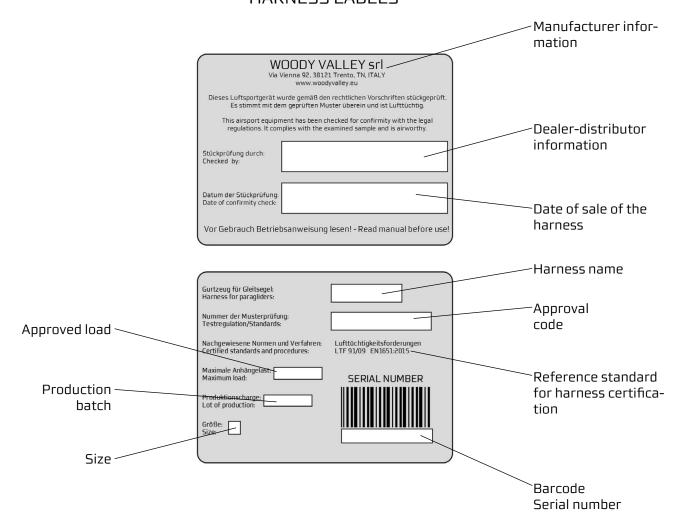


### MANUFACTURER INFORMATION:

WOODY VALLEY s.r.l. via Linz, 23 - 38121 Trento - ITALY Tel +39 0461 950811 - Fax +39 0461 950819

> Web: <u>www.woodyvalley.eu</u> E-mail: info@woodyvalley.com

# DATA CONTAINED ON THE HARNESS LABELS







### THANK YOU

We would like to thank you for choosing a Woody Valley product. We invite you to please carefully read this important document, the harness user manual and to take special account of the two most important paragraphs concerning:

### INSERTING THE RESERVE PARACHUTE

The reserve parachute is a life-saving piece of equipment. It must be inserted so that it works correctly when required, whether this happens in two days' time or two years from now.

### ADJUSTING THE HARNESS

The harness is the connecting point between the pilot and the paraglider and it is a necessary component for optimising flight performance and pleasure. A bad harness that is well adjusted may enable you to fly well, but a good harness that is incorrectly adjusted may put you off flying altogether.

We are confident that this harness will give you great comfort, control, performance and enjoyment in flight. We are well aware that reading a user manual may not be the most exciting thing to do. However, please remember that this product is not a simple citrus juicer or a mobile phone and that correct use of the harness helps reduce the risk of flying accidents. This manual contains all the information necessary to assemble, adjust, fly and store your harness. Thorough knowledge of your equipment will improve your personal safety and your flying potential.

The Woody Valley Team		

### SAFETY NOTE

By purchasing Woody Valley equipment, you are responsible for being a certified paraglider pilot and you accept all risks inherent with paragliding activities including injury and death. Improper use or misuse of equipment greatly increases these risks. In no case shall Woody Valley or Woody Valley equipment resellers be held liable for personal or third party injuries or damages under any circumstances. If any aspect of the use of our equipment remains unclear, please contact your local reseller or Woody Valley directly.



### CONTENTS

### 1- GENERAL INFORMATION

- 1.1 Concept
- 1.2 Protection and safety
- 1.3 S.O.S label
- 1.4- RECCO system

### 2 - BEFORE USING

- 2.1 Reserve parachute
- 2.1.1 Refolding the reserve parachute in the deployment bag
- 2.1.2 Connecting the reserve parachute to the harness
- 2.1.3 Inserting the reserve parachute
- 2.1.4 Compatible reserve parachutes
- 2.1.5 Extracting the reserve parachute
- 2.2- Harness adjustments
- 2.2.1 Back adjustment
- 2.2.2 Shoulder-pad adjustment
- 2.2.3 Chest strap adjustment
- 2.2.4 Seat height adjustment

### 3- FLYING WITH CREST

- 3.1 Preflight checks
- 3.2 Pockets
- 3.3 Camel-bak
- 3.4 Tandem flying
- 3.5 Flying over water
- 3.6 Winch launch bridle attachment
- 3.7 Landing with CREST
- 3.8 Disposing of the harness
- 3.9 Regulations for behaviour in natural environments

### 4 - REFOLDING THE HARNESS

stowing the glider and using the rucksack

- 5 CHARACTERISTICS AND INSTALLATION OF THE SPEED SYSTEM
- 6 MAINTENANCE AND REPAIR
- 7 WARRANTY
- 8 APPROVAL CERTIFICATES
- 9 TECHNICAL DATA





### 1- GENERAL INFORMATION

This manual is an integral part of the CREST harness and should be stored in a safe place for future reference.

