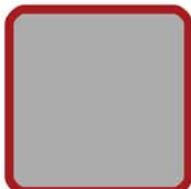




**Woody Valley**



Please read this manual before flying with the X-OVER 3 for the first time.



## THANK YOU!

We would like to thank you for having chosen one of our products, and we invite you to read this important document, the User Manual for the harness. Please pay special attention to the two most important paragraphs, regarding:

### **Insertion of the reserve parachute.**

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

### **Adjusting the harness.**

The harness forms the connection between the pilot and the paraglider, and it is an essential component in optimizing performance and the pleasure of flying. A bad harness that is well adjusted may enable you to fly well, but a good harness that is badly adjusted may put you off flying altogether.

We are confident that this harness will give you greater comfort, control, performance and enjoyment in flight. We are conscious of the fact that reading an instruction manual is not an exciting experience. However, please remember that the respective product is not a 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 level of flying.

*The Woody Valley team*

### **SAFETY NOTE**

*You have purchased a piece of equipment manufactured by us, and so you are aware of your identity as a paraglider pilot holding the respective pilot's licence, and you accept all the risks connected to paragliding including the possibility of injury and death. The incorrect or inappropriate use of Woody Valley equipment greatly increases this risk. In no case can Woody Valley and the Woody Valley retailer be held responsible for personal injury caused to yourself or to third parties, or for whatever type of damage. If you have any doubts on the use of our equipment, please contact your retailer or the importer for your country.*

## INDEX

<b>1- GENERAL INFORMATION .....</b>	<b>1</b>
1.1- CONCEPT .....	2
1.2- X-OVER 3 PROTECTION .....	2
1.3- S.O.S. LABEL.....	2
<b>2- BEFORE USING THE HARNESS .....</b>	<b>3</b>
2.1- ASSEMBLING THE DORSAL PROTECTION FOR X-OVER 3 .....	3
2.2- RESERVE PARACHUTE .....	3
2.2.1- <i>Connecting the deployment handle to the deployment bag</i> .....	4
2.2.2- <i>Connecting the reserve parachute to the harness</i> .....	4
2.2.3- <i>Inserting the reserve parachute into the X—OVER 3 harness</i> .....	7
2.2.4- <i>Reserve parachute deployment</i> .....	8
2.3- HARNESS ADJUSTMENTS.....	8
2.3.1- <i>Adjusting the sitting position</i> .....	8
2.3.2- <i>Back position adjustment</i> .....	9
2.3.3- <i>Shoulder-strap adjustment</i> .....	9
2.3.4- <i>Chest strap adjustment</i> .....	10
2.3.5- <i>Leg strap adjustment</i> .....	10
2.3.6- <i>Adjusting the Relax-Bar</i> .....	11
<b>3- FLYING WITH THE X-OVER 3 .....</b>	<b>11</b>
3.1- PRE-FLIGHT CHECKS .....	11
3.2- POCKETS .....	12
3.3- DUAL FLIGHT .....	12
3.4- FLYING ABOVE WATER.....	12
3.5- TOW BRIDLE CONNECTION.....	12
3.6- LANDING WITH THE X-OVER 3.....	13
<b>4- PACKING THE HARNESS.....</b>	<b>13</b>
<b>5- FEATURES AND ASSEMBLY OF OPTIONAL ACCESSORIES .....</b>	<b>13</b>
5.1- ASSEMBLY AND ADJUSTMENT OF THE SPEED-SYSTEM.....	13
5.2- COCKPIT AND FRONT BALLAST ASSEMBLY .....	14
5.3- LEG COVER .....	15
5.4- POLYCARBONATE SEAT .....	15
<b>6- MAINTENANCE AND REPAIR .....</b>	<b>15</b>
<b>7- TECHNICAL DATA .....</b>	<b>16</b>
<b>8- CERTIFICATE OF APPROVAL .....</b>	<b>17</b>

## 1- GENERAL INFORMATION



The equipment supplied should comprise:

- *Harness*
- *Wooden seat plate*
- *Hook-in karabiners*
- *Handle for reserve parachute deployment*
- *2 spare elastic loops for fastening the reserve parachute*
- *Relax-bar*

The optional extras comprise:

- *Speed-bar*
- *Front ballast pocket*
- *Leg Cover (wind-proof protection)*
- *Polycarbonate seat plate*

### 1.1- Concept

X-OVER 3 is a product that was developed wholly by Woody Valley to meet the demands specifically expressed by our pilots. This harness was created to be the ideal product for a large proportion of pilots, including cross-country and competition pilots, because in building this harness, we have dedicated special attention to comfort as well as to the safety of our customers.

