



ADVANCEIMPRESS⁴

Manual Edition 5/2020

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Thank you for flying ADVANCE

Our sincere thanks for choosing an ADVANCE quality product with Swiss engineering.

Operating Manual

This manual is an important part of this flying equipment. It provides guidance for first preparing the harness for flight and use in practice, as well as important information about safety, care and maintenance. We encourage you to read through the manual carefully before your first flight with the harness. You can call up the video guide using the QR codes on the product or in this document.

Registering the product

Register your IMPRESS 4 in your MyADVANCE Account under www.advance.ch/warranty, to see recent updates and get safety-relevant findings about your product by email.

About ADVANCE

For more than 30 years the needs and feelings of paraglider pilots have been at the centre of our priorities. We are pilots ourselves, and are thus motivated to respond to the trust and confidence of others – with new ideas, leading products, perfect service and a unique product appearance.

Have fun

We wish you many rewarding experiences with your IMPRESS 4, and many wonderful hours in the air!

Team ADVANCE



IMPRESS 4 – Accessible Throne

The IMPRESS 4 is the first fully equipped cross country harness with an aerodynamically optimised tail spoiler, that will fit in every normal paraglider rucksack. A high-end product, more comfortable and refined than ever before – intended for the leisure cross-country flyer up to the cross-country champion or competition pilot.

Best possible aerodynamics

We paid a lot of attention to attaining perfect aerodynamics for this high-end harness. The ideal shape resulted from countless CFD analyses in the virtual wind tunnel. Our in-house developed air intake tube of minimal diameter with NRV ensures a solidly inflated spoiler. The result is a wrinkle-free, streamlined silhouette for maximum performance.

Fits in every paraglider rucksack

The exceptionally compact IMPRESS 4 will fit in any normal rucksack. This is something new for a fully capable cross-country harness with a comprehensive low-drag spoiler. A fold line in the back of the harness makes it easy to fold and easy to pack in any paraglider rucksack.

With or without a seatboard

The IMPRESS 4 has another unique feature: it can be flown with or without seatboard, with no restriction or change of settings. With the seatboard the harness conveys a harder sports suspension feeling, with maximal directional stability and canopy feedback. Without the seatboard you enjoy a comfortably damped Cruiser Feeling, snugly enclosed in the body-conforming seat shell.



Safety advice

General recommendations for paragliding

Participation in the sport of paragliding requires specific training and basic knowledge of the equipment as well as the necessary insurance and licensing. A pilot must be able to correctly assess the weather conditions. In addition, his/her flying abilities must correspond to the demands of the equipment to be used. The pilot is also responsible for appropriate care of the environment, including the natural world and its landscape.

Wearing of an adequate helmet, suitable footwear and clothing and the carriage of a reserve parachute are all essential. Before every flight all parts of the flying equipment must be checked for damage and its airworthiness confirmed. In addition, a pre-flight check must be carried out before every flight.

Every pilot bears sole responsibility for all risks associated with participation in the sport of paragliding, including injury and death. Neither the manufacturer nor the seller of paragliding equipment can guarantee the safety of a pilot, nor be held responsible for it.

Recommendations about harnesses

The design features of paragliding harnesses, and all commercially available paragliding reserve parachutes, make them completely unsuitable for free-fall use. The reserve parachute and its connections will not withstand the loads of a high speed opening.

All harness settings and adjustments should be carried out before flight. Correct adjustment of the IMPRESS 4 has a major effect on safety, correct functioning and general comfort in flight.

No protector can provide total protection from injury. The EN/LTF-certified foam protector only serves to dampen impacts and therefore minimise injuries that could result from a crash from a low altitude caused by unfortunate takeoffs and landings. The SAS-TEC back and side protection absorbs impacts.

Certification of the IMPRESS 4 applies exclusively to paragliding.

Features

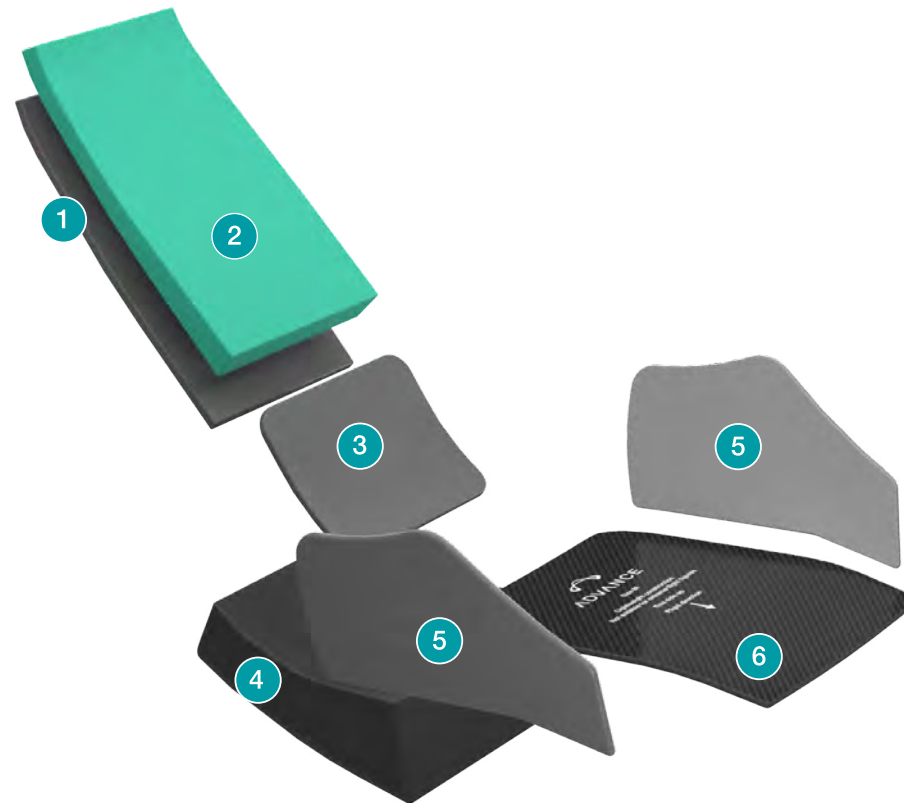
- 1 Carabiner with lug for high speedbag suspension
- 2 Drink tube guide (both sides)
- 3 Drink tube exit (central)
- 4 Internal pocket for drink system
- 5 Reserve V-connection channel with zip
- 6 Easy-release reserve system for 2 reserves
- 7 Anti-G pocket
- 8 Mesh back surface
- 9 Air-filled tail spoiler
- 10 Air intake for tail spoiler
- 11 Relief tube exit (left)
- 12 Ballast compartment



Protectors & Protection Elements

The IMPRESS 4 has a certified foam protector under the seat and comfort foam for the back. In addition the whole body within the seat shell is surrounded by SAS-TEC components. Pilot warmth enables these viscoelastic soft foam elements to mould themselves to body shape for even more comfort and effective impact protection.

- 1 SAS-TEC back protection
- 2 Comfort foam
- 3 SAS-TEC lumbar support
- 4 Main protector
- 5 SAS-TEC side protection
- 6 Carbon seatboard



Cockpit & Instrument Panel

- 1 Instrument panel with Velcro
- 2 Securing loops for instruments
- 3 Cable exits with covers
- 4 Pocket with integral Hook Knife
- 5 Peripheral zip for speedbag attachment
- 6 Neoprene instrument cover
- 7 Clip for fastening to front strap
- 8 Carrying handle
- 9 Battery pocket on the back
- 10 Windshield



Fitted



Hook Knife



Detached



Ready to go

Pockets & Compartments

- 1 Cockpit pocket (ca. 5 ltrs)
- 2 Three internal side pockets accessible from outside
- 3 Ballast compartment (ca. 5 ltrs)
- 4 Straight-through Anti-G pocket
- 5 Large back compartment (ca. 25 ltrs) with extra pocket and holder for drink systems
- 6 Lid compartment
- 7 Radio pocket



Preparing the product



Delivery

Before delivery every ADVANCE product has to be checked by the dealer for completeness and correct basic settings.

Please register your product on your MyADVANCE Account within ten days of purchase in order to benefit from the extended ADVANCE Warranty. This is valid for three years for deficiencies attributable to manufacturing faults. Otherwise the warranty of your country applies.

Delivery Package

- COMFORTPACK 130 ltrs IMPRESS 4 version
- IMPRESS 4 Windshield
- Detachable Cockpit
- Hook Knife integral with Cockpit
- Radio pocket for fitting to main strap
- 2 Edelrid «Alias Speed» Carabiners
- Air tube with NRV (non-return valve)
- Certified foam protector
- Back comfort foam
- 4 SAS-TEC protector sections
- Carbon seatboard
- Anti-G pocket blank
- 30 mm Ronstan speed pulleys
- Carbon footboard
- 2 stage speed system
- Reserve container (for left and/or right)
- 2 Reserve V-connection lines (one sewn in)
- Blank + dummy yellow cables for reserve compartment

With and without seatboard

The IMPRESS 4 inherits the genes of the IMPRESS 2 and IMPRESS 3, and is the first serious cross-country and competition harness that can be flown with or without a seatboard, without operating restrictions or readjustment.

With the seatboard fitted you experience a stiff sports suspension feel: maximum directional stability and direct canopy feedback. Without the seatboard the ride changes to a comfortably damped Cruiser Feeling, with the body reassuringly encased in the body-conforming seat shell.

It is a question of personal preference. Comfort remains similar in both modes. Without seatboard you lie somewhat lower in the harness and more encased within the seat shell – a comfortable sensation.

