



MANUAL - LIGHTNESS 4

Product Manual

Version 30.05.2024



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1. THANK YOU FOR FLYING ADVANCE

Thank you for choosing an ADVANCE quality product with Swiss engineering.

User manual

This user manual is an important part of your product. You will find instructions for Putting into service and use in practice as well as important information on safety, care and maintenance. We encourage you to read this document carefully before your first flight. Video instructions can be accessed via QR codes if available. All information can be found on our website in the "Download" section.

Download section

Product Registration

Register your new ADVANCE product online in your MyADVANCE account no later than 10 days after purchase for a warranty extension or to be informed promptly by e-mail about updates and safety-relevant findings regarding your product

Product registration

Our story: Pioneering spirit and Swiss precision

Putting our ideas into the air. That's what we can do. For more than 30 years, ADVANCE have kept the needs and wishes of our pilots at the forefront. With Swiss precision we refine model after model. Highest quality and absolute reliability have our top priority, in the air and in our customer service. So from pioneers we have become perfectionists, and a leading worldwide comprehensive service provider.

Questions and support

You can always contact your ADVANCE dealer or our support team, we will be happy to help you. Send an email to support@advance.ch

We wish you many exciting and enjoyable hours in the air with your new product!

2. GENERAL SAFETY ADVICE

Flying a paraglider calls for appropriate training and a sound knowledge of the subject, as well as, of course, the necessary insurance cover and licence. A pilot must be able to correctly assess the weather conditions before taking off. His or her capabilities must be adequate for the actual paraglider. The paraglider pilot is also required bear a sense of responsibility towards the natural world, especially regarding the preservation of wildlife and landscape.

Warning

Wearing an adequate helmet, suitable boots and clothing, and carrying an emergency parachute (a 'reserve') are essential. Before every flight all items of equipment should be checked for damage and airworthiness. A proper pre-takeoff check must also be carried out.

Warning

Every pilot bears sole responsibility for all risks, including injury or death, when participating in the sport of paragliding. Neither the manufacturer nor the seller of a paraglider can guarantee or be held responsible for the pilot's safety.

3. LIMITATIONS



3.1. Range of use and load limits

Like all commercially available reserve parachutes, paraglider harnesses are never suitable for free fall parachuting because their design and construction details do not allow such a thing. Neither the reserve parachute nor its attachments to the harness can withstand the loadings involved in an abrupt opening.

All harness adjustments must be made before the harness is flown. Correct adjustment of the LIGHTNESS 4 greatly contributes to safety, correct function and comfort in flight.

Warning No protector can offer complete protection against injury. The EN/LTF certified protector can only absorb some of the energy of impacts and therefore minimise injuries that might result from unlucky takeoffs and landings.

Warning The LIGHTNESS 4 certification up to 120 kg is restricted exclusively to paraglider sport.

3.2. Overstress

When using the product there is always the risk of unpredictable overstress in flight, for example caused by flying conditions or a surprise bump in the air. In rare cases the product could suffer damage. This is especially disappointing in that, usually, neither the manufacturer nor the pilot can be held responsible. Light products tend to be more susceptible to damage due to overstress.

Info In the event of damage, please contact your dealer and they will contact us. We strive to be accommodating in such cases and work together to find the best possible solution. This is individual and depends on the assessment of each case.

3.3. Paraglider models of other brands

The harness can be flown with any paraglider. There are no restrictions.

3.4. Winching

The LIGHTNESS 4 is suitable for winch towing. 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.

3.5. Acro

The LIGHTNESS 4 is not suitable for acro flying.

3.6. Tandem flying

Due to its dimension/function the LIGHTNESS 4 is basically not suitable for tandem flying – neither for the pilot nor the passenger.

3.7. Use in the school environment

The LIGHTNESS 4 is a pod harness and therefore not suitable for school use.