X-OVER 3 was designed for maximum comfort and simplicity of use. Its aerodynamic and attractive design makes it visually exciting and smart.

The overall geometry of the harness gives the pilot a better perception of the sensations transmitted by the paraglider, while maintaining a feeling of maximum safety in flight. This improves turning precision in thermals, and helps active flying methods. The comfort of X-OVER 3 is unrivalled on long flights.

The chest-straps and leg-straps are fitted with the “GET-UP safety system” to prevent the pilot from sliding out of the harness in the case that he or she has forgotten to fasten the leg-straps.

### 1.2- X-OVER 3 protection

X-OVER 3 is fitted with dorsal protection in foam with a thickness of 17 cm. A sheet of high-density polyethylene on the outside of the foam dorsal protection provides a barrier in the case of collision with pointed objects, and the reinforced external fabric reduces the damage that could be caused to the harness by abrasion. This dorsal protection was designed to help the pilot in case of impact, reducing the energetic intensity of deceleration. However it cannot completely eliminate the risk of injury.

### 1.3- S.O.S. label

This label, coloured red with white lettering, is readily visible in a pocket on the right shoulder-strap padding. It is easy to pull out, and it is fastened to the harness to prevent it from being lost. On the back of this label, you can write the information that you think should be given to rescue personnel in case of accident.



## 2- BEFORE USING THE HARNESS

X-OVER 3 must be assembled by a qualified paragliding professional, such as your instructor. More specifically, great care has to be dedicated to inserting the reserve parachute into the harness in the correct way. Only after this has been performed should the pilot adjust the harness for maximum comfort.

### 2.1- Assembling the dorsal protection for X-OVER 3

Woody Valley recommends that assembly should be performed in the sequence detailed below. In case of doubts or any other problems regarding this procedure, please consult your instructor, your Woody Valley retailer, or the importer.

Normally the product is supplied with dorsal protection in foam and rigid plastic. This is rolled and packed separately. In this case, follow these steps for its installation:

- Remove the foam protection from its packaging (once it has been removed from its packaging, it may take about 2 hours to return to its normal shape)
- Open the zip below the seat. Inside, you will find two pockets for the plastic protection.
- Insert the narrowest part of the rigid sheet into the upper pocket, and the wider part into the lower pocket, as shown in the illustrations below.
- Insert the foam protection as shown in the photographs. The foam will automatically fit into the correct position.

Do not place the foam protection below the cross-buckles on the back of the harness.

Should it be necessary to remove the protection, just extract it following the steps above in reverse order.



### 2.2- Reserve parachute

The housing for the reserve parachute is below the seat in the front part of the harness. The container is large enough for most reserve parachutes on the market today. The reserve parachute has to be linked to the harness before it is inserted into the built-in pocket. This connection takes the form of a dual bridle fixed to the harness at shoulder height, for better load distribution and to ensure a correct landing position in the case that the reserve parachute is deployed. This helps reduce the risk of injury to a minimum. The reserve chute bridle has a large central loop coloured red, and this is reinforced with a cover in *Cordura 500*. At the extremity of the loop, there is a Velcro band which enables the link with the reserve parachute to be held firmly in position.

### 2.2.1- Connecting the deployment handle to the deployment bag

X-OVER 3 is supplied with a handle for reserve parachute extraction. It is identified with the number **6**; this handle alone should be used for this purpose. The black loop attached to the handle itself should be passed into the loop on the deployment bag, and then the entire handle should be passed through its own loop and pulled tight. For easier extraction, the loop attached to the deployment bag should be positioned laterally with respect to the centre of the reserve parachute. If your deployment bag does not have this loop, please contact the retailer from whom you purchased the reserve parachute.



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

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

*First system:*

Use a screw-lock karabiner with a breaking strength of at least 2,000 kg. In this case, the bridles should be held in position within the karabiner using elastic bands, to prevent the karabiner from rotating and taking the strain laterally instead of vertically. The karabiner'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 reserve parachute bridle is passed through the loop at the end of the harness reserve parachute bridle. The reserve parachute itself is then passed through the large loop in the reserve parachute bridle. This connects the two bridles. The loops should be pulled as tight as possible to avoid any chance of dangerous friction developing between the two bridles during the shock caused when the reserve parachute opens. To ensure that the link between the two bridles remains tight, remember to fasten the knot using the Velcro strip on the harness reserve parachute bridle.