For further information, please contact your dealer or Woody Valley directly.

The pilot is advised to read this manual carefully before using the harness.

### Declaration of conformity

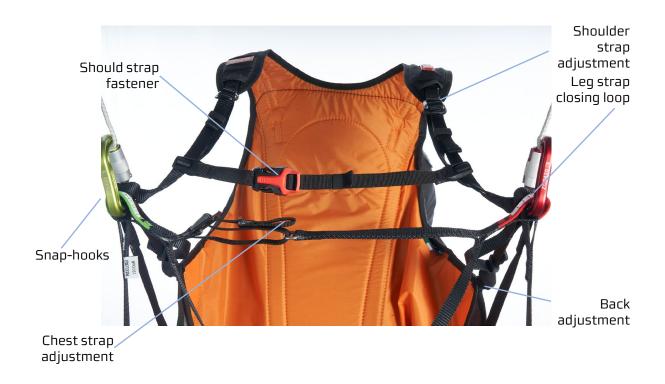
The manufacturer WOODY VALLEY Srl hereby declares that its products comply with standard UNI EN 1651- LTF 91-09

### This equipment must contain:

- Harness
- Snap-hooks
- Dedicated emergency container with attached handle
- 2 reserve elastic loops for closing the reserve parachute
- Two step light speed-bar
- "V" bridle (red and white)
- Rucksack

### The main options available are:

- Concertina light
- Radio poket







### 1.1- Concept

CREST is designed to be used as a harness for sport paraglider flying with a maximum weight of 120 kg.

CREST is designed for placement in the Hike & Fly category. In less than 2 kg, we have created a revolutionary reversible harness with high performance airbag thanks to the use of new construction materials and systems. The innovative geometry of the strap system and the GET UP safe leg strap closing system has been designed for easy donning of the harness and for precise, smooth handling, in addition to being extremely lightweight.

The original reversibility system makes it possible to totally detach the rucksack from the harness, depending on user preference.

Painstakingly designed in every detail, CREST offers excellent in-flight comfort and can be adapted to novice or experienced pilots by adjusting the length of the chest strap.

### 1.2- Protection and safety

CREST uses a shape-retaining airbag, plus it has a new frontal air inlet that ensures good inflation.

Thanks to the use of Nitinol (highly resistant and super elastic metallic wire) inserted in the lower edge of the airbag, the CREST airbag is able to obtain 60% of the protective capacity before complete inflation which takes place in flight. The inflation valve has also been completely redesigned to guarantee airflow in the airbag regardless of leg position. The new valve improves airbag performance and aesthetics.





### AIR TURQUOISE SA | PARA-TEST.COM

Test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes



### **Harness Impact Pad Report**

Inspection certificate number: PH\_347.2021

Manufacturer data:		Sample data:		
Manufacturer name:	WoodyValley srl	Name impact pad:	n/a	
Representative:	Simone Caldana	Impact pad intgrated:	Yes	
Street:	Via Vienna 92	Impact pad type:	Airbag	
Post code place:	30121 Trento	Weight of sample [kg]:	n/a	
Country:	Italy	Serial number:	n/a	
•	-	Date of test:	27.09.2021	
Harness model:	Crest M			

Temp.	[C°]	22
R.H.	[%]	54
Press.	[hPa]	1008

### Summary of Impact pad test (1)

Test id	-			Duration at 38 [g] in [ms] (4)		Diff. of test 1 and 2 [%] (6)	Result
Р	٧	Test sample attached to dummy in flying position, without emergency parachute	19.79	0.00	0.00	17.59	POSITIVE
PR	٧	Test sample attached to dummy in flying position, Including emergency parachute	19.23	0.00	0.00	6.34	POSITIVE

Manufacturer	Instrument	Type no	S/N	Validity Calibration
Burster/MTS	Accelerometer 100 g	89010-100	1263567	23.01.2024
JDC elec	Geos n°11 Skywatch	Geos nº11	Unit11	18.06.2025

