



XC Harness by ADVANCE

ADVANCEiMPRESS

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THANK YOU

Thank you for choosing an ADVANCE harness - we are certain that you will be most satisfied with your purchase.

The iMPRESS is a XC harness of the most modern design and is manufactured with the highest precision. It's a very functional harness system which is suitable for XC flights and freestyle use. In order to feel completely at ease with your product from the outset we recommend that you carefully read this manual. The information provided will enable you to get to know the iMPRESS quickly and completely.

In addition to flight related information this manual also gives you important safety information in the areas of maintenance and usage as well as tips on how to keep your new harness looking good. If you have any further questions please contact your dealer, flying school or the importer in your country.

When selling your harness later on please pass this manual on to the new owner. This booklet is an important part of the harness and belongs with it.

We wish you a great deal of enjoyment with your ADVANCE harness and many «happy landings».

Your ADVANCE Team

Welcome on board !

The harness's from Advance are hi-tech products and just like the gliders, are all made from first class materials. They are developed under the guidance of Thomas Ripplinger in conjunction with our competition pilots and are the result of extensive hours of flight testing.

The new harness's utilize the latest technical innovations and are manufactured to the highest quality standard.

One concept - one philosophy

The Advance harness's are specially matched to Advance paragliders but can also be used with all other glider brands. The harness is one of the most comfortable and functional on the market today due to features such as : the height and spacing of the hang points, the ergonomics of the straps and positioning of buckles, the multitude of possible adjustments, the wide seatboard, and integrated back protector (closed cell foam and rigid plate).

The Advance harness's provide elements of active and passive safety :

- they convey accurate glider movements to the pilot which promotes an active flying style.
- the high comfort mitigates back-ache and tiredness thereby promoting concentration and thus safety.
- they offer back protection (closed cell foam and PVC rigid plate) and are prepared to allow the installation of a emergency parachute.

The XC Harness iMPRESS

Chrigel Maurer – European Champion 2004 – introduced the new XC harness to competition flying and immediately proved its capabilities.

With the full “Seedbag” leg cover or the free flying “Wind-skirt” version with short cover, the results speak for themselves :

- European Champion 2004 - harness iMPRESS with Speedbag
- European Distance Record - harness iMPRESS with Speedbag
- 2nd Place Acro competition Vertigo 2004 in Villeneuve, Switzerland - harness iMPRESS with Wind-skirt

During the development, Chrigel could utilize the base and technology of the existing harness's from Advance. In his own and very pragmatic way he could thus focus on the goal of producing an uncompromised harness. All the while however the harness should provide ease of daily use and satisfy the desires of a large proportion of pilots.

Being the responsible person in the harness development team 2 criteria were of the highest importance for Chrigel:

- A version with full leg covering (Speed Bag)
Optimal aerodynamics and perfect fit for high comfort levels during long flights.
- A version with Wind Skirt
Allowing full freedom of movement and unrestricted functionality of the performance harness that supports direct feedback to pilots in extreme situations.

iMPRESS : a cross country harness for experienced pilots. The name promises quality and functionality.

The development was particularly focused on the positioning of the ballast attachment system as close as possible to the pilots centre of gravity point and a central reserve parachute position. This facilitates easier launching and works together with the pilot.

Many hours were spent at the Technical Institute of Zurich's wind tunnel to confirm the aerodynamic silhouette. The continuously variable adjusters allow the desired pilot position to be perfectly set. The iMPRESS harness is interesting for cross country pilots and FreeStyle pilots (in the Wind Skirt version) due to its deep hang points, integrated camera pouch, functional cockpit, and well designed Hydration system (with water bladder fixation straps and hose routing).

We wish you great satisfaction and excellent flights with your iMPRESS harness !

A handwritten signature in black ink, reading "Chryzel Maurer". The signature is written in a cursive, flowing style.