*Third system:*

If you are using a reserve parachute with directional control and dual bridle, or if your reserve parachute in any case has 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' 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 karabiners with a breaking strength of at least 1,400 kg. In any case, it is important to verify that the length of the bridle is sufficient to position the reserve parachute inside the harness pocket, and that there is sufficient play to enable the parachute to be taken out of the pocket without causing the reserve parachute deployment bag itself to open during extraction.



**IMPORTANT:** To prevent anomalous lateral loads, the bridle should be attached to both the loops on the shoulder straps. Not to just one of them.



### 2.2.3- Inserting the reserve parachute into the X—OVER 3 harness

Insert the reserve parachute into the pocket of the harness, so that the handle is visible and facing outwards, and the loop connecting the handle to the deployment bag is facing upwards.



Thread a thin cord (such as paraglider riser cords) through each elastic loop. This will help close the pocket.

Thread the elastic loops into the smallest of the eyelets on the pocket flaps. Close the flaps following the order shown in the photographs below.



Push the metal pins on the handle into the elastic loops and under the transparent cover. It is essential to remove the cords after this operation. The cords should be pulled out slowly in order not to damage the elastic loops by excessive friction. Lastly, the handle should be positioned under the elastic cover.

#### **IMPORTANT:**

*Every new combination of reserve parachute and harness or the external container assembled for the first time should be tested by an official harness or reserve parachute dealer, or by a flying instructor. Deployment of the reserve parachute should be perfectly feasible from the normal flying position.*

### 2.2.4- Reserve parachute deployment

It is vital to feel periodically for the position of the reserve parachute deployment handle during normal flight, so that the action of reaching for the reserve parachute handle becomes instinctive in an emergency.

In emergency situations, the deployment 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 paraglider. After the reserve parachute has opened, avoid entanglement by pulling in the paraglider, gripping at least one D line, or the brake lines, in order to collapse the glider. On landing, adopt an upright body position, and ensure that you perform a PLF (Parachute Landing Fall) to minimize the risk of injury.

### 2.3- Harness adjustments

The X-OVER 3 harness provides a number of methods of adjustment so that the pilot can fly in the ideal position. A little time has to be invested in finding the optimum position, but this effort will be rewarded by exceptional comfort in flight.

Before making any adjustments, the reserve parachute must be in position.

To find the best position, we suggest hanging in your harness from a suitable point of support, simulating flying position and conditions. For this reason, it is best to place all the things that you would normally carry with you when flying into the back pocket (rucksack, accessories, extra clothing and other sundry items).

#### 2.3.1- Adjusting the sitting position

The first adjustment procedure regulates the angle between the thighs and the back (depth of seat). This angle can be varied from about 90° to 130°, by adjusting the straps running through the lateral trimmers.

The lateral straps help you adjust the sitting angle, and they provide leg support on long flights.



### 2.3.2- Back position adjustment

By adjusting the back (using the trimmers higher up on the side), the pilot adjusts the inclination of the torso with respect to the vertical axis in flight. A good flying position, improving control of the glider, is obtained by positioning the face at about 15 cm from an imaginary line between the two karabiners.



### 2.3.3- Shoulder-strap adjustment

Shoulder-strap adjustment enables the harness to be adjusted to the pilot's height. The adjustment buckle is situated low down, near the rear edge of the seat. The shoulder-straps also support part of the torso weight to improve comfort.



### 2.3.4- Chest strap adjustment

The chest strap adjusts the distance between the two karabiners, and it can be set between 37 and 48 centimetres. When the chest strap is tighter, stability is greater. We recommend a length of about 40-42 cm. A wider distance does not improve glider performance, and a smaller distance can accentuate the effects of a “twist” following an asymmetric collapse.



There is also a small elastic clip at the extremity of the padded shoulder-straps. This prevents the shoulders from slipping out of the straps during the launch run. The plastic clip also includes a useful whistle that can be used in emergency situations.



### 2.3.5- Leg strap adjustment

Because the leg straps are attached relatively high up, the pilot has considerable freedom in thigh movement. Normally, the manufacturer’s original setting should be satisfactory. However it is important to try reaching the correct seated position in the launch phase without using your hands, by testing the movements in a flight simulator. If you cannot achieve the seated position without using your hands, the sitting angle has to be checked, and then the leg straps should be readjusted.