The validation of this lest report is given by the signature of the text manager on the inspection Certificate no \$4.20

Air Turquedes SA, having thoroughly assessed the sample mentioned above, dictained thesis bound conf

Maximum peak of impact should be less or equal to 50 [g]. <sup>(ii)</sup> If any, the maximum duration in at 36 [g] should be less or equal to 7 [mo]. <sup>(ii)</sup> If any, the maximum duration in at 20 [g] should be less or equal to 25 [mo]. <sup>(iii)</sup> The test should be done takes, and the 2nd test the maximum peak should not differ more than 20% from the first test, maximum peak.

# AIR TURQUOISE SA | PARA-TEST.COM Route du Pré-au-Comte 8 \* CH-1844 Villeneuve \* -41 (0)21 965 65 65

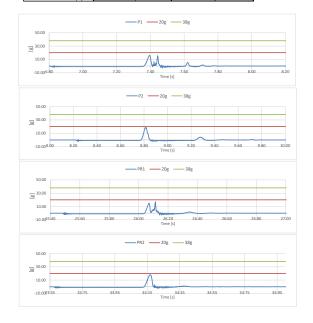
Test laboratory for paragliders, paraglider harnesses and paraglider reserve parachutes



Name impact pad: n/a

Inspection certificate number: PH\_347.2021

Test results of Impact pad	test			
	without e	mergency parachute	including	emergency parachute
	P1	P2	PR1	PR2
Maximum peak of impact [g]	16.83	19.79	18.08	19.23
Impact duration at +38 [g] in [ms	0.00	0.00	0.00	0.00
Impact duration at +20 [g] in [ms	0.00	0.00	0.00	0.00
Uncertainty k=2 [g]	0.97	1.14	1.04	1.11
Diff_between test 1 and 2 (%)	100.00	117.59	100.00	106.34



Rev 06 I 25.08.2021 Page 1 of 2 ISO 94.22 Rev 06 I 25.08.2021 Page 2 of 2 ISO 94.22



### 1.3 - S.O.S label

This red label with white lettering is clearly visible in a pocket on the padding of the right shoulder strap. On the back of this label, you can write any information that you think should be given to rescue workers in case of an accident.



### 1.4 - RECCO system

CREST is equipped on the left shoulder strap with a RECCO reflector, a device that allows you to search for anyone in trouble in open areas. Thanks to the RECCO system, very large areas can be searched quickly and therefore search times can be significantly reduced.

The system works by means of a radar signal that is transmitted by the detector during a search. This signal is picked up and sent by the reflector, which is a passive transponder, to the detector, which in turn converts it into an acoustic signal, thus directing rescuers.

More information can be found at: https://recco.com/







### 2- BEFORE USING

### 2.1- Reserve parachute

The reserve parachute housing was designed with a maximum volume of 5.2 L suitable for containing the most lightweight, latest generation reserve chutes.

The container is fitted under the seat and you must use its specific deployment bag with the deployment handle that came with the harness.

No other type of deployment bag and/or deployment handle can be used.

### 2.1.1 - Refolding the reserve parachute in the deployment bag

CREST comes with a deployment bag with a deployment handle attached. Fold the reserve parachute to fit the dimensions of the deployment bag. Refold the reserve parachute cords on the side opposite the deployment handle. Close the deployment bag flaps.









### ATTENTION:

Ask a flight instructor or a qualified person for help refolding the reserve parachute in the deployment bag.





### 2.1.2- Connecting the reserve parachute to the harness

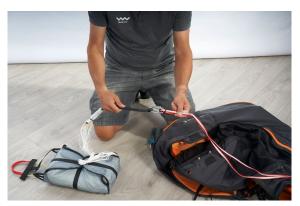
There are three different methods for attaching the reserve parachute bridle to the harness bridle.

### First system:

Use a screw-lock snap-hook with a breaking strength of at least 2,400 kg. In this case, the bridles should be held in position within the snap-hook using elastic bands, to prevent the snap-hook from rotating and taking the strain laterally instead of vertically. The snap-hook's screw-lock should be tightly screwed shut to avoid any possibility of it opening accidentally.