Team ADVANCE

Package Contents

- iMPRESS Harness
- 2 Powerfly automatic carabiners
- Back protector (8 cm foam with PVC hard shell)
- T-buckle system with automatic quick buckles (chest and legs straps combined)
- Emergency parachute inner container with handle and risers.
- tensioning system for the speed bar

Options

- Speedbag
Detachable neoprene full length leg cover in 2 sizes per harness size with integrated camera pouch, cockpit with instrument mount and adjustable speed system.
- Wind-Skirt
Perfectly fitting, detachable, short Neoprene cover with integrated Cockpit, adjustable step speed system with stirrup.
- Emergency parachute

Overview



Details

- 1 Padded shoulder straps
- 2 Covered emergency system connection
- 3 Central connection
- 4 Chest strap
- 5 Adjustable Safe-T fastener (chest – and leg straps)
- 6 Emergency parachute handle
- 7 Adjustable padded leg straps
- 8 Angle adjustment strap
- 9 Speed system pulley with stopper
- 10 Big storage compartment with hydration system fixation and back protector
- 11 Cockpit fixation
- 12 Fixation for speedbag or stirrup
- 13 Velcro to fix the Solario Vario
- 14 Central ballast compartment

Technical innovations

- performance > aerodynamic silhouette (Wind tunnel tested)
- comfort > graduated adjustment system
- practical > easy to use pockets
- safe > ergonomic back protector, ballast and emergency parachute system close to the body
- ... and beautiful! > clean design and perfect quality

- Adjustable Safe-T- buckle system (chest and leg straps) between 42-54 cm
- Easy to adjust padded leg straps
- Seat board angle adjustment
- Low resistance speed bar pulleys
- Large rear storage compartment for the rucksack with internal pocket
- Centrally positioned storage for ballast with fixation straps under the seat (passive weight – suspended from the main straps)
- Hydration system ready (Camelbak / Platypus fixation with drinking tube routing)
- Integrated tensioner for speed bar
- Left and right sided mounting Velcro for Solario vario on the shoulder straps

- Speedbag
 - 2 Handy in-flight reachable small and large sized pouches, integrated cockpit with additional instrument top panel

- Wind-Skirt
 - 2 Handy in-flight reachable small and large sized pouches and integrated cockpit

Technical Details

Maximum permitted pilot weight : 100 kgs

- Seatboard width : M 34 cm, L 38 cm
- Seatboard length : M 35 cm, L 37 cm
- Height of attachment points : 40 cm
- Weight of harness without emergency parachute (inc Powerfly, seatboard, back protection)
M 5.3 kgs, L 5.7 kgs
- Weight of back protector : 0.6 kgs
- Weight of Speed Bag : average weight (size M) 2.2 kgs
- Weight of Wind-Skirt : 0.65 kgs

Sizes

iMPRESS	M	suitable for pilots heights 160-184 cm
	L	suitable for pilots heights 182-205 cm
Speed Bag	S	for Pilots 160 – 174 cm, suits size M harness
	M	for Pilots 172 – 184 cm, suits size M harness
	L	for Pilots 182 – 194 cm, suits size L harness
	XL	for Pilots 192 – 205 cm, suits size L harness
Wind-Skirt		Delivered in one size only – fits to either M or L harness size.

Colours

The harness is only delivered in one colour. For more information as to the actual current colours and designs the ADVANCE dealer network is ready to serve you or check the ADVANCE home page www.advance.ch.

Familiarization

Adjustments

The photo's in this brochure show you various adjustment possibilities. Hang the harness up using the carabiners, sit in it and close the leg and chest straps. Use the many adjustment options to find a position you feel the most comfortable. Then as a second step attach the speed bag or foot stirrup for a correct fit.

Be sure that during the seating adjustments and test the back storage area is full and the reserve is attached so that it is as close to possible to the real flying configuration.

Choose calm weather conditions for the first test flight, and if necessary after the flight repeat the adjustment procedure. You can then more permanently position the straps to maintain the newly found optimal flying position.

Beware : The more stretched the pilot position is, the more delayed the reaction is in relation to the glider. This can, in extreme situations, increase the chance of twists in the lines.

In order to achieve the most aerodynamic performance it is important to set the perfect angle. Studying photos or having pilots fly along beside you are very helpful for this process.

Adjustments of the shoulder straps

The shoulder straps of the iMPRESS harness permit easy adjustment of the desired seating position for various pilot sizes. The neoprene covered adjusters are located at hip height and can easily be moved over a wide range of settings.

Adjustment of the leg straps

The leg straps should be adjusted to a length that allows easy movement during the launch phase. This allows a safe launch even with the speed bag and full loading (water ballast), and guarantees that there is a easy and comfortable transition to the desired seating position after launch.

Adjustment of the chest strap

The distance between the hang points can be varied using the adjuster on the chest strap. The development team recommends the optimal setting to be approximate shoulder width (approx 44cms).

The chest strap uses automatic quick lock buckles and provides the functionality of a Safe-T-System.

Attention : Be ensure that the quick buckles are correctly engaged !