Removing and replacing the seatboard

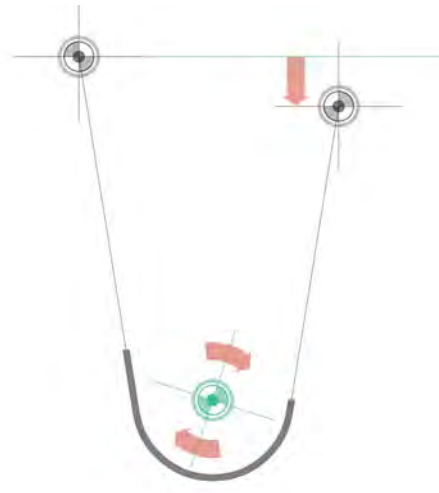
The seatboard is pulled out from under the seat surface, or pushed back in and secured with a Velcro strap.

See also section «Removing & replacing components» p. 37.

i Info: When changing between with and without seatboard configurations the harness does not need significant resetting, but simple readjustment can be necessary. This could also be done after a test flight.

! Caution: The arched curved end of the carbon seatboard must face forward and lie with the curve downwards, as shown.

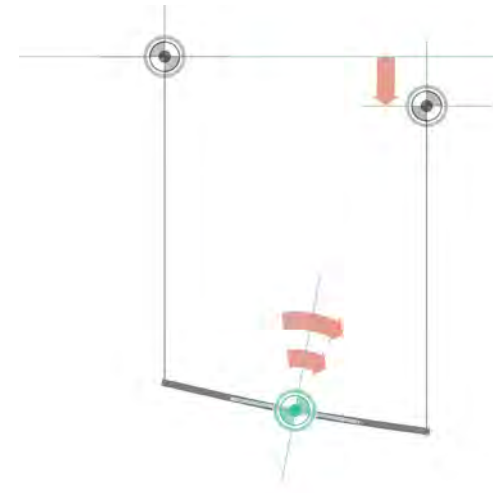
Without seatboard



Cruiser Feeling

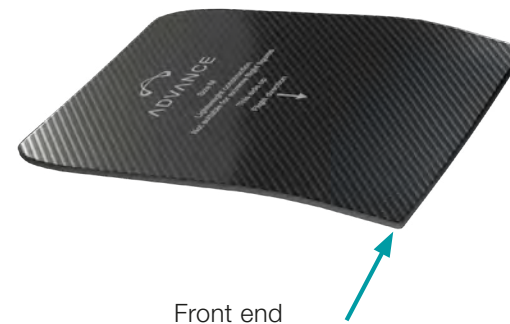
A comfortably damped and body-conforming seat shell

With seatboard



Sporty Suspension Feeling

Very direct, and directionally stable



Installing a reserve

The IMPRESS 4 can take two reserves in its reserve container under the seat. An adjustable dividing wall separates the container into left and right sides. A single reserve can be carried with equal priority for left or right release.

Important advice about the reserve system

Every reserve/harness combination has its own characteristics. It is essential that pilot and packer have confidence in the system, and are therefore thoroughly familiar with its operation – especially when a new combination is installed (new reserve in existing harness or vice versa), so that reliable functioning is assured.

! **Caution:** Installing a reserve must only be done by a qualified person. Your safety depends on it!

Compatibility of the reserve/harness system

Bulky reserves of an older generation can be relatively difficult to release from compact, modern harnesses, especially under high-G circumstances. Certified volumes of reserves for the IMPRESS 4 reserve compartment are a function of harness size: Size S: 3 – 5.5 litres, M: 3 – 6 litres, L: 3 – 6.5 litres.

i **Info:** For a broad approximation for reserve volume in litres a factor of x 2.7 can be applied to the reserve weight in kgs. Depending on method and packing skill a reserve with a volume arrived at by this formula, which is within the certified limits for a harness, still may not release without problem.

! **Caution:** If a reserve volume lies within the top third of the certified volume, special care must be taken that the reserve is folded to match the length of the inner container's longest side.

! **Caution:** In every case a test release/compatibility test carried out by the subject pilot in realistic conditions is the only way to prove that the particular reserve will reliably release from the IMPRESS 4.

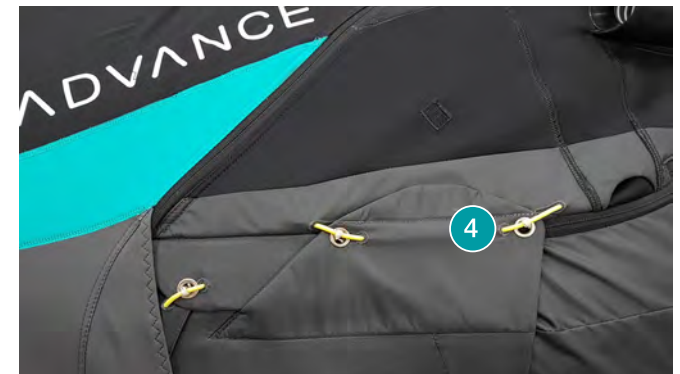
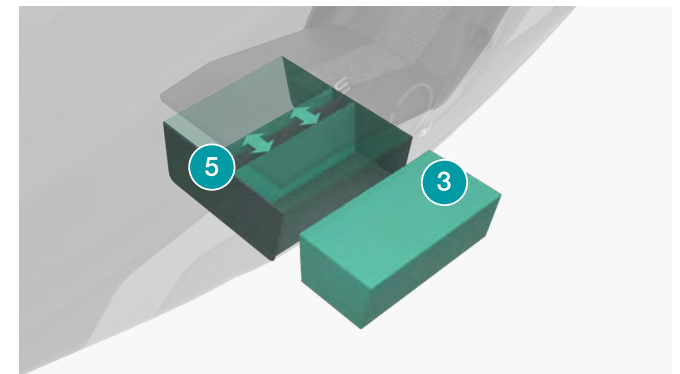
! **Caution:** When newly folded, a reserve can display a 30% enlarged volume. ADVANCE strongly recommend a compatibility test.

Arranging for one or two reserves

One reserve V-connection is permanently sewn into the IMPRESS 4 **1**, the second is delivered attached by two maillons **2**. ADVANCE recommend that the sewn-in connection is used for the main reserve. See «Connecting the reserve(s) to the harness» p. 16.

If only one reserve is carried the empty space can be taken up by the blank provided **3** and closed with the blank yellow cable **4**. See «Closing the reserve compartment(s)» p. 18

Depending on reserve volume the central dividing wall **5** in the reserve compartment can be moved by 4 cm in either direction and fixed with its Velcro. This dividing wall cannot be taken out.



Video Tutorial
«Installing a reserve»

Steerable reserves

The IMPRESS 4 can also be used with a steerable reserve. Connection to the harness should be made with two mailons of minimum strength of 2,400 daN, direct to the coloured marked suspension points under the covers on the shoulder straps. Then the steerable risers and lines should be led through the channel on the harness to the reserve compartment. The permanent serial connection V-lines can be used for a second reserve, or led through the opening provided and stowed away in the harness back pocket.

i Info: The fitting of Quick-Out Carabiners is possible. Use the bigger loops for the speedbag suspension.

Packing reserve(s) in the inner container(s)

The release handles of the left and right 5-flap inner containers are part of the container, and so designed that the pull of the handle is equally distributed over the width of the container. This minimises the risk of the inner container jamming in the reserve compartment, and guarantees a flawless deployment.

! Caution: Only use the original reserve handle(s) and its attached inner container(s). ①

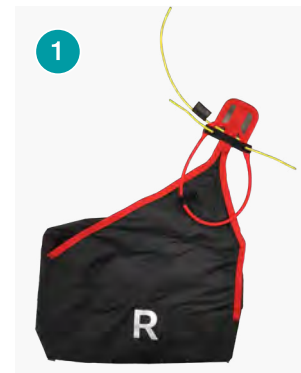
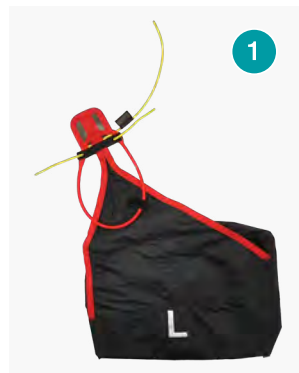
! Caution: The two inner containers must occupy their correct sides of the reserve compartment. This arrangement must not be reversed. ①

! Caution: Each harness size has its own inner container size, marked on its handle ②

Always pack your reserve to the shape and size of the IMPRESS 4 inner container supplied ③

Lay the folded reserve in the inner container with the

reserve line bundles on the opposite side of the inner container from the reserve handle. When all lines are stowed, approximately 90 cm of suspension line should remain for securing the inner container closure flaps. The 90 cm does not include the reserve bridle. ④



Closing the Inner container(s)

Close the 5 flap inner container flaps in the order of their numbering **1-3**. Secure the last container lid flap (#3) with a line loop of 5 to 6 cms length (3 finger widths). Now check the tension of the bungee loop and adjust its length if required.

i Info: the line loop should slip through the bungee under the weight of the reserve alone.

Close the last container flap (red border) with two similar line loops of equal lengths (5 to 6 cm). These final loops are retained by doubled elastic bands which are led through the eyelets on the outer container flap. The two elastic bands are already mounted at the factory.



Opening the connection line channel

In order to be able to install the rescue reserve(s) in the inner container into the harness, the connection line channel must be opened entirely. This is a continuous channel from the left rescue compartment over the shoulder to the right rescue compartment, which can be closed with a zipper.



First open the back part of the yellow cable on the left side to reveal the red zip slider.



Pull this slider up around the zip track over the top of the harness to the right side...



...to the end of the right reserve compartment.