### 2.3.6- Adjusting the Relax-Bar

The Relax-Bar can be adjusted according to leg length, by means of the two plastic buckles shown in the illustration below. These two buckles are covered with a neoprene strip to avoid accidental tangling.



#### **IMPORTANT**

*All adjustments have to be performed symmetrically on both sides.*

## 3- FLYING WITH THE X-OVER 3

### 3.1- Pre-flight checks

For maximum safety, use a complete and consistent system of pre-flight checks and repeat the same mental sequence every flight.

*Check that:*

- **all buckles are fastened. Take particular care in the case of ice or snow. Always clean off snow or ice before fastening buckles;**
- **the reserve parachute handle is fastened in its correct position, and the pins are firmly inserted;**
- **pockets and zips are closed;**
- **the paraglider is connected correctly to the harness, and that both karabiners are locked closed by means of their locking system;**
- **the speed bar is attached correctly to the glider.**

### 3.2- Pockets

X-OVER 3 has a large dorsal storage container, and various lateral pockets, arranged so that their contents cannot fall out during flight, even if they are open. These pockets are positioned outside the neoprene wind-proof protection, which is closed with a zip fastener.



### 3.3- Dual flight

It is possible to fly dual with the X-OVER 3 harness, but we would like to point out that this harness was not designed specifically for dual flight.

### 3.4- Flying above water

It is inadvisable to use the X-OVER 3 harness on flights over water. In the event of the pilot being forced to land on the water, the foam dorsal protection may force the harness into a position that holds the pilot underwater.

Woody Valley recommends the use of a suitable lifejacket when flying over water.

### 3.5- Tow bridle connection

The X-OVER 3 harness can be used for towed launches. The tow bridle release should be hooked directly to the main karabiners, ensuring that the karabiners are positioned with the opening bar facing the rear. For further details, refer to the documentation provided with your tow release, or ask a qualified towing instructor at your flying site.

### 3.6- Landing with the X-OVER 3

Before landing, slide your legs out and off the seat surface, so that you take up a standing position. Never land in the seated position; it is very dangerous for your back even if you have foam dorsal protection, which provides exclusively passive protection. Standing up before landing is an active safety precaution, and it is much more effective than passive forms of protection.

## 4- PACKING THE HARNESS

The X-OVER 3 harness is packed following a method analogous to that used for all the other harnesses, except for the method of folding the “hood.” If this is not performed as shown in the illustrations below, the result may be a failure to achieve inflation, or just partial inflation, which may mar the harness’ aerodynamic efficiency.



## 5- FEATURES AND ASSEMBLY OF OPTIONAL ACCESSORIES

### 5.1- Assembly and adjustment of the speed-system.

After having adjusted the sitting position to the optimum configuration, the accelerator must be adjusted. This harness is compatible with all normal types of speed-system accelerators.

The elastic in front of the board holding the speed-bar prevents the reserve parachute handle from becoming entangled in the speed system during deployment of the reserve parachute. The speed-bar cords are threaded firstly through the eyes fixed to the elastic in front of the board, and then into the harness through the eyes near the front corners of the seat, after which they are led through the pulleys near the rear corners of the seat and brought directly up to connect to the paraglider risers. To adjust the system correctly, the pilot has to adopt a flying position in the harness, suspended from a flight simulator, and hook into the risers of the paraglider. Another person then helps by supporting the risers, so the pilot can adjust the length of the speed-system cords. When no pressure is exerted on the speed bar, the bar must be at a distance no greater than 10 cm below the front of the harness. If the speed-bar cord is too short, it could cause a constant

force on the bar during flight, so that the accelerator is unintentionally engaged at all times in flight. It is safest to take off with the speed-bar a little too long, progressively shortening it during the next flights. Remember that all adjustments have to be performed symmetrically, on both sides.



## 5.2- Cockpit and front ballast assembly

On all our harnesses, a special front container can be fitted, complete with ballast, map case and instrument panel. The only exceptions are harnesses with a front-mounted reserve parachute, or in which the cockpit has been integrated into the structure of the harness itself.