4. FEATURES

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4.1. Features

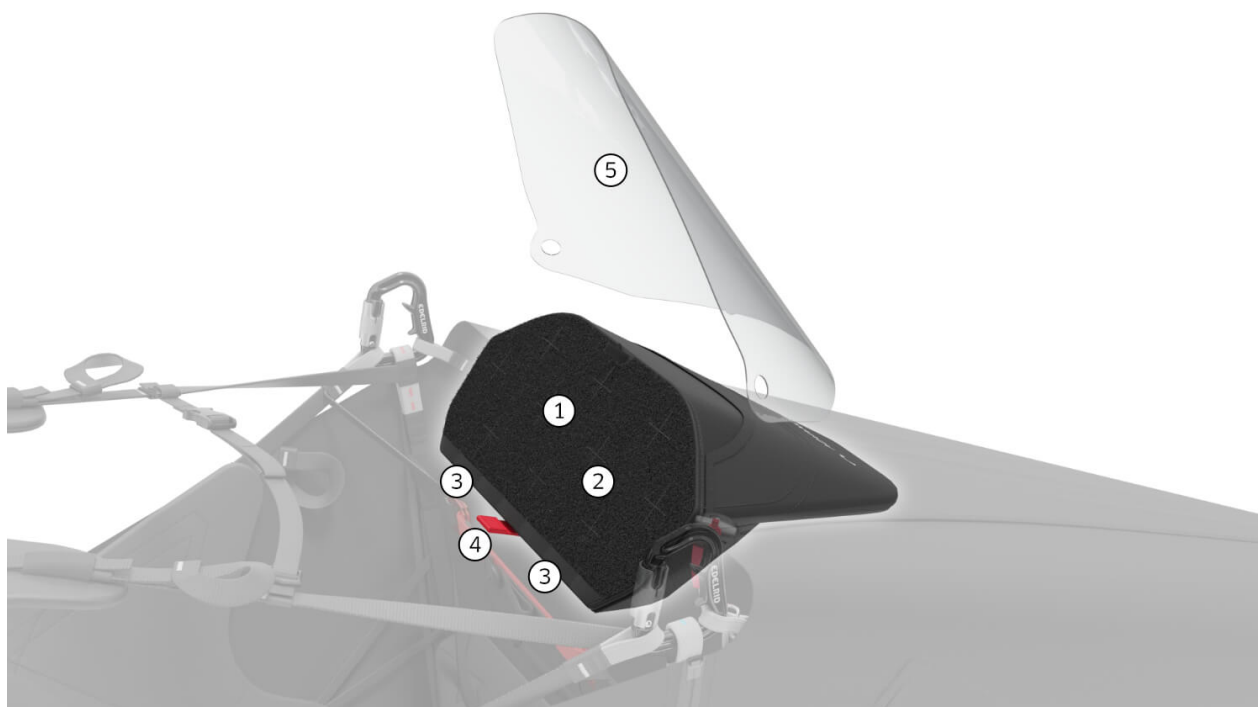


1. Rear fairing
2. Rear fairing air intake (left & right side)
3. Velcro for Mini Vario etc.
4. Drink tube opening
5. Reserve bridle channel with zip
6. Closure Remember System
7. Cockpit
8. Reserve compartment
9. Foam protector
10. Side pockets (left & right)
11. Pee tube exit (left side)
12. Interchangeable Speedbag



4.2. Cockpit

1. Large main compartment opens out
2. Detachable Cockpit panel incl. fastening loops for instruments
3. Cable exits
4. Hook Knife
5. Windshield - mounting optional



4.3. Pockets & Compartments

1. Nose pocket
2. Cockpit pocket
3. Two side pockets
4. Ballast pocket
5. Large back compartment with extra pocket for drink system and a small zipped pocket



4.4. LIGHTPACK DLS

1. Drink tube opening



2. Elasticated side pockets for trekking poles, water bottles etc.
3. Waist strap with pockets
4. Helmet holder
5. Helmet holder attachment points
6. Zipped pocket
7. Grab handle
8. Back foam (removable)



5. PREPARING THE PRODUCT

5.1. Delivery

Every ADVANCE harness must be checked by the authorized dealer before delivery to ensure that the scope of delivery is complete and that the basic settings are correct.

Register your new ADVANCE product in your MyADVANCE account no later than 10 days after purchase to benefit from the extended ADVANCE warranty. More information under Warranty.

5.1.1. Delivery includes

- LIGHTNESS 4
- LIGHTPACK DLS
- Main protector
- SAS-TEC
- Comfort foam
- Windshield with cover
- Hook knife
- 2 ALIAS Speed carabiners
- Inner container with handle
- Speed system
- Speedbag



- Carbon footboard
- Cockpit
- Ronstan pulleys
- Step-in-Aid (pre-assembled on Speedbag)
- Getting Started Booklet

5.2. Installing a reserve

General

The LIGHTNESS 4 has an integrated reserve compartment.