Connecting the reserve(s) to the harness

With a Maillon Rapide ①

Connect the sewn-in IMPRESS 4 V-connection to the reserve bridle with a maillon of 2,400 daN minimum strength. Locate the webbing straps at each end of the maillon – for example using O rings or a specified Velcro filler, so that the webbing loops neither slide round the maillon nor side-load it in the event of an emergency reserve deployment. The first case could overheat the webbing and melt it, the second situation could cause the maillon to fail.

Loop-in-loop connection ②

Following extensive testing, the loop-in-loop technique is permitted and considered safe for ADVANCE products provided that the following two precautions are observed. The loops must be centred, and pulled as tight as possible by hand.

ADVANCE can make no statement about the strength of this method if an ADVANCE harness is connected to other reserves.

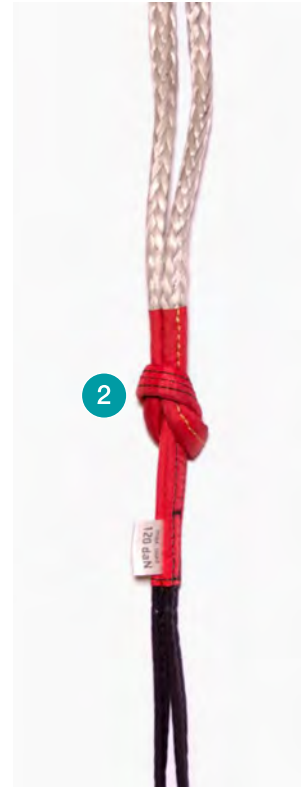
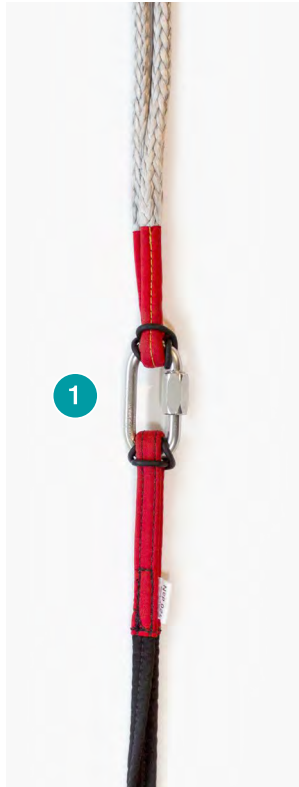
The same procedure can be used for the harness V-connection which is connected to the harness by 2 maillons.

! **Caution:** Do not use sticky tape instead of rubber O rings for locating (stabilising) webbing lines on a maillon!

i **Info:** When loop-in-looping a COMPANION reserve bridle to an IMPRESS 4 the V-connection neoprene cover ③ must be pulled fully over the loop connection.

! **Caution:** Never connect the inner container to the reserve!

! **Caution:** Make sure left and right V-connection lines do not cross. ④



Putting the inner container(s) in the reserve compartment(s)

IMPRESS 4 inner containers and reserve compartments are marked R and L for right and left reserves.

- Always lay connection lines in the compartment first, then the reserve inner container. ①
- Make sure that R goes in R and L in L. ②
- The reserve handle connection must not be twisted.

! **Caution:** If a newly packed reserve does not match the shape of the inner container the reserve must be refolded to the correct shape.

! **Caution:** Never pack the right-hand container in the left compartment or vice versa.

i **Info:** This manual describes the installation of a single reserve on the right-hand side. The installation of a second reserve or a single reserve on the left-hand side can be derived analogously.

i **Info:** If the IMPRESS 4 is used with only one reserve the empty reserve compartment must be occupied by the suitably shaped foam blank provided in order that the reserve compartment does not permanently deform.



Lay the connecting lines in first, then the reserve.



R on R and L on L

Closing the reserve compartment(s)



Info: The closure flaps are numbered **1 to 4**.



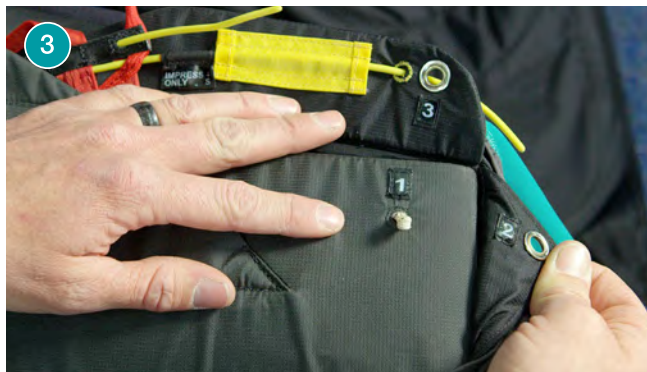
Info: Harness delivery includes a red packing cable. This can be used as a packing help.



Push the long yellow closure cable through the yellow tab on the inside of the upper flap and lead it out through the yellow hole by the eyelet.



Fold the lower flap up while slotting the right flap in place (red to red).



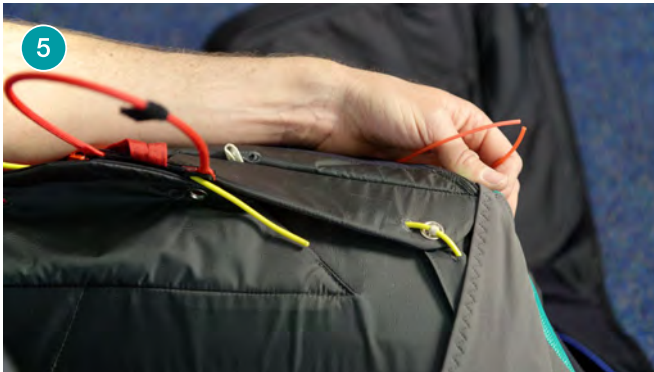
Follow the numbers 1–3.



Fold the upper flap down and secure it with its loop and adjacent yellow cable, using a packing aid line or the red plastic device provided.



Stow the handle base (red) in its red pocket. Lead the two short yellow cables through the yellow holes by their eyelets (in flap 4).



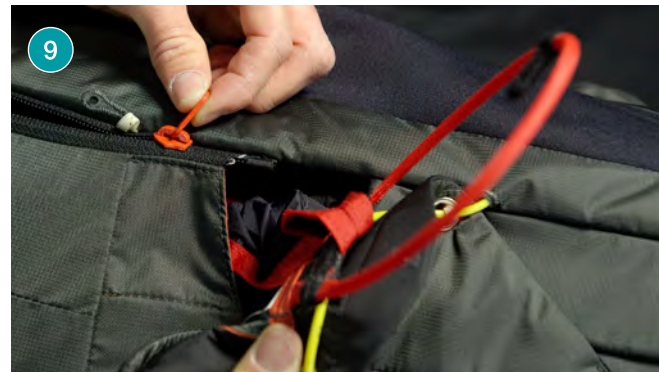
Stow the long yellow cable in its buttonhole.



Fold flap 4 up, and secure the right-hand side with its yellow cable. Stow this cable end in its buttonhole.



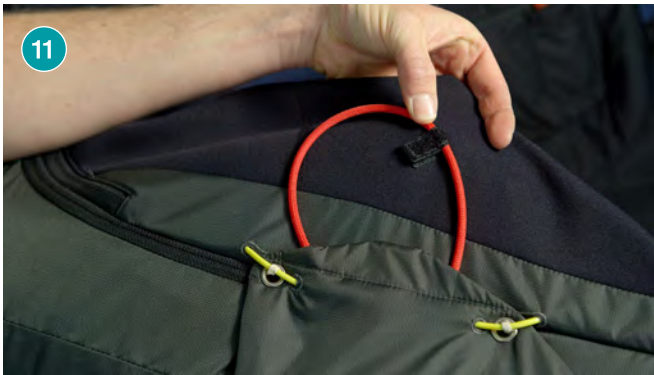
Fold the left part of the lower closure flap up and into the left flap (red to red).



connect the red zip slider and run it up 10 cm



Close the left side with its yellow cable and stow the end in its buttonhole.



Locate the reserve handle on its Velcro and settle the magnet.

Closing the connection line channel



Close the zip and pull it from the right reserve compartment over the top ...



... to the left reserve compartment. Guide it there beyond the end behind the viewing window. This way you make sure that the release is not blocked by the slider.

! **Caution:** After installing the reserve, it is mandatory to remove all auxiliary equipment and the red packing device! Danger of release blockade!

Closing an empty reserve compartment with the blank cables



From the inside push the yellow cable through the small hole



Secure the eyelet and its loop with the yellow cable using a helpline or the red packing device



The cable end goes into its buttonhole.

Compatibility Test

Correct installation of a reserve must essentially be tested by a trial release. Put the harness on, close the 2-buckle and closure remember systems, and the speedbag, then clip yourself and the IMPRESS 4 carabiners into a harness hanger. Then pull out the reserve as if in flight.

i Info: A successful compatibility test carried out by a pilot can greatly encourage confidence in the reserve system.

Operation of the reserve handle must take place in a normal flying position, and work without hindrance, in accordance with the requirements of this manual. You therefore must be sitting in the harness. If you are not sure of this procedure you should contact a qualified person or your ADVANCE dealer.

Here are some factors that could make a reserve deployment difficult or impossible:

- Reserve too big for the compartment or inner container.
- Reserve not packed to the dimensions of the inner container.
- Reserve not pulled out with the correct technique. A pull then throw to the side is correct.
- The volume of the reserve worked originally in the new harness, but after a repack it has become too big.
- Pilot dimensions and arm length may have a significant effect on reserve-throwing success. Small pilots with short arms can have difficulties.
- Conditions such as high G-loading (3G +, as in spiral dive).

! Caution: A combination of these factors could make a reserve deployment impossible.

Fitting an Anti-G chute

The IMPRESS 4 has a straight-through Anti-G pocket at lumbar level.