This type of connection can absorb a higher opening shock than the second system, and for this reason this is without doubt the recommended system.





### Second system:

The harness bridle should pass through the reserve parachute bridle loop. Next, the reserve parachute should be passed through the large loop of the harness bridle.

The result is a connection that should be tightened as much as possible to prevent dangerous friction between the two cables during emergency opening shock.











### Third system:

If you are using a reserve parachute with a double-riser bridle, it can be connected to the harness using the two loops positioned at the base of the harness bridle, near the padded shoulder straps. In this case, the harness's reserve parachute bridle will not be used and so it should be folded, fastened using two elastic bands, and positioned under the cover behind the pilot's neck.





The two connections should be made using screw-lock snap-hooks with a breaking strength of at least 1,400 kg. It is important to make sure that the bridle is long enough to position the reserve parachute inside the harness pocket and that there is sufficient room to take the parachute out of the pocket without causing the reserve parachute deployment bag itself to open during extraction.

### ATTENTION:

To prevent abnormal side loads, the bridle must be hooked to both loops on their respective shoulder straps.

Do not put any objects inside the bridle container.



**₩oody**Valley



### 2.1.3- Inserting the reserve parachute

Insert the parachute in the harness container with the handle visible towards the outside and with the ropes facing downward.

Position the handle in its specific place and ensure that the Velcro sewn on the handle attaches to the Velcro on the harness.

Insert a thin rope (such as paraglider line or strimmer cord) into each elastic loop, which you will use to help close the container. Insert the elastic loops into the smallest of the eyelets under the handle.









Take the bridle cover zip slider and the second zip slider that closes the other end of the container to their start point under the reserve parachute handle.

Close the zip on both sides about 20 cm.

Close the external part of the container, taking care while doing so that none of the zips open. Insert the two plastic yellow pins into the elastic loops and then under the cover arranged between the two.











After having closed all container parts, it is advisable to check that the two zips under the opening system have been closed correctly.

The cord must be removed at the end of this process, and must be extracted slowly in order to avoid damaging the elastic loops due to excessive friction between the parts.

Finally, the two zips should be completely closed until the zip sliders are inserted under their covers at the opposite ends.

### ATTENTION:

Each new combination of reserve parachute and harness that is assembled for the first time must be inspected by an official harness or reserve chute dealer or a flight instructor to verify that it can be effectively deployed. Checks should be carried out by hanging in a flight simulator. Deployment of the reserve chute must be possible from the normal flying position.

The paragliding harness and reserve parachute unfolding system is not suitable for use in free fall and during strong shocks.

Its bearing structure has been designed, tested and certified to withstand reserve parachute opening shock in accordance with standard paragliding requirements.

This does not exclude the possibility that other parts of the harness may be damaged by the shock resulting from the opening of the reserve parachute. This is true whether it occurs due to actual need in the event of an accident or if it occurs voluntarily, for example during a safety course.

### 2.1.4 - Compatible reserve parachutes

The volume of the reserve parachute must be no more than 5.2 litres.







### 2.1.5 - Extracting the reserve parachute

It is important to periodically check the position of the reserve parachute handle during normal flight so that the reaction movement to grab it is instinctive in the event of an emergency.

In the event of an emergency situation, the launch procedure is as follows:

- •Look for the reserve parachute handle and grasp it firmly with one hand.
- Pull the handle outwards in order to extract the reserve parachute from the harness container.
- •Look for a clear area and, in a continuous motion, throw the reserve parachute away from yourself and the glider.
- •After opening, keep the paraglider from interfering with the reserve parachute as follows:
- If the leading edge is facing upward, pull the "D"risers or the brakes and deflate your paraglider.
- If instead the leading edge of the glider is facing downward, pull one of the "D" risers or one brake to make the glider rotate with the leading edge upward and then pull both brakes or both "D" risers to help deflate your paraglider.
- •On landing, assume an upright position and be prepared to perform a "parachute landing fall" to minimise the risk of injury.

### 2.2 - Harness adjustments

CREST offers the option of adjusting the back inclination, the chest width and the shoulder height in order to guarantee an optimum pilot position. Some time is needed to find this optimum position, but the time spent will be well rewarded in exceptional flying comfort.