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.

Warning 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 LIGHTNESS 4 reserve compartment are a function of harness size: Size S: 3 – 5.5 liters, M: 3 – 6 liters, L: 3 – 6.5 liters.

Info For a broad approximation for reserve volume in liters 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 problems.

Warning 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.

Warning In every case a test release/compatibility test carried out by the pilot in realistic conditions is the only way to prove that the particular reserve will reliably release from the LIGHTNESS 4.

Warning A newly-folded reserve can occupy up to 30% greater volume. ADVANCE strongly recommend a compatibility test.

Steerable reserves

The LIGHTNESS 4 can also be used with a steerable reserve. Connection to the harness should be made with two maillons 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.

Info It is possible to install quick-out carabiners (Finsterwalder - PARALOCK 3).

Video Tutorial Installing the Reserve

YouTube video player: https://www.youtube.com/embed/gxTprdZ_8ik

5.2.1. Packing the reserve in the inner container

General

The release handle and the five-flap inner container are connected and designed in such a way that the pull from the release handle is evenly distributed over the entire width of the inner container. This reduces the risk of the inner container jamming in the reserve compartment and of reserve lines entangling with the inner container, and guarantees optimal deployment. The release handle used with the five-flap inner container is part of the harness and complies with the latest certification requirements according to LTF.

Warning Only use the original reserve handle and its attached inner container.



Packing the reserve parachute in the inner container

Always pack your reserve parachute to fit the shape and size of the supplied LIGHTNESS 4 inner container. Place the rescue lines in the back in the direction of flight/throw.

Warning If your reserve parachute does not fit in the inner container without excessive squeezing, this indicates that it is too big for the LIGHTNESS 4.

**Close inner container**

Close the five-flap inner container in the order of the numbers on each flap 1-3. Secure the last flap 3 with a line loop that should be about 5 to 6 cm long (about 3 fingers wide). Now check the pull of the elastic and shorten or lengthen it as needed.

Info

The line loop should release under the weight of the reserve parachute itself.



Close the last flap of the container with two line loops of equal length (5 to 6 cm). These final loops are held by two elastics that pass through the eyelets of the outer flap of the container. The two elastics are pre-assembled at the factory.



5.2.2. Connecting the reserve to the harness

By looping

Based on extensive testing, ADVANCE harnesses can also be looped with Companion reserves, provided basic precautions such as center looping and maximum tightening of the straps are observed. We cannot make any binding statement about the strength of ADVANCE harnesses in combination with other reserve systems.

1. Looping



2. Detailed view



3. Neoprene cover



With a Maillon Rapide

Connect the sewn bridles of the LIGHTNESS 4 and the bridle of your rescue parachute with a Maillon Rapide of at least 2,400 daN strength. Secure the straps in the Maillon with a rubber ring or neoprene tape, to prevent slipping and thus transverse loading of the Maillon in the event of a reserve deployment.

1. Using a Maillon Rapide



2. Neoprene cover



Warning Do not use tape instead of the rubber ring to fix the Maillon Rapide!

Info When looping a COMPANION reserve with the LIGHTNESS 4, the V-line Neoprene Cover must be pulled over the connection.

Warning Never attach the inner container to the reserve parachute!

5.2.3. Putting the inner container in the reserve compartment

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When installing the reserve, always place the bridle in the reserve compartment first and then the inner container. Red dot to red dot. The connection to the reserve handle must be without twists.

Warning

If a reserve parachute does not fit in the inner container after repacking, it must be refolded to the shape of the inner container.

Warning

Put the bridle in first, then the reserve.

Warning

Red dot to red dot!



5.2.4. Closing the reserve compartment

Warning

Make sure the red point is in the correct location (red on red).