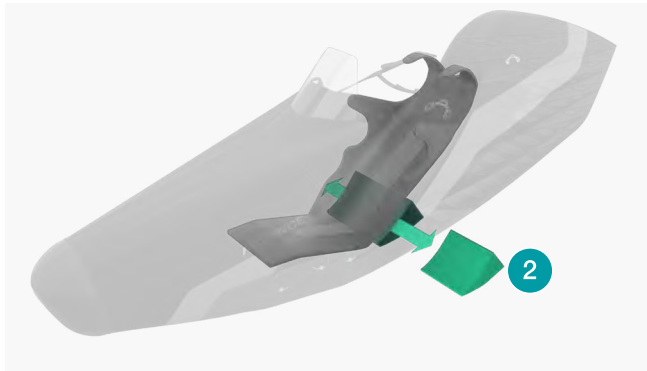
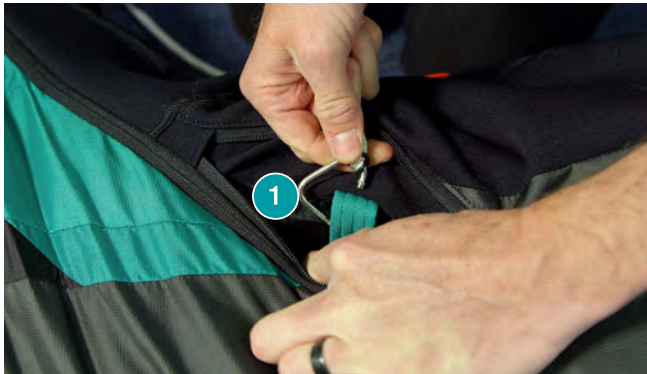
Fitting the Anti-G chute

The Anti-G device attaches to the green strap by a triangular quicklink **1**, then is stowed away.

Replacing it with the blank

If the Anti-G chute is not required the pocket can be taken up with the blank **2**, or the space can be used as general stowage.

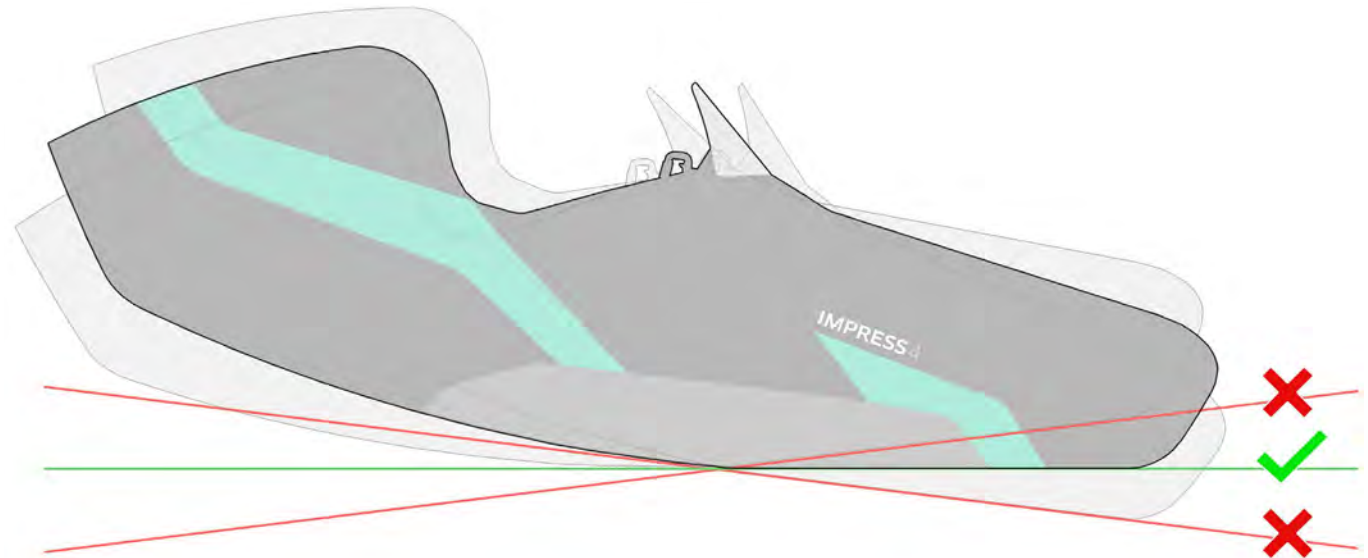
! **Caution:** Before fitting or using your Anti-G chute be sure to read the instructions in its manual.



Adjusting the harness

General information

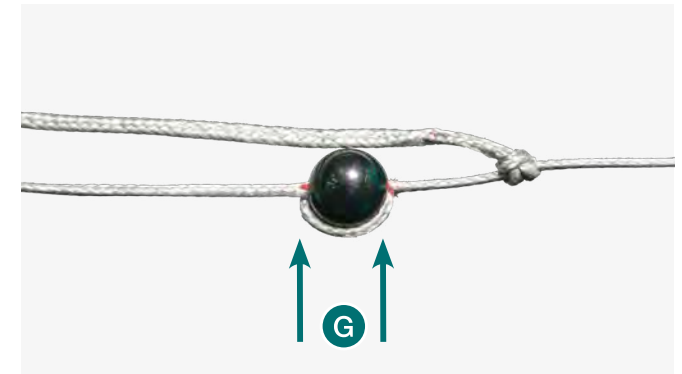
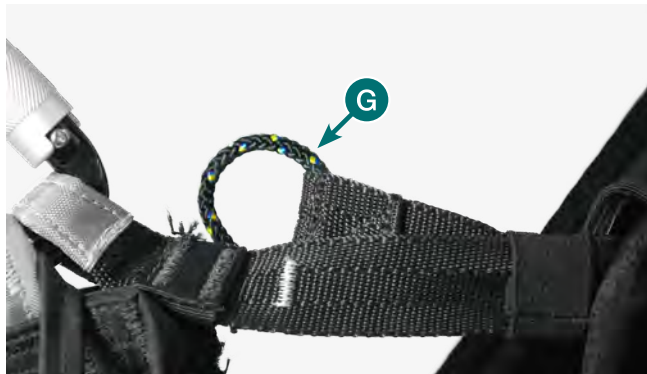
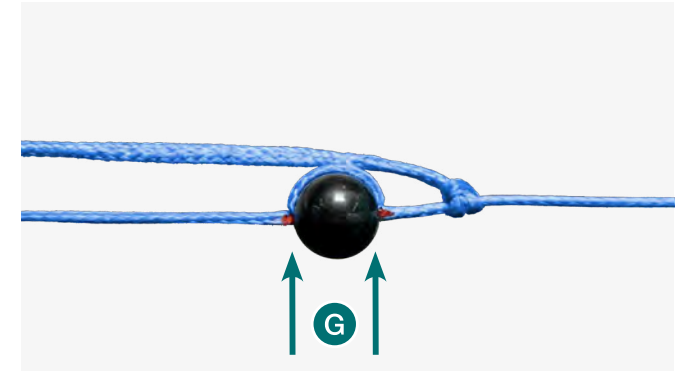
- Take some time to adjust your IMPRESS 4 and always keep these two criteria in mind: Comfort (no pressure points) and Aerodynamics (speedbag base horizontal).
- The procedure is the same – with or without seatboard.
- The majority of pilots with a normal upper body/leg length relationship will not be far from the basic settings.
- Take a step-by-step approach to your adjustments, following the guidance here, and approach the correct strap lengths in 2 cm steps. Make sure that adjustments are exactly the same both sides.
- Repeat the process as often as required until you are satisfied with the result.
- Then perform a first, short test flight to check the settings before you go cross-country flying for several hours.
- Make adjustments after a few flights, if necessary.
- If you do not get a satisfactory result, contact your dealer and check with him whether a different speedbag size could solve the problem. Any harness size can be combined with any speedbag size S, M and L.

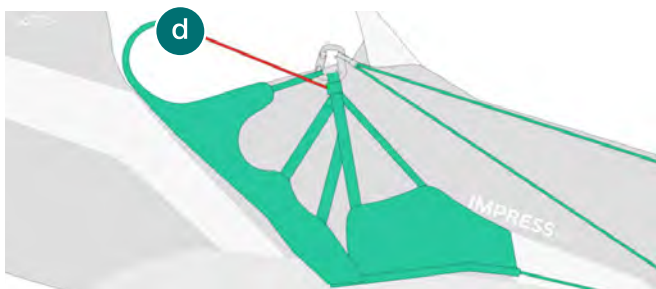
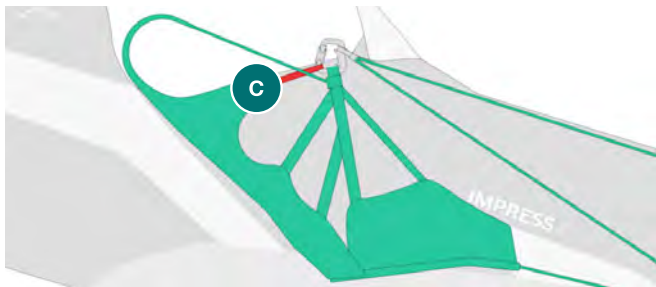
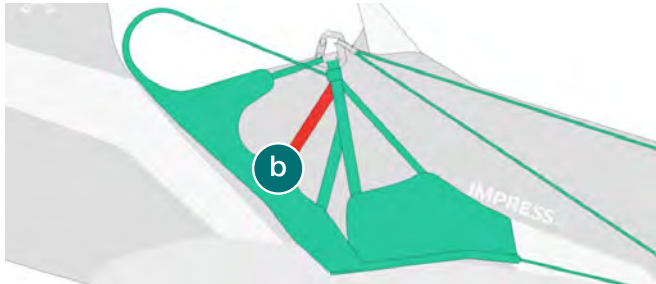
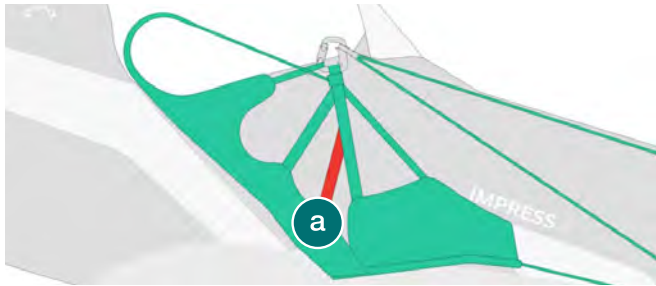


Video Tutorial
«Adjusting the harness»

Preparation and basic settings

- Install the reserve before adjusting the harness.
- Pack the rucksack in the back pocket.
- Set all straps to their basic length (as delivered). **G**
Put the harness on.
- Close the harness and speedbag and hang this arrangement on a simulator (harness hanger).
- Ask a bystander to assess your harness position (flying attitude).