The “cockpit and front ballast container” is fixed using the webbing loops which are hooked into the main karabiners. The karabiners should be opened and passed through the red loops of the support strap, with the opening bar facing the rear. A webbing triangle is sewn to both sides of the container, with a fastening buckle that can also be used for adjustment. By modifying the position of the fastening buckle and the length of the strap, the height and inclination of the instrument panel can be varied as required.



### 5.3- Leg Cover

Leg Cover is a product that has been developed uniquely by Woody Valley in order to ensure unequalled comfort. The special cover in waterproof, vapour-permeable fabric ensures protection from the cold and provides an improved aerodynamic profile. To fit the leg cover to the harness, follow the instructions provided in the Leg Cover instruction manual.

### 5.4- Polycarbonate seat

The polycarbonate seat offers advantages in terms of weight and therefore transport. The seat is easy and obvious to install. You just have to take out the seat from your harness and put the new one in its place, following the reverse procedure. You will discover the benefits of this special seat right from the start.

## 6- MAINTENANCE AND REPAIR

Check the harness after every impact, bad landing or launch, or in the case that there are signs of damage or excessive wear.

We recommend having your harness checked by your retailer every two years, and replacing the main karabiners every two years.

To prevent unnecessary wear and deterioration of the harness, it is important to avoid its scraping 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 while damp or wet.

Keep your harness as clean as possible by regularly cleaning off dirt with a plastic bristle brush and/or a damp cloth. If the harness gets exceptionally dirty, wash it with water and a mild soap. Allow the harness to dry naturally in a well-ventilated area away from direct sunlight.

If your reserve parachute ever gets wet (e.g. in a water landing) you must remove it from the harness, dry it and repack it before putting it back in the container.

Repairs and replacement of harness components cannot be performed by the user, but exclusively by the manufacturer or staff authorized by the manufacturer.

The manufacturer and authorized service staff alone can use materials and techniques ensuring correct product functionality and its complete conformity to product certification.

The harness can be washed using a tepid solution of water and mild soap.

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

**In the case of making any request to an official retailer or Woody Valley for maintenance operations, please quote the complete identification number shown on the silver label in the rear pocket.**

We hope that you enjoy great flights and happy landings with **X-OVER 3** !

## 7- TECHNICAL DATA

DHV tested for a maximum load of	100 kg
Distance between karabiner and seat	Size M cm 40; L cm 43; XL cm 45
Distance between karabiners (min. max.)	Size M cm 40/58; L cm 40/58; XL cm 40/58
Size of wooden seat, size M	Width 30 cm; depth 36 cm
Size of wooden seat, size L	Width 32 cm; depth 39,5 cm
Size of wooden seat, size XL	Width 35,5 cm; depth 43 cm
Total weight of X-OVER 3, size L, complete with reserve parachute handle, karabiners and protection	6,25 kg
Type of protection	Protection in 17 cm foam
Type of straps	GET-UP
Certification	DHV GS-03-0247-01
Reserve parachute housing	Built-in container under the seat, with lateral handle.



Deutscher Hängeleiterverband e.V. im DAeC  
 DHV - Technikerat  
 LBA-anerkannte Prüfstelle für Hängeleiter und Gleitsegel

**Luftsportgeräte-Kennblatt  
 Gleitsegel-Gurtzeug**

Geräte-Kennblatt Nr.: DHV GS-03-0247-01 Ausgabe: 0 Datum: 12.12.2001

I. Musterprüfung

- 1. Gerätemuster: X-Over 2
- 2. Hersteller: Turmpoint Fastline GmbH
- 3. Datum der Musterprüfbescheinigung: 12.12.2001

II. Merkmale und Betriebsgrenzen

- 1. Gurtzeuggruppe: GH
- 2. Gerätegewicht (ohne Packsack kg): 5,5
- 3. Maximal zulässige Anhängelast (kg): 100
- 4. Integrierter Rettungsgeräte-Außencontainer: Ja
- 5. Gurtzeugprotector-Muster: Turmpoint Fastline GmbH - X-over 16
- 6. Sonstige Besonderheiten:

III. Betriebsanweisungen

Betriebsanweisung in der genehmigten Fassung vom 22.11.2001

*Every effort has been made to ensure that the information contained in this manual is correct, but please remember that it has been produced for guidance only.  
 This owner's manual is subject to change without prior notice. Please check at [www.woodyvalley.com](http://www.woodyvalley.com) for the latest information regarding the X-OVER 3 harness.  
 Latest update: APRIL 2010*