Adjustment of the seating position

The relatively high location of the side chest strap provides an effective back support and takes away the pressure from the shoulders. With the help of the adjuster it is easy and uncomplicated to adjust the seating position in flight.

Adjustment of the seat board angle

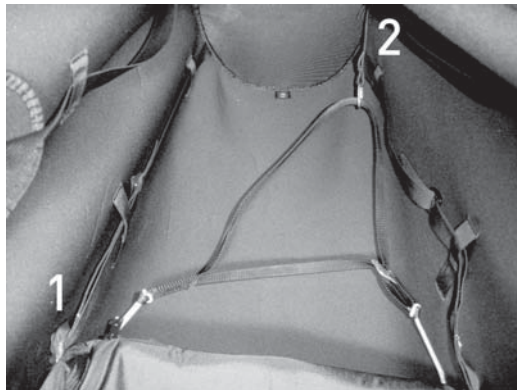
The angle of the seat board can be quickly and continuously adjusted using the quick buckles. This makes the iMPRESS harness quite interesting for cross country and freestyle pilots.

Fitting the Speed bag

Attach the speed bag to the matching velcro on the rear of the harness. Close both side zippers and fix the reserve handle (be sure it is in the correct position).

Thread the four straps (internal) from the front of the speed bag through the harness and pull until the desired length and angle is reached. A return strap stops the length from changing during flight. Pull the speed bar line through the 3 side pullys and the eyelet of the speed bag. Tension the speed system toward the front of the speed bag with the help of the bungy from the leg loop – depending on personal preference to the left or right side. If desired you can chose to use a two step system.

Support the speed bag on both sides by fitting the strengthened openings over the main carabineers of the harness. Finally mount the cockpit with the small screw gate carabineers.



- 1 Plastic buckles to mount the straps
- 2 Bungy to provide forward tension

Fitting of the Wind-Skirt

Attach the neoprene wind skirt to the matching velcro on the rear of the harness. Close both side zippers and fix the reserve handle (be sure it is in the correct position).

The velcro located under the front of the seat board for additional ballast also fixes the wind skirt perfectly to the harness. It stops flapping and slippage of the skirt.

Pull the speed system line through the three side pullys and the eyelet of the wind skirt. Loop the foot stirrup into both of the plastic buckles and tension the speed system with the help of the bungy – depending on personal preference to the left or the right side. This has been designed to provide a flexible solution for the use of one leg and also of a two step system.

Support the wind skirt on both sides by fitting the strengthened openings over the main carabiners of the harness. Finally mount the cockpit with the small screw gate carabiners.



- 1 Plastic buckles to mount the stirrup
- 2 Bungy to provide forward tension on the speed system

Flying the iMPRESS harness without stirrup or speedbag (freestyle)

The integrated speed bar tensioner can be used with the normal speed bar - it's flexible and suitable for freestyle manoeuvres.

Safety directions

All harness adjustments should definitely be made before flight regardless of what brand or type it is. A correct adjustment of the harness provides the correct function, safety and comfort.

The ADVANCE gliders are developed and tested with ADVANCE harnesses. A harness that is not properly adjusted can effect glider control. ADVANCE accepts no responsibility for this.

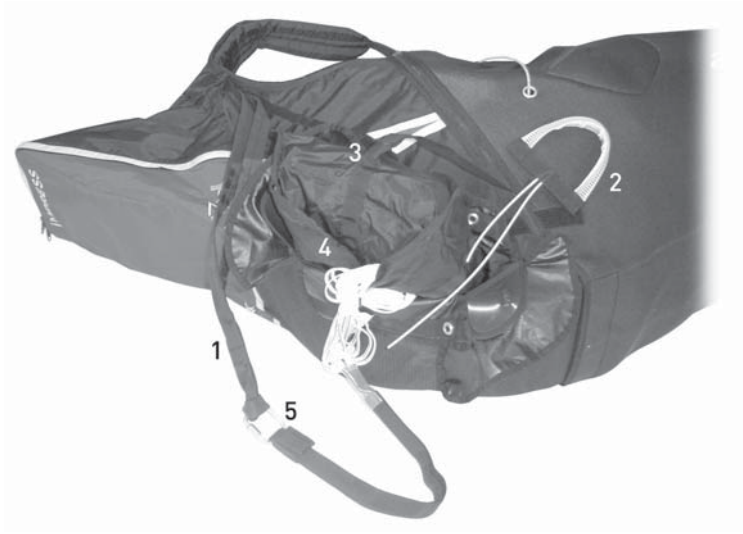
Installing the emergency parachute

The iMPRESS model is prepared for the attachment of the emergency parachute in an aerodynamically ideal position and close to the centre of gravity.