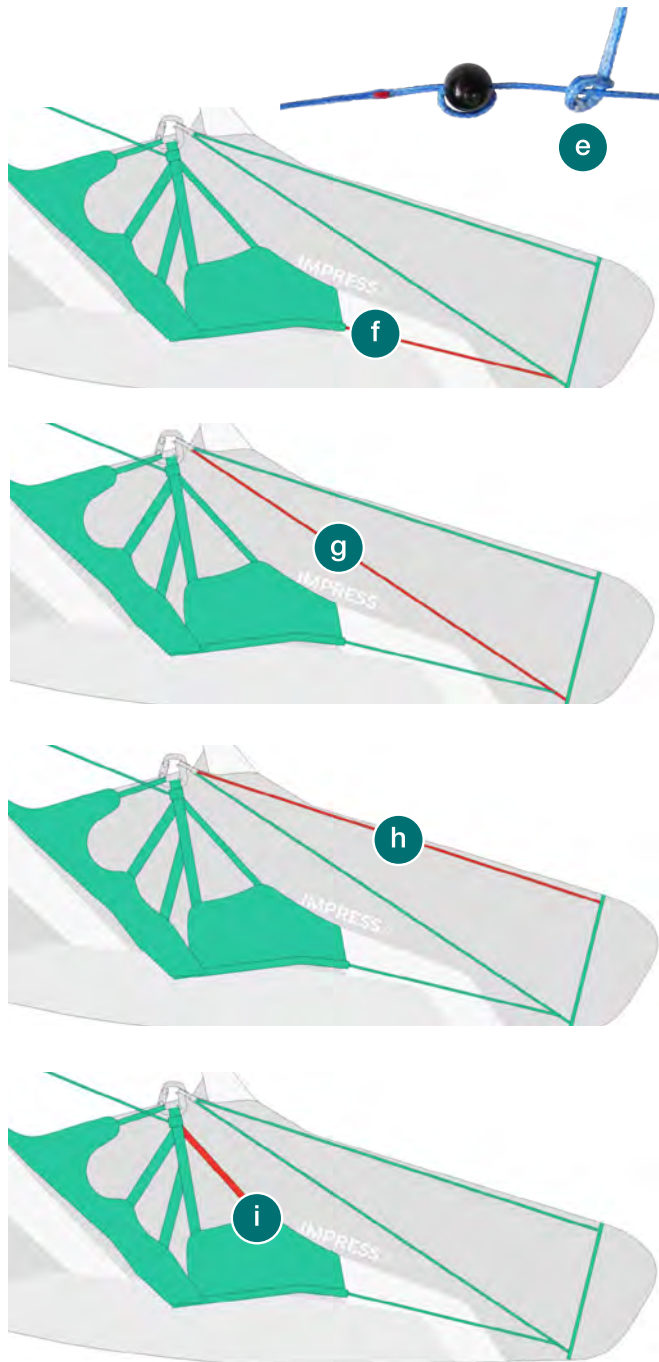
Adjustment steps

1. Body (centre of gravity) position in the seat shell

- a If your centre of gravity is too far back (feet in the air) push it forward by pulling in the lower back straps – or vice versa.
- b Then adjust the middle back straps (in or out) until your lower back (lumbar spine) is comfortably supported.
 - A comfortably supported back without a cutting feeling under the armpits is a good indication of an ideal position in the seat shell.

2. Adjusting upper body recline angle

- c The upper back strap sets the upper body recline angle.
- d Now you can set the shoulder straps so that they lie loosely on the shoulders.



3. Aligning the Speedbag

- e Release or loosen the anchor hitches and move the balls to adjust the speedbag.
- f Adjust the lower line to a speedbag length where your outstretched legs press the footboard with light pressure.
- g Now adjust the speedbag angle with the diagonal line. The speedbag underside should be horizontal.
- h Now adjust the angle of the footboard with the upper speedbag line.

4. Adjusting the seatboard/seat shell

- i The thigh strap should be adjusted so that you feel a comfortable pressure under the thighs.

5. Front strap setting

- Set the front strap to your requirements. It can also be adjusted in flight.
- With a wider front strap setting, the harness will be more agile, and weight steering more effective. A narrow setting creates a quiet, damped flying behaviour.

i Tip: The most important factor for adjusting the front strap is that the pilot feels good in the harness.

6. Adjusting the small chest strap

The small chest strap holds the shoulder straps in position for takeoff and landing. It can be adjusted as you wish.

Setting up the speed system

The IMPRESS 4 comes with speedloops and lines already fitted. The speedlines only need to be adjusted to the glider's acceleration system and leg length.

- 1 Connect the speedlines to the paraglider by Brummel hooks or anchor hitches.
- 2 Position the knots on the speedlines inside the speedbag to the correct position and pull the anchor hitches to the same position each side.
- 3 The speed system has a tensioning bungee attached to the centre of the footplate. If desired, this can be reattached to a loop on the right or left side of the footplate.

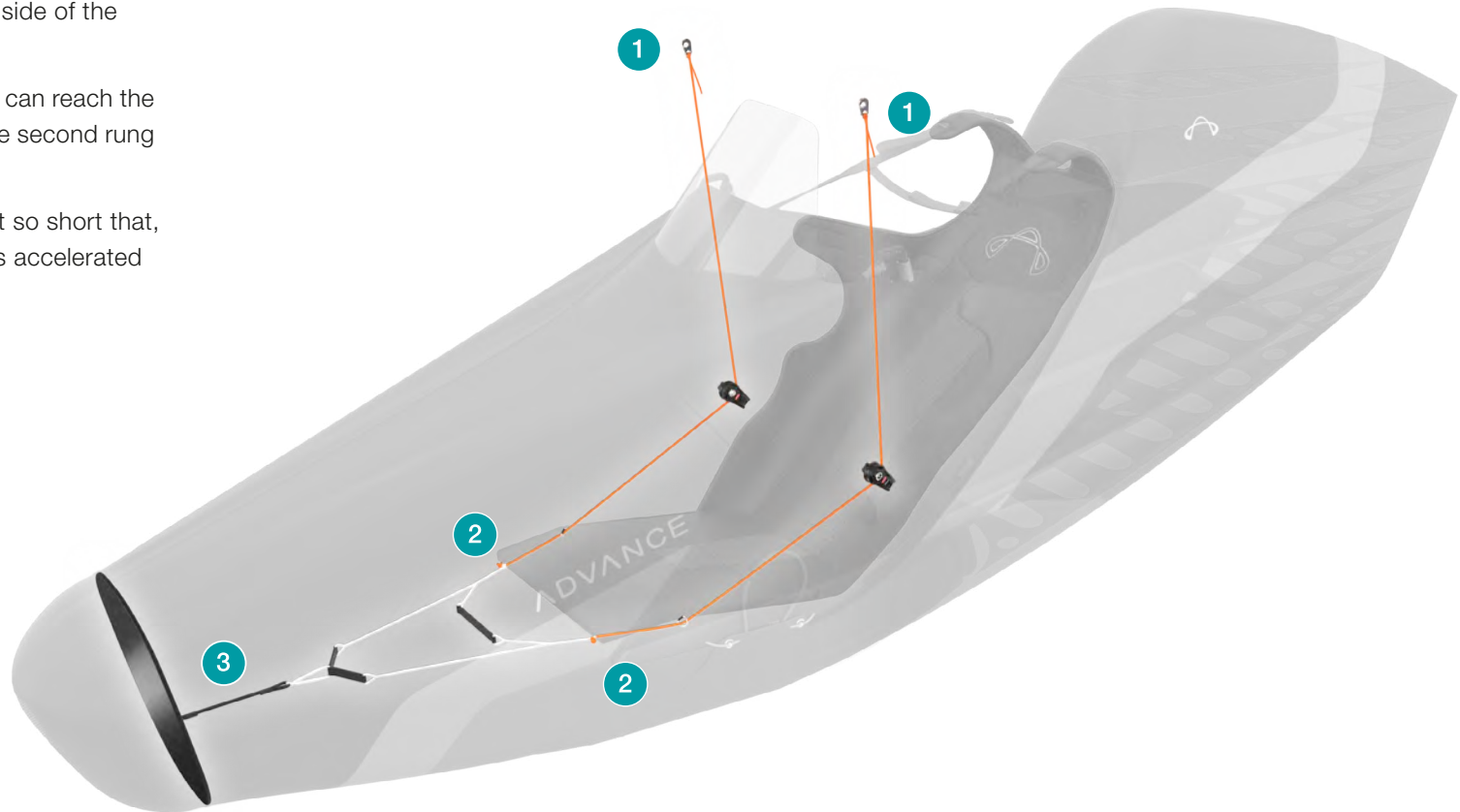
The speed system is correctly set when you can reach the full range of the acceleration system with the second rung of the speedloop.

i Info: Make sure that this setting is not so short that, with no speedloop applied, the wing is accelerated in flight. This is your short limit.