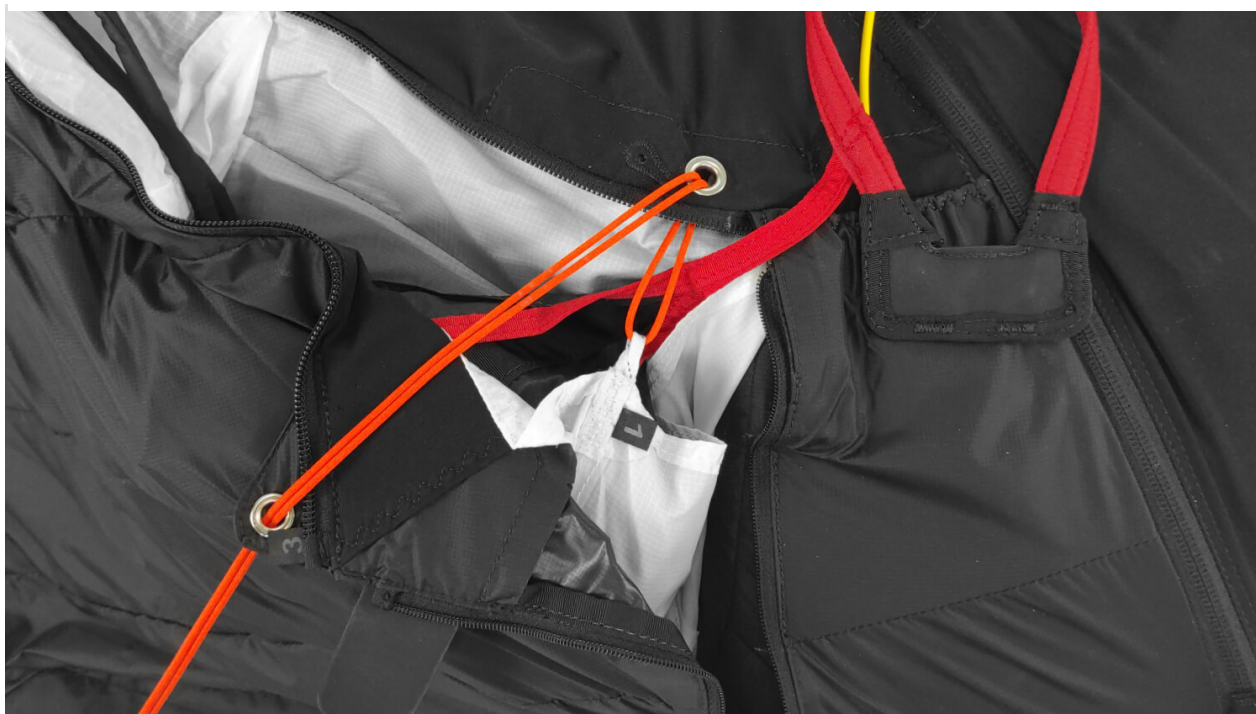
1. Detailed view of the flap.



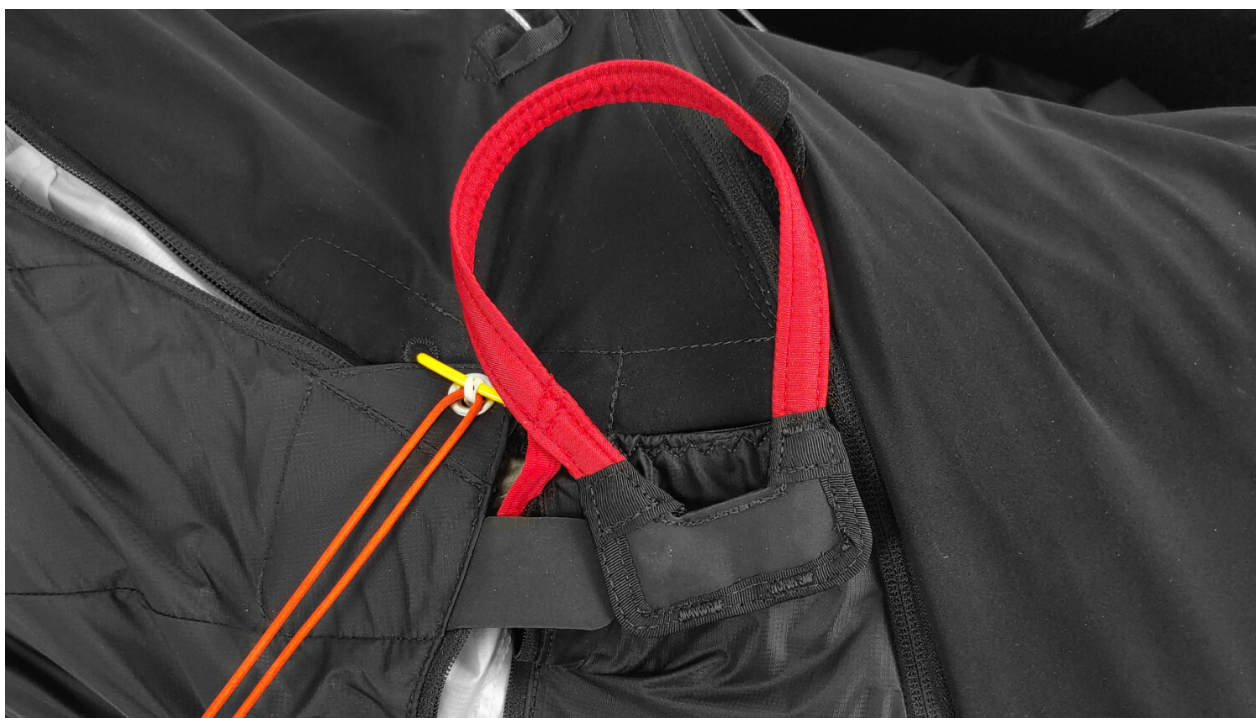
2. Insert the reserve as described.