CREST is supplied pre-adjusted to a standard ergonomic setting, apart from adjustments required for pilot height. Therefore, for the first flight we recommend adjusting the harness for height alone, leaving the other settings unchanged, because they have proved to be satisfactory for the vast majority of pilots. If you wish to change the other settings, remember that you can always return to the factory settings by using the red marks on all adjustment straps as reference.

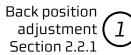






The reserve parachute must be inserted before making any adjustments. To find the optimum position, we recommend hanging with the harness, simulating flight position and conditions. Therefore it is best to place all the material which you normally take into flight with you in the rear pocket.





Shoulder-pad adjustment Section 2.2.2

Chest strap adjustment Section 2.2.3

Seat height adjustment Section 2.2.4



This adjustment lets you select the inclination of the torso with respect to the vertical flight axis.





2.2.2- Shoulder-pad adjustment

Adjustment of the shoulder pads compensates for the variation in pilot height. The adjustment buckle is located at the top. The shoulder pads also bear part of the weight of the torso for improved comfort.

We recommend adjusting the shoulder pads so that they fit against your shoulders without being too slack or too tight.





2.2.3- Chest strap adjustment

The chest strap controls the distance between the two snap-hooks, which can vary from 35 to 45 centimetres. For the first flight, we suggest setting the chest strap to around 40 cm and then locating the preferred length in flight by means of gradual adjustment.

Stability is greater when the chest strap is shorter and tighter. An excessive distance between the snap-hooks does not improve glider performance and tightening the chest strap excessively may exacerbate the "twist" effect that may follow an asymmetric collapse of the glider.

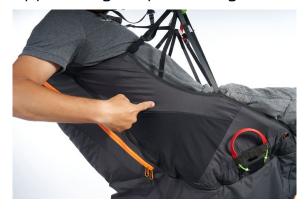
At shoulder strap height, there is a small hook that acts as a shoulder strap fastener and prevents the shoulder straps from sliding off the shoulders during take-off. The plastic coupling also holds a practical whistle which can be helpful in the event of an emergency.

### ATTENTION:

Each adjustment must be carried out symmetrically on both sides.

## 2.2.4 - Seat height adjustment

This adjustment varies the angle between the legs and the back (seat depth), distributing the loads between the seat and the lumbar area, thereby providing the pilot with greater comfort.







### 3 - FLYING WITH CREST

### 3.1- Preflight checks

For maximum safety, use a valid and complete preflight inspection method and repeat the same mental sequences on every flight.

Check that:

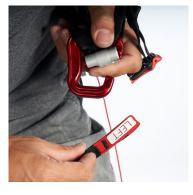
- The reserve parachute handle is fastened in its correct position, and the pins are firmly inserted
  - The pockets and zips are closed
  - All the buckles are closed
- The paraglider is correctly attached to the harness on the main snaphooks, which must be fully tightened by means of the closing mechanism
  - The speed-bar is attached correctly to the glider

After careful assessment that the weather conditions are favourable for flying, put on the harness by simply fastening the "GET-UP" strap, so hook the loops of the leg straps on the snap-hooks on both the right and left sides. This simple operation must be performed and checked carefully for safe flight.















### ATTENTION:

When you are wearing CREST, the snap-hooks may inadvertently loop around the shoulder straps and the main strap, twisting them. Therefore, check that the straps are fully extended and not twisted before you take off.





3.2-Pockets

In flight configuration, CREST has a spacious rear pocket in which a ruck-sack for transport can be stowed. You can place clothing and a camel-bak in the space left over. There are two elastic mesh pockets with safety loops on the sides of the harness where you can secure your items with a zip.







The rucksack has three pockets made of elastic Lycra, two slanted side pockets and a large central one. There is also a small pocket with a zip for storing keys, wallets or other objects.







3.3- Camel-bak

CREST is designed for camel- bak or similar hydration system installation. Before taking off, place the camel-bak inside the rear pocket, pulling the hose through the plastic oval on the top of the pocket and running it under the two elastic straps on the left shoulder pad, as in the photo. During transport, leave the camel-bak inside the rucksack and have the hose come out from the hole set in between the shoulder straps.















3.4 - Tandem flying

CREST can be used for tandem passengers.