To assist the mounting of the reserve the risers, deployment bag, and handle are all delivered with the harness. The handle is fixed on the right side, is well visible and easy to reach.

The correct mounting of the parachute is not complicated but must be carefully and exactly implemented – it has to do with your security. If you are unsure do not hesitate to contact someone with appropriate experience or your ADVANCE dealer.

The parachute should be packed in a square shape that matches the size of the delivered deployment bag. The handle is looped onto the deployment bag. Check that during the installation of the reserve, the attachment between the handle and the container is located at the side (diagram 3) and the flaps of the deployment bag are facing down when inserted into the harness.



- 1 main connection riser for the reserve system
- 2 handle
- 3 connection handle and container
- 4 closure flaps of the deployment bag
- 5 screw gate carabiner

In order to connect the parachute with the harness you must either loop the harness and reserve risers together or use a carabiner to connect them.

If looping the two together you have to be careful that the two risers are connected exactly in the middle, otherwise they may slide through during a deployment and damage the material due to frictional heating. When using a carabiner you should fix the position of the risers using some sticky tape.



To ensure a correct deployment is possible, be careful that the two release cables are cleanly routed.
It is important in every case that the deployment force needed does not exceed 70 N.

Compatibility testing

Every new combination of emergency parachute and harness should be checked by either by the manufacturer of the harness or a qualified person.

The deployment of the reserve parachute must be freely possible from the flying position and according to the manufacturer's requirements.

Launching by winch

The ADVANCE harnesses are suitable for winch launching. The tow release can be directly connected to the carabiners using the screw gate carabiners or loops. If there are any problems with the system it is critical to contact the tow master or the manufacturers authorized representative.

Tandem flying

The iMPRESS harness is not suitable for tandem flying due to its design – whether for the pilot or passenger.

Back protection

The back protection from ADVANCE is designed to protect the back area of paraglider pilots and should reduce injuries due to failed launches and landings.

The protector is made of impact absorbing foam, five air chambers and a nylon cover. The internal foam is 5% larger than the outer cover, which reduces its thickness. Together with the larger cut external cells this protector provides very good absorption values. During an impact the air stored in the cells is pushed outwards and reduces the impact energy. It is through this that the risk of back injuries is reduced.

The back protection is not interchangeable with other harnesses and does not have DHV certification.

Overview of the back protection and hard shell

- 1 Foam section
- 2 Impact and penetration protection (sewn into the rear section)
- 3 Back inner-bag for drinking system (eg: Camelbak)

Technical details

Weight	0.600 kgs
Internal material	PU-special foam
Dimensions	thickness 8 cms
	width 30 cms
	length 103 cms



Back protection installation instructions

Open the protector compartment and slide in the back protection. The hard shell is already integrated in the harness ex-factory.

The protector must in every case be fitted into the compartment so that it does not slide around.

Usage instructions

During safety training over water it should be noted that the protector will float and can cause the pilot to be in a head down position.

Apart from that there is also the danger that after a longer period in the water the protector will be saturated and can pull the pilot down.

The protector is maintenance free but should be checked for damage after any accident. You should avoid long storage long with exposure to aggressive chemicals and excessive heat.

Care and maintenance

The iMPRESS harness has been designed for high loadings and extreme use. Due to this the material was chosen according to the highest criteria. Because the longevity of the harness is directly conditional upon the care of the individual, we recommend that the harness is inspected for worn out parts and if found, individual components should be replaced.

It is particularly important to note that any damaged stitching is repaired by a professional work shop.

The longevity of the harness is dependent on the correct care. Don't carry out any modification and don't fly with a harness that has damaged webbing. Don't allow the harness to come in contact with any solvents and avoid close proximity to heat sources.

After swapping between the Speed bag and Wind-Skirt, it is important to check the correct location of the reserve handle.

It is recommended that an overall check of the harness should be carried out at least once a year. Check the status of the stitching, the webbing, and the function of the buckles. Don't forget to also regularly air and re-pack the parachute.

Only clean your harness using fresh water and a neutral soap, never use chemical cleaning solutions as they can weaken the material. When leaving the harness to dry, do so in a well ventilated shady area.

Usage with other glider brands

The iMPRESS harness can be used with any paragliders – there are no restrictions.

We are always at your service for more information or clarification – the quickest is per email to info@advance.ch or check the home page at www.advance.ch.

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