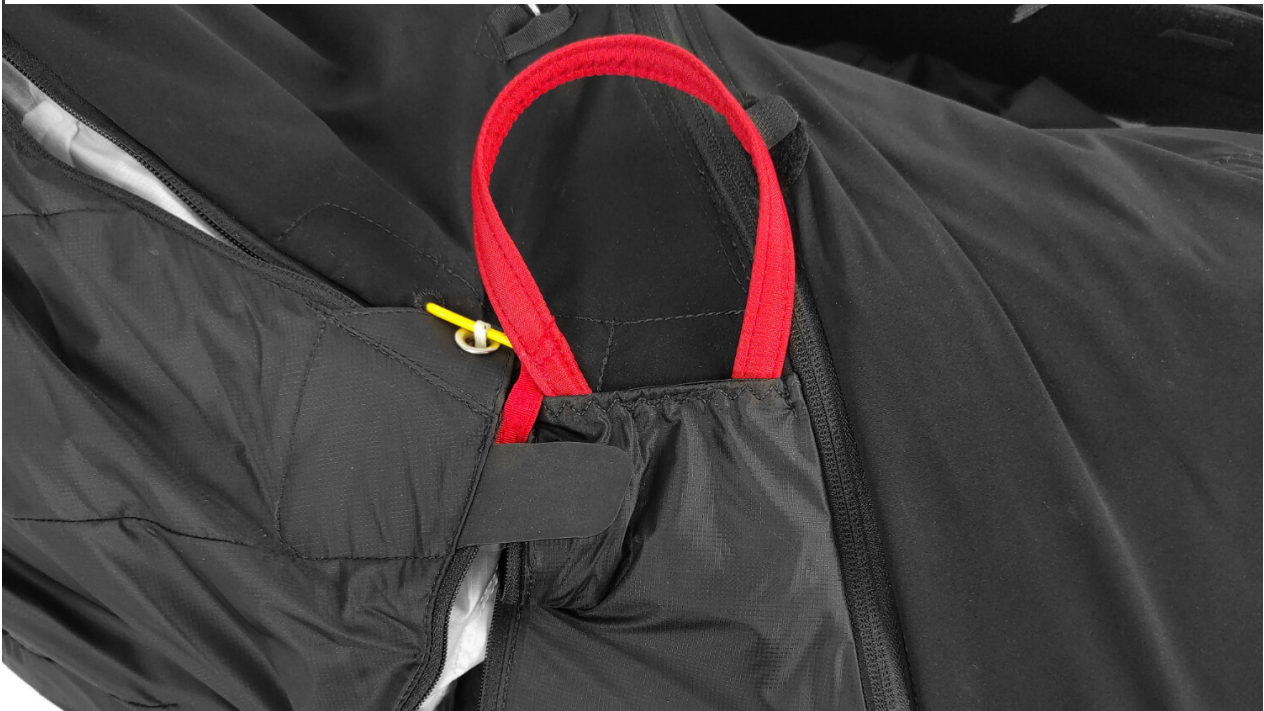
3. Pull the white loop (1) through the closing eyelets (2) and (3) using the packing aid. Make sure that the handle is positioned as shown in the picture!