### 3.5- Flying over water

Using CREST on flights over water is not recommended. In the event of forced landing in water, there is the possibility that the protection, still full of air, will hold the pilot under water.

Woody Valley recommends using a suitable life jacket when flying above water.

### 3.6- Winch launch bridle attachment

CREST is suitable for towed launches. The towing bridle should be inserted directly into the main snap-hooks, taking care to position the snap-hooks with the opening mechanism at the rear. For further details, see your towing bridle instructions or ask a qualified towing instructor at your air field.

### 3.7 - Landing with CREST

Before landing, slide forwards in the harness so that you assume a standing position. Never land in the seated position; it is very dangerous for your back even if you have foam dorsal protection or an Airbag, which only provides passive protection. Standing upright before landing is an active safety system and is much more effective.





### 3.8 - Disposing of the harness

The materials used in a paragliding harness must be disposed of correctly. Please give your harness back to us instead of throwing it away. We will take care of disposing of it correctly.

### 3.9- Regulations for behaviour in natural environments

Please respect nature and the landscapes that surround us when practising sport. Do not stray from marked trails, do not dispose of rubbish, do not make loud noises and please respect the delicate balance in the mountains.

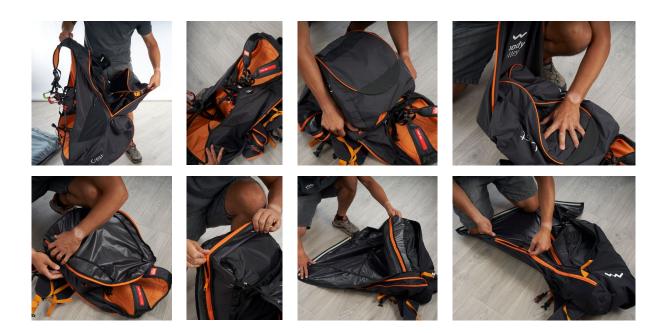
# 4- REFOLDING THE HARNESS, STOWING THE GLIDER AND USING THE RUCKSACK

To fold the harness, open the rear pocket completely by turning it upside down over the airbag, then fold the leg supports against the back of the harness, leaving all the straps and buckles inside the sandwich that is created. Close everything inside the pocket upside down.

Place the previously folded paraglider inside the rucksack so that it is resting against the inside back.

To close the rucksack more easily, we recommend opening the two compression zip on the sides. You will have enough space at the top to stow a helmet, instruments and some clothing accessories. To close, roll up the end and close the buckle.

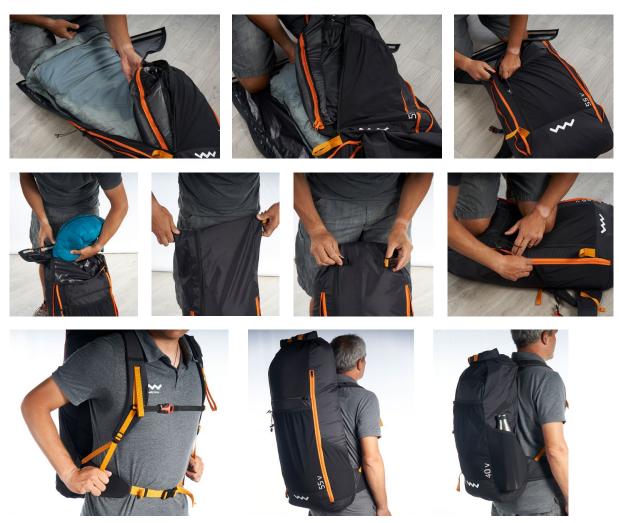
When preparing for flight, perform operations in reverse order and, finally, fold the rucksack into the rear harness pocket.







The rucksack is sized to hold the harness, the paraglider and the rest of your equipment. An emergency whistle is provided on the chest strap closure. Very comfortable and snug, the rucksack will accompany you as you walk to reach take-off. Available in two sizes S-M (tot. 55 litres) and L-XL (tot. 70 litres, with a smaller variant (tot. 40 litres).



Rucksacks can be easily detached from the harness by means of a few plastic hooks.



Rucksacks have a handy external ice axe holder.