See:

«Speedsystem» p. 39

«Speedsystem handling» p. 33



Preparation for flight

Fitting the Windshield

Fasten the popper on one side of the speedbag, lead the windshield under the elastic speedbag border and close the other popper. **W**



Closing the harness

1. Front strap

Close the front strap with the two Cobra buckles.

2. Speedbag

Close the green speedbag buckle.

3. Closure Remember System

Pass red loop 1 through rings 2 and 3. Fasten with ball.

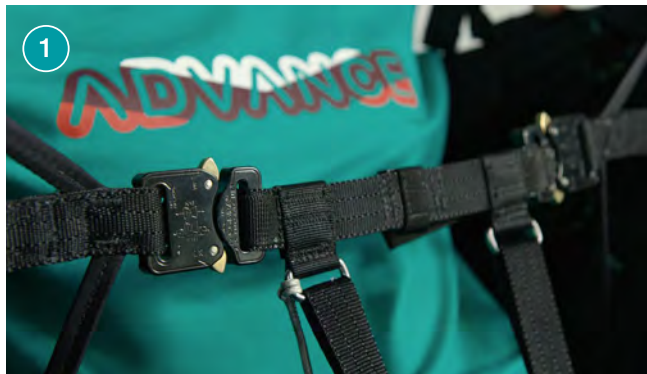
4. Fixing the cockpit

Fasten the cockpit to the front strap with the green buckle.

5. Close the small chest strap

! **Caution:** Always close the front strap first, then the speedbag! Before every takeoff, and especially before a second attempt – check specifically that both Cobra buckles are correctly closed. An open front strap can allow you to fall out of the harness from the air – with fatal results!

! **Caution:** Make sure that all buckles are correctly closed!



Clipping in the paraglider

The EASY CONNECT SYSTEM with its coloured markings on the IMPRESS 4's main support loops makes clipping in an ADVANCE wing especially straightforward. The pilot only has to note that the red and blue lines on the glider risers match the same colours on the IMPRESS 4 support points. The EASY CONNECT SYSTEM improves safety before takeoff.

Pre-flight check

Before every takeoff check the following:

- 1 Harness and helmet buckled up? Reserve container closed?
- 2 Lines free?
- 3 Paraglider canopy free?
- 4 Wind direction and strength acceptable?
- 5 Airspace free, visibility good?

i Info: Check before every flight that the reserve handle(s) are in the correct position and the yellow closure cables correctly positioned.



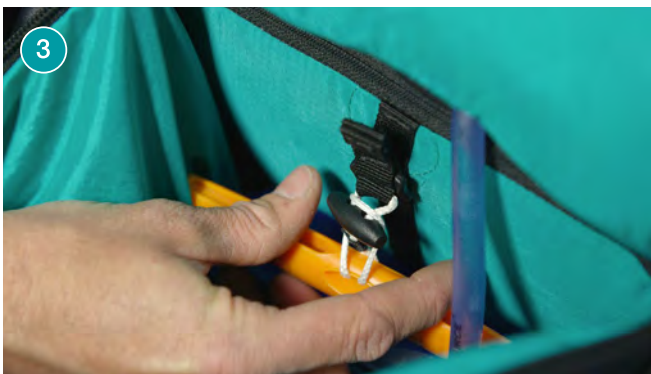
Setting up the drink system



Detach the tube from the bag and lead it upwards via the two loops on the left or right shoulder ...



... and out into the back pocket by the H₂O label. Tip: "Pre-drill" with your finger. Caution: Pass the tube under the rescue V-lines!



The bag is stowed in its pocket and secured with a bullet toggle.

Relief tube routing



The urine tube exit point is indicated by the red tape, inside the harness at hip height on the left-hand side.



The tube is then run directly to the outside.

i Info: This feature is easily reached in flight, and the urine tube can be pushed through the exit hole during flight.

Use in Practice

Suitability and range of use

Paraglider compatibility

The IMPRESS 4 can be flown with any paraglider.

Winching

The IMPRESS 4 is suitable for winch launching. The tow link must only be fixed to the harness's main carabiners. If there is any doubt, the winch driver or a person authorised by the manufacturer should be consulted.

Acro

Freestyle manoeuvres are possible, however the IMPRESS 4 was intended for cross-country and competition flying and acro is not recommended; the harness is not suitable for it because of its construction features.

Tandem flying

Because of its dimensions/function the IMPRESS 4 is not suitable for tandem flying – whether for pilot or passenger.

Use in the school environment

The IMPRESS 4 is a light harness and therefore not suitable for school use.

Flying with or without seatboard

The IMPRESS 4 is routinely delivered with seatboard fitted. However, the harness can be flown without seatboard, or further restriction, or change of harness settings. The differences are covered in «With and without seatboard» p. 11. The seatboard is very easy to take out and

replace. If you have previous experience of no-seatboard ADVANCE harnesses you will know the feeling. If not, we would encourage you to try it for yourself.

i Tip: To come to a decision as to whether you prefer the IMPRESS 4 with or without the seatboard we recommend that you try both, and decide which suits you best.

Using the Windshield

Cross-country advantages

The Windshield has two distinct advantages for cross-country flying, which will only become obvious when you have tried it for yourself. The first: the Windshield reduces windchill a lot, and therefore delays upper body cooling. Second: it suppresses annoying and tiring wind noise, and reduces wind pressure on the face and eyes.

i Tip: We encourage you to try out the Windshield for yourself and feel the difference.

Careful packing and storing

Never pack the harness with the Windshield still in place. Take the Windshield off after landing, before laying the harness on the ground, and put it in its grey cover so it doesn't get scratched. Always store the Windshield flat so that it doesn't get bent, preferably tucked between the folds of the glider, before this is packed in its inner bag.

Speedbag Handling

For takeoff

A quick and trouble-free step into the speedbag after takeoff needs some practice for any reclining harness. With a suitable technique you should be able to manage this without using your hands (letting go of the brakes) or an elastic cord attached to a boot. Observe the following instructions:

- 1 At liftoff remain in a forward-leaning attitude and do not slide into the harness.
- 2 After liftoff look quickly down at the speedbag opening.
- 3 Put your right heel in the opening and tension the speedbag.
- 4 Put your left leg into the speedbag and follow it with the right.
- 5 Stretch both legs forward on the footboard. The speedbag will close by itself.

i Tip: If you still find it difficult to get into the speedbag you could fix an elastic connection to your footwear to help. You can order such a component from your dealer.

i Tip: The speedbag retains heat. If it gets too warm, you can ventilate the speedbag efficiently by bending one leg.

For landing

Get both legs out of the speedbag in good time before

landing and adopt the upright position. A stand-up landing should always be made to avoid damage to yourself or your equipment.

Speed system handling

Easy to push – fatigue-free

An important feature of every cross-country harness is comfort in accelerated flight. The IMPRESS 4 sets new standards in this respect. Even at full speed the body position in the seat does not change, and there should be no pressure points on the body. In addition the speedlines run freely, and speed system pressure is moderate.

Symmetrical acceleration

The two rungs of the IMPRESS 4 speedloop are stiffened with a section of tape. This not only makes the rungs more comfortable underfoot but also easier to centre the feet on the speed system.

Changing to the second step

Use only one foot to accelerate with the first rung, and leave the other on the footboard. The second foot takes over the load when stepping into the second rung. Be careful not to press the heels into the speedbag fabric. Heels should not be lower than the bottom of the footboard. Low heels can spoil the clean speedbag airflow (more drag), and could overstretch and damage the material.

Setting up the speed system is described in detail in «Setting up the speed system» p. 28.

! **Caution:** Make sure the speed system is always connected to the wing in flight by its Brummel hooks, even when you do not intend to use it. A loose speedline can prevent a successful reserve

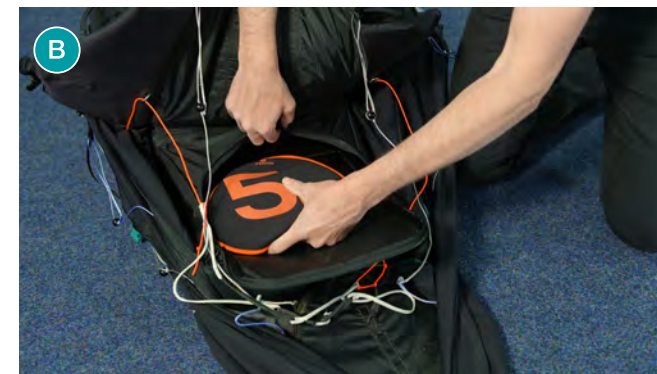
deployment.

Flying with Ballast

The 5-litre ballast compartment is under the seat. You can either stow a water bag in it, or bags of lead shot if you want even more weight. Lead ingots are not recommended as they are more likely to cause injury, or damage. **B**

Throwing an Anti-G chute

Zips on each side make it possible to deploy the Anti-G chute from the right or left. The Anti-G chute can be reeled in in flight and restowed for the next emergency spiral. **G**



Packing

The IMPRESS 4 has a fold line across the back and can be easily folded and packed. The resulting low-volume package makes it a perfect fit for the supplied COMFORTPACK 3 130 ltrs.

! **Caution:** Before packing always open the cockpit/speedbag zip and press the instrument panel flat. Alternatively you can take the cockpit off.