4. Close the white loop with the yellow cable, then stow the yellow cable in the buttonhole.



5. Now put the reserve handle in place.



6. Now close the lower zipper all the way to the bottom into the zipper garage!!! Then push the protective flap into the slot.

Warning

The zipper must be stowed in the zipper garage. Release blockage danger!!!





Close the V-line channel

7. Then close the left zipper/V-line channel and stow the zipper in the zipper garage.



8. Finally, fix the reserve handle using the Velcro.

Warning

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

5.2.5. Compatibility Test

The correct installation of the reserve must essentially be tested by a trial release. Put the harness on, close it completely and then clip yourself with the LIGHTNESS 4 by the two main carabiners into a harness hanger. Then

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pull out the reserve as if in flight.

Info

A successful compatibility test carried out by a pilot can greatly increase 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).

Warning

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

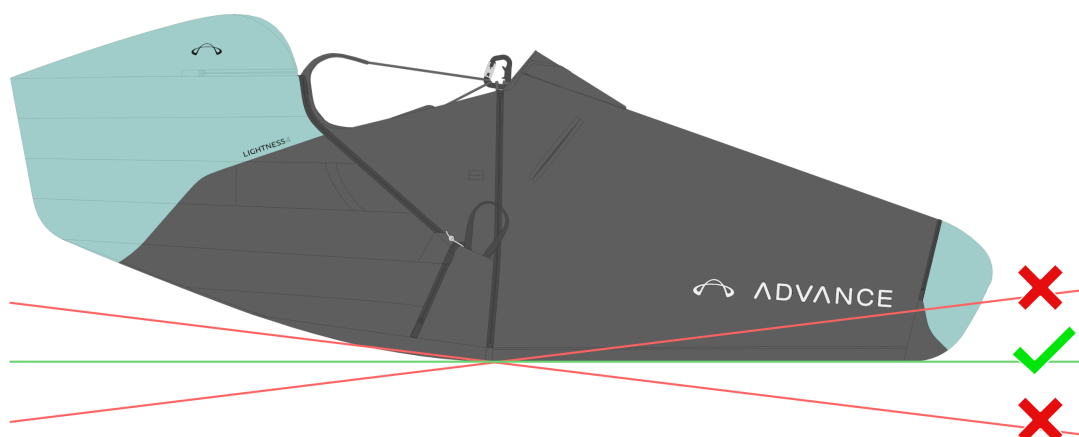
Info

Occasionally reach to the reserve handle after launch to memorize the position.

5.3. Adjusting the harness

General Information

- Take some time to adjust your LIGHTNESS 4 and always keep these two criteria in mind: comfort (no pressure points) and aerodynamics (speedbag base horizontal).
- The majority of pilots with a normal upper body/leg-length ratio 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 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 them whether a different speedbag size could solve the problem. Any harness size can be combined with any speedbag size S, M or L.