### 5 - SPEED SYSTEM CHARACTERISTICS AND INSTALLATION

After having found the best harness setting according to the physical characteristics of the pilot, the speed-system must be adjusted. This harness is supplied with a two-step bar but is compatible with all common types of speed-systems.

The speed-system cords should be passed through the eyelets near the front corners, then through the pulleys located on the base near the strap adjustment. For correct system adjustment, the pilot must hang from a flight simulator and hook into the risers of the paraglider or have another person then help by holding the risers, and then adjust the length of the speed-system cables. The speed bar should hang at a distance of no more than 10 cm below the front of the harness. If the speed-bar cord is too short, this could cause a constant force on the speed-system, so that it can become unintentionally engaged

during flight. It is safer to take off with the speed-bar a little longer and to shorten it gradually during subsequent flights.

Remember that all adjustments have to be performed symmetrically, on both sides.

Before taking off, place one foot in the elastic band at the end of the speed bar and tighten it on the ankle with the corresponding jam cleat.











### 6- MAINTENANCE AND REPAIR

Check the harness after each impact, bad landing or launch, or if there are any signs of damage or excessive wear.

We recommend having your harness checked by your dealer every two years and replacing the main snap-hooks every two years.

To prevent unnecessary wear and deterioration of the harness, it is important to avoid scraping it against the ground, rocks or abrasive surfaces. Do not expose the harness unnecessarily to UV radiation (sunlight) outside normal flying activities. Wherever possible, protect the harness from humidity and heat.

Store all your paragliding equipment in a cool, dry place and never put it away when it is damp or wet.

Keep your harness as clean as possible, regularly cleaning off dirt with a plastic bristle brush and/or a damp cloth. If the harness gets especially dirty, wash it with water and mild soap.

Let the harness dry naturally in a well-ventilated area away from direct sunlight.

If your reserve parachute ever gets wet (e.g. in a water landing), remove it from the harness, dry it and repack it before putting it back in the container. Harness component repairs or replacement cannot be carried out by the user but only by the manufacturer or staff authorised by the manufacturer. The manufacturer and authorised service staff alone can use materials and techniques to ensure correct product functionality and complete conformity with product certification.

Zip fasteners should be kept clean and lubricated with silicone spray.

For any service enquiries, either from an authorised retailer or Woody Valley, please quote the full identification number on the silver label located in the rear storage pocket.

Please pay close attention to how you use and store the equipment.

Correct use will extend harness life.

We hope that you enjoy some great flights and happy landings with CREST!





### 7 - WARRANTY

The warranty period, which is 2 years as provided for by law, commits us to correcting any defects in our products that are attributable to manufacturing defects.

Please validate the warranty period by filling out the form available on our website in the "Support" section within 10 days from the date of purchase. Enter the ID code of the harness shown on the silver label located in the rear pocket.

To make a warranty claim, you must immediately inform WOODY VALLEY of the discovery of the alleged manufacturing defect by sending the harness identification code and a detailed description of the problem encountered. To restore the defective product, you will need to send it to WOODY VALLEY or parties authorised by them.

WOODY VALLEY reserves the right to decide the best method for restoring the harness (repair, replacement of parts or the product).

The warranty does not cover damage caused by careless or incorrect use of the product (for example inadequate maintenance, unsuitable storage, overloading, exposure to extreme temperatures, etc.). The same applies to damage attributable to accidents, emergency parachute opening shocks and normal wear and tear.





### 8 - APPROVAL CERTIFICATES









### 9- TECHNICAL DATA

Snap-hook height	S = 45 cm M = 47,5 cm L = 50 cm XL = 52 cm
Distance between snap-hooks (min. max.)	S = 36-44 cm M = 36-44 cm L = 36-46 cm XL = 36-46 cm
Total weight of CREST	S = 1908 gr
Type of dorsal protection	Airbag
Type of straps	Get-Up
Reserve parachute housing	Container under the legs with side handle
Reserve parachute housing volume	4100 – 5200 cm³
Limit of use	120 daN
Approval number	PH_347-2021

Every effort has been made to ensure that the information contained in this manual is correct, but please remember that it has been provided for guidance only.

This user manual is subject to change without prior notice. Please check www.woodyvalley.com for all the latest news on CREST.

Latest update: SEPTEMBER 2021