! **Caution:** Never pack the harness with the Windshield in place. It could be damaged



Emergencies

Reserve

Throwing the reserve

Use the correct technique to release and throw the reserve. This is a pull then throw to the side. Do not pull straight up. Throw the reserve inner container as far away as possible in the athwartships direction so that the lines are quickly extended and tensioned.

i Tip: We recommend that you make a brief tactile check on your reserve handle during every flight. This will program the sub-conscious as to where it is. We advise that you also mentally rehearse the throwing technique.

In strong rotational flight, such as a spiral dive, very high G-loading can occur. This can make reserve throwing much more difficult. This is one reason why the IMPRESS 4 has two reserve compartments, so it is possible to carry two reserves, one on each side.

i Tip: Take your harness along to a G-Force Trainer and practise releasing your reserve under high G-loading.

Landing under the reserve

After throwing a reserve get your feet out of the speedbag immediately and stabilise the paraglider. Then try to open the small chest strap, speedbag closure and Closure Remember System (CRS) while descending, so that after arrival you only have the two Cobra buckles on the front strap to open.

Reserve landing in strong wind

In a strong surface wind there's a risk that the pilot, attached at the shoulders, will be dragged over the ground by the reserve and paraglider. Options for dealing with this are

distinctly limited. This is why it is important that all buckles except the front strap should be open before touchdown.

! **Caution:** If you cannot open a buckle, speedbag or CRS cut these free with the hook knife before reaching the ground. The hook knife is in a pocket under the cockpit, secured by a long line.

! **Caution:** With the prospect of landing in very strong wind you should consider disabling the paraglider by cutting through the risers on one side with the hook knife **H**. In the air this will greatly improve the performance and stability of your reserve. The fitting of Quick-Out carabiners is popular in some countries for this reason, but the hook knife is considered more practical in an emergency, and risers are easier to replace than a set of lines.

! **Important:** The front strap will not release under load.

Open the two front strap Cobra buckles on touchdown as soon as it is relaxed. If this is not possible use the hook knife to cut through both leg straps as well as the front strap.

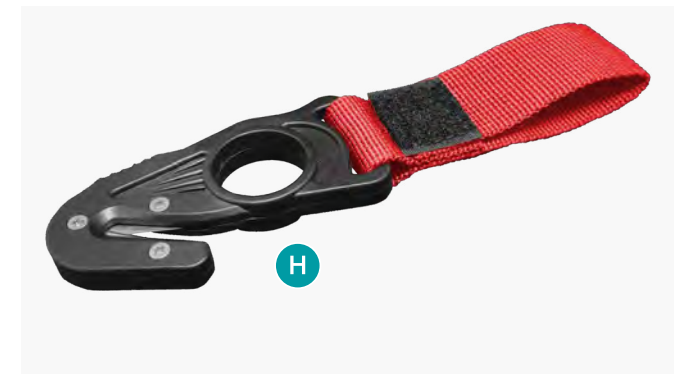
Water landing

Every water landing represents great danger and should be avoided at all costs. Landings in flowing water or in coastal surf are often fatal (drowning).

! **Caution:** Landing in water with a speedbag also raises the danger level, in that there are more fastenings to open than for a simple sit-up harness.

Even for an intentional water landing during safety training the greatest caution is called for.

! **Important:** After a water landing separate yourself from your harness as quickly as possible and get clear of your equipment so that you do not get caught up in reserve or paraglider lines.



Reserve descents into water during safety training (SIV)

Make sure that the rescue boat is on the water and can reach you quickly. Always wear a lifejacket. Get out of your speedbag before reaching the water and open all possible buckles (small chest strap, Speedbag, CRS) except the front strap.

! **Important:** The front strap will not open under load.

You should be aware that the foam protector in any harness will try to float. This can automatically tip the pilot head down in the water. It can therefore be sensible to take the protector and comfort foam out before the exercise. See section «Removing & replacing components» p. 37.

After an intended water landing you should also get out of the harness as quickly as possible, before getting into the boat. A harness soaked with water is very heavy and it is difficult to board the boat while wearing it.

! **Caution:** When lifting the harness from the water, either into a boat or on shore, there is a risk of damaging it because of the extra weight of water inside. Lift the harness by its straps – never by its fabric parts.

Involuntary reserve descent into water

Especially in this case it is very important, if possible, to get out of the speedbag before splashdown, and open all buckles except the front belt or use the hook knife. Immediately after entering the water both Cobra buckles must be opened. Get away from the harness and all your equipment as quickly as possible.

! **Important:** The front strap will not open under load.

! **Caution:** If a buckle or speedbag and CRS will not open cut through these lines with the hook knife before entering the water. The hook knife is in a pocket under the cockpit, attached by a long line.

Water landing without reserve (but with paraglider)

Follow the same procedures as above. Depending on the situation and danger (current, waves) it can make sense to cut one or both leg straps with the hook knife before entering the water, so that the front strap is not tensioned, or even cut all the straps and jump or slide out into the water (from a low height).

! **Caution:** In case a buckle or speedbag/CRS will not open cut through these with the hook knife. This is in a pocket under the cockpit and attached by a long line.

Maintenance and care of the harness after a water landing

After contact with water all the protectors including SAS-TEC parts, comfort foam and blanks should be taken out of the IMPRESS 4. See section «Removing & replacing components» p. 37.

Everything should then be allowed to dry in a shaded place outside, or carefully laid out in a dry room – or the harness could be hung by its carabiners and gently wafted to and fro. The reserve must be taken out and dried separately. Obviously it should then be repacked.

i **Info:** The protectors may take several days to dry

completely.

Tree landing

A tree landing raises the risk, with or without reserve, of hanging by the leg straps, thus tensioning the front strap and preventing the Cobra buckles opening. In this emergency you could also call on the assistance of the hook knife – carefully! Do not fall out of a high tree.

! **Caution:** The most dangerous feature of a tree landing is climbing down. Always wait for a rescue party to get you out of the tree.

i **Info:** We recommend that you keep a rope sling with carabiner in the cockpit so that you can secure your harness to a branch and relax while you wait.

Removing & replacing components

General

The IMPRESS 4 is delivered with the foam protector, SAS-TEC back and side protection, comfort foam, fitted speedbag and speed system. All individual parts can be easily removed, e.g. for repairs or replacement, or for removal before landing in water during safety training.

1. SAS-TEC back protection

SAS-TEC back protection is housed in a separate pocket in the back compartment. Open the zip in the back compartment. Pull the SAS-TEC protector up then out. To replace, it is essential that the spot on the SAS-TEC protector faces away from you inside towards the spot on the SAS-TEC compartment. Close the zip.

! **Caution:** The viscoelastic SAS-TEC material gets very hard in cold temperatures, and can break if then bent.

2. Comfort foam

The comfort foam lives behind the SAS-TEC pocket in its own push-in space, next to your back. To remove, first take out the SAS-TEC protection as above (1) then pull the comfort foam out. To replace reverse this sequence, not forgetting to put the SAS-TEC-protection in (last).

3. SAS-TEC lumbar protection

In order to retain comfort the SAS-TEC lumbar protection should not be removed. For repairs it can be taken out with some work on your part. Open the zip in the middle of the Anti-G pocket and pull the SAS-TEC lumbar protector out. After refitting it, close the zip.

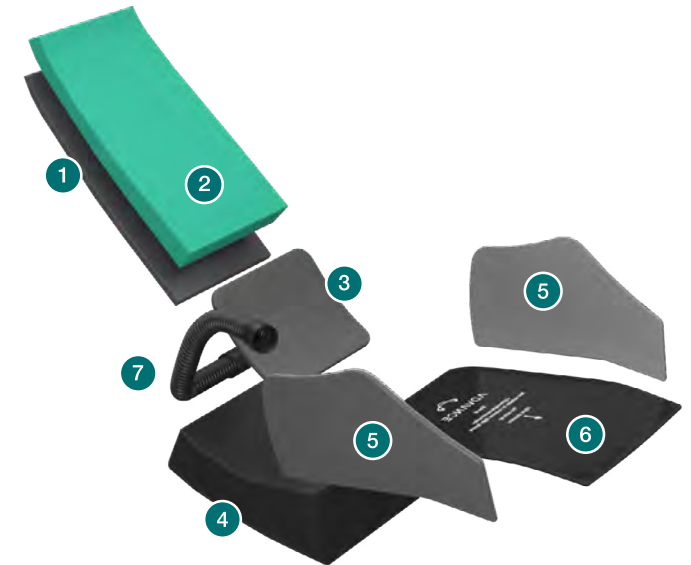
4. Main protector

The main protector pocket is under the seat. Open the zip behind the ballast compartment and pull the main protector out. When replacing make sure that the spectra-coloured side of the protector faces the spectra-coloured wall of the harness. Close the zip.

! **Caution:** The IMPRESS 4 should always be flown with its main protector. Without it the harness has no certification.

5. SAS-TEC side protection

For comfort the side protection should not be taken out, as a general principle. For repair purposes, however, it can be pulled out of its pockets on the sides, with some effort. Open the zips inboard of the lower edge of the seatboard.



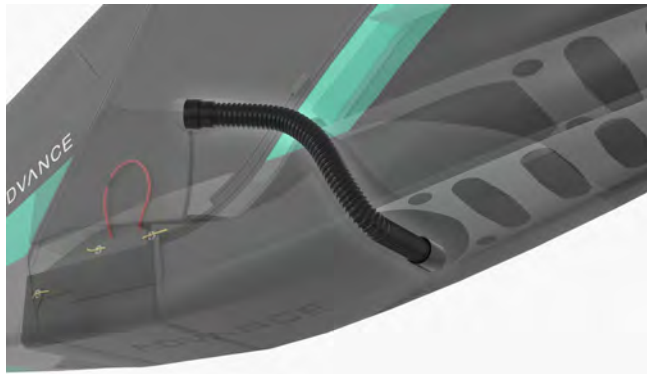
6. Seatboard

The seatboard is pulled out rearwards from its slot under the seat. To replace, reverse this process and then fix the Velcro in place. See also section «Flying with or without seatboard» p. 32.

7. Air tube

Open the small buckle on the inside of the tube cutout in the harness and push the tube out, in the forwards direction. Unscrew the inlet valve. Open the small zipper on the inside of the neoprene hose guide and pull the tube out. Remove the foam protector as described above.

Open the protector pocket zip, release the elastic band and pull the air tube valve out. This can be unscrewed and exchanged.



Footboard

The carbon footboard can be taken out of its pocket in the speedbag and replaced with a new one. Make sure the board is centred when reinserted, narrow end first – wide end at the top. It is important that the closure Velcros are exactly lined up, otherwise the speedbag could develop wrinkles.

Speed system

Unloop the Brummel hooks and pull the speedlines through the pulleys and D-rings in the harness, both sides. Reverse the process to install.

- i Info:** The bungee tensioner at the feet can be replaced separately.
- ! Caution:** Check the free run of the speedlines in-board of the speedbag lines. These should not cross, or sawing through may result!
- ! Caution:** Only use original speedline components. Other lines or speedbars could damage the speedbag by friction and overload.
- i Info:** If desired, ratchet pulleys could be mounted on the grey speedline tensioner loops. Make sure that the lines run cleanly to avoid chafing points.



Speedbag

The IMPRESS 4 is routinely delivered with speedbag fitted. To fit another version the original must be removed. Continue as follows.

! **Caution:** When fitting a new speedbag always use the lines that came with it.

To remove a speedbag

Remove the speedlines and free the grey loops from the main carabiners.

Open the zips both sides.

Open the Velcro underneath the harness.

Undo both lower grey speedbag lines, which attach speedbag and harness together.

Loosen the anchor hitches under the black adjustment balls and fully release the grey lines from the black tabs at the edges of the seat shell.

Release both lower grey lines from the footboard. Loosen the anchor hitches and pull the grey lines from the red attachments.



Speedbag installation



Pull the upper ends of the grey speedbag lines through the black tabs on the sides of the seat shell.



Make the upper loops into anchor hitches and pull the lower, red-marked ends through them.



Push the anchor hitches up to the black balls. Make the red-marked ends of these lines into anchor hitches and fix them on the red attachment lines on the footboard.



Make an anchor hitch in the lower red-marked end of the line and fix it to the red line on the foot-board.



Close the zip between speedbag and harness.



Fix the speedbag Velcro strip under the harness.



Put the grey speedbag top loops in the carabiners

Caution: Make sure that the smaller loop is hooked in so that the speedbag in the carabiner does not slide down.

Close the zips which fasten the speedbag to the harness.

Fix the speedbag Velcro to the underside of the harness.

Put the grey suspension loops into the main carabiners.

! **Caution:** The grey suspension loops must be supported at the carabiners. They are a major load-bearing part of the speedbag and resulting pilot footwork. If not hooked up the speedbag zip will be destroyed.

Fit the speed system as described in this manual.

Care, checks and repairs

General care

ADVANCE recommend a complete harness inspection at least once a year. In it the condition of seams and straps will be inspected, and the functioning of securing devices tested. Airing and repacking of the reserve parachute is included. If the IMPRESS 4 has been subjected to an airborne reserve opening the harness will be checked by the manufacturer or an authorised Service Centre.

Ultraviolet light, temperatures below -20°C and above +60°C, high humidity or damp, sea water, aggressive cleaning products, incorrect storage and physical abuse (e.g. dragging over the ground) all accelerate the ageing process.

! **Caution:** Do not modify your IMPRESS 4 and never fly a harness with strap damage of any kind.

The lifespan of your IMPRESS 4 can be significantly improved if you follow the following advice:

- A wet or damp harness should be allowed to dry at room temperature or outside in the shade. Regularly repack the reserve.
- If the harness comes into contact with sea water it should be thoroughly rinsed with fresh water. The reserve should always be repacked (after appropriate reserve rinsing and drying, if required).
- The harness should only be cleaned with fresh water and neutral soap – never chemical solvents.

- The connections between harness and reserve should always be inspected and tested after an airborne reserve opening.
- After any excessive loading (e.g. serious crash) the harness should be checked by a qualified person.
- The harness should be regularly inspected for defective seams and webbings. Particular attention should be paid to reserve/harness connections and the seams at the main carabiner supports.
- Do not subject the packed harness to large temperature variations, and make sure it gets adequate air circulation to prevent condensation forming.
- Do not leave the harness in the sun (UV-radiation) without good reason. A good flight is a good reason!

Foam protector

The foam protector does not need special care, but should be inspected for possible damage after a significant crash. If the outside cover is damaged the protector must be changed.

Checks

Your IMPRESS 4 should have a full check every 24 months, and be regularly inspected. Confirmed damage requires the harness to immediately be sent to an authorised Service Centre for remedy. Comprehensive information about the worldwide ADVANCE Service-Network can be found on www.advance.ch.

Repair

You should never carry out harness repairs yourself. The various seams are prepared with the greatest precision. Only the manufacturer or an authorised Service Centre should carry out repairs with original materials.

Disposal

Care of the environment plays an important role in the choice of materials and the production process for an ADVANCE product. We use only harmless materials and substances that have been accepted as of consistent quality and environmental friendliness. When the harness, in a good few years, has reached the end of its useful life, remove all metal parts and dispose of what remains at a waste disposal plant.

Service & Warranty

ADVANCE Service Centres

ADVANCE operate two company Service Centres who carry out checks and repairs of every kind. The workshops based in Switzerland and France have many years of experience and an extensive bank of product-specific know-how. The ADVANCE worldwide Service Network includes other authorised centres who provide the same quality of service. All these organisations use ADVANCE original materials exclusively. All information about annual checks and repairs, and the relevant addresses can be found on www.advance.swiss.

Product registration

Set up a MyADVANCE-Account on www.advance.swiss/warranty and register your product direct online after purchase.

In the MyADVANCE Account you will find all documents relating to your product as PDFs, e.g. the manual, other information, safety updates and much more. There you can look at spare parts for your product and place support questions direct.

Warranty

As part of the ADVANCE warranty, we undertake to rectify any defects in our products that are attributable to manufacturing faults. In order for a warranty claim to be made, ADVANCE must be notified immediately on discovery of a defect, and the defective product sent in for inspection. The manufacturer will then decide how a possible manufacturing fault is to be rectified (repair, replacement of parts or replacement of the product). Basically, the legal warranty obligations of your country apply. If you register your product for free on our website within 10 days of purchase you receive an extended warranty of 12 months beyond the legal warranty period of your country!

Warranty and Service Intervals begin from the date of the glider's first flight, recorded on the identification plate. If no date is evident the applicable date is that on which the glider was transferred from ADVANCE to the ADVANCE dealer. The ADVANCE warranty does not cover any other claim. Claims in respect of damage resulting from careless or incorrect use of the product (e.g. inadequate maintenance, unsuitable storage, overloading, exposure to extreme temperatures, etc.) are expressly excluded. The same applies to damage attributable to an accident or normal wear and tear.



MY ADVANCE

Technical Information

IMPRESS 4

		S	M	L
Pilot height	cm	155–172	165–183	178–200
Seatboard width	cm	31.5	33	34.5
Carabiner height with seatboard	cm	46	47	48
Front strap width	cm	40–48	40–48	40–48
Weight with protector (ready to fly)	kg	6.4	6.6	6.8
Harness certification with protector		EN 1651 & LTF 91/09, 120 kg		
Rucksack weight	kg	1.3	1.3	1.3

Materials used

Description	Name & Dimension	Breaking Load
Main strap	80005 - 25mm - Polyamid	800 kg
Shoulder strap	363265/590 - 25mm - Polyester	1'500 kg
Back strap	80005 - 25mm - Polyamid	800 kg
Lower Back strap	80005 - 25mm - Polyamid	800 kg
Hip strap	80005 - 25mm - Polyamid	800 kg
Front strap	SP215K40590C - 15mm - Polyamid	1'320 kg
Breast strap	80005 - 25mm - Polyamid	800 kg
Leg strap	80005 - 25mm - Polyamid	800 kg
Breast buckle	FY25KFF - Cobra Pro Style 25-28mm	900 kg
Adjustment buckle (Shoulder strap)	FC05A - FC06A	1'500 kg
Adjustment buckle (Back- & Hip strap)	MPPM060 / MPPM059 - Buckle 30mm, 3mm	
Adjustment buckle (Front strap)	Slide Bloc 15 mm, bottom steel / top alu	1'100 kg
Adjustment buckle (Leg strap)	MPPM030 - Buckle 2 slot 25mm, 3mm	
V-line Emergency	Dyneema D-Pro 5mm	2'600 kg
Carabiner	2 0042 023 0100 - Alias 2 Speed	2'300 kg
Cloth harness	Nylon Ripstop 40BE/DE, PU2 Nylon Ripstop 70D, PU3 Nylon Oxford 210D, PU3 Nylon Robic 100D, PU2 Nylon Ripstop 20D, Shune 97	
Cloth bottom	Nylon Oxford Ripstop 210D, PU3	
Cloth Speedbag	LNT 6078	

Certification

The IMPRESS 4 was tested and certified according to EN 1651 and LTF 91/09 at 120 kg suspended weight. The foam protector is part of the certification. Only the original reserve handle and its permanently attached five-flap inner container may be used.

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ADVANCEIMPRESS⁴

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