Variable speedbag size S, M, L



Video Tutorial Adjusting the harness



YouTube video player: <https://www.youtube.com/embed/Val3A3EgZXE>

5.3.1. Preparation and basic settings

General information

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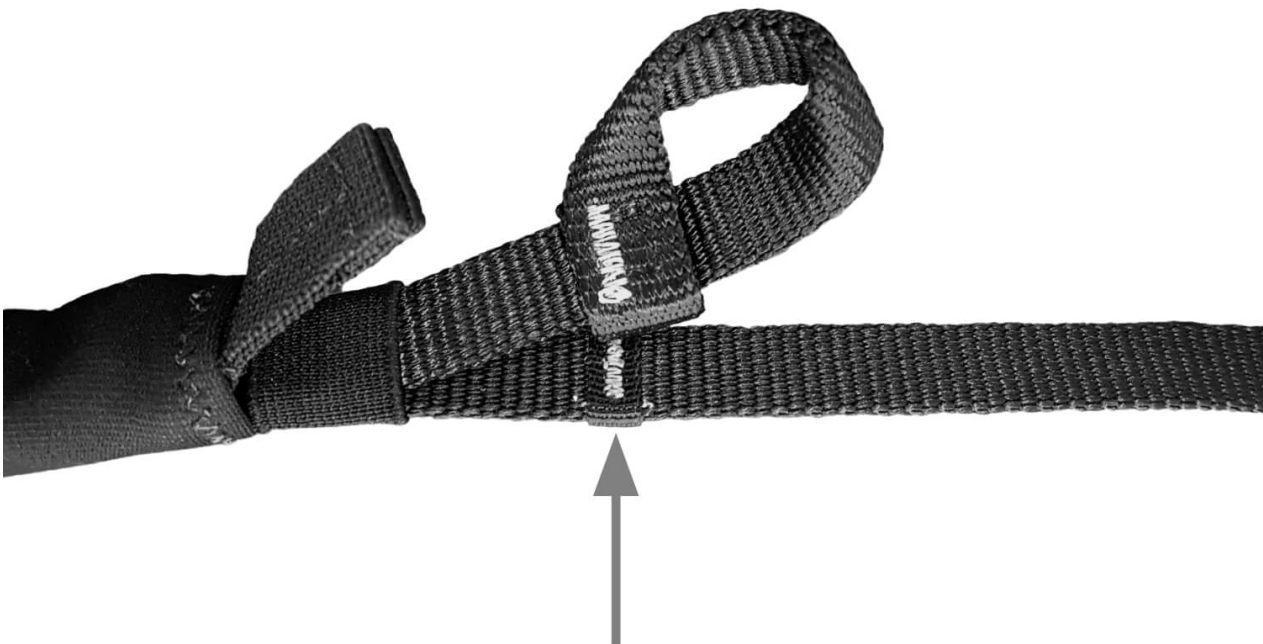
- Install the reserve before adjusting the harness.
- Load the back compartment with your equipment.
- Set all straps to the basic settings (as delivered).
- Close the harness and speedbag and hang this arrangement on a simulator (harness hanger).
- Ask a bystander to assess your harness position (flying attitude).

Basic settings

1. Front strap

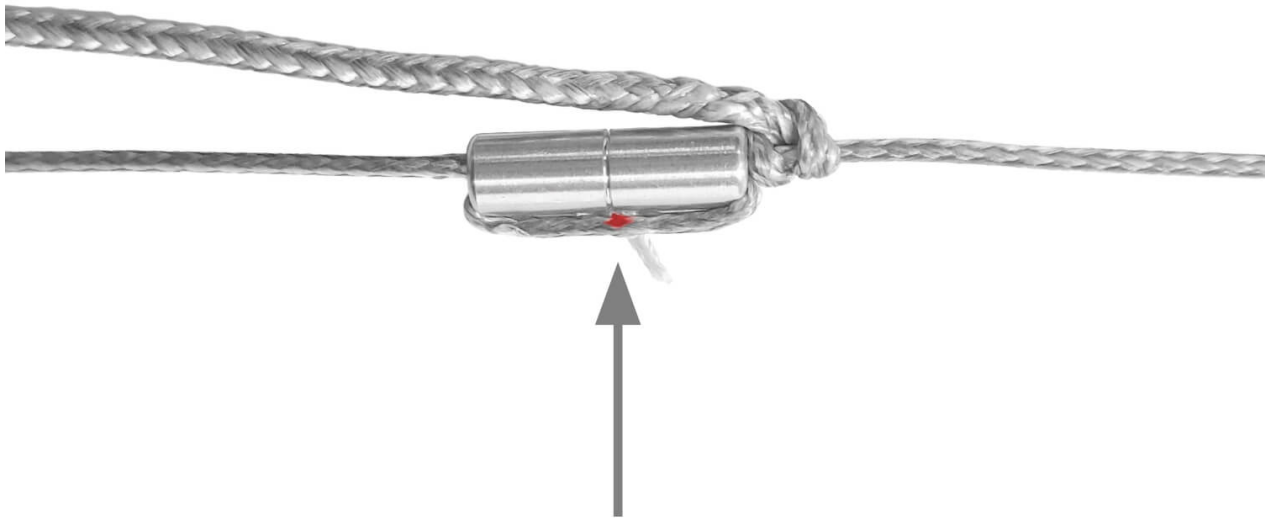


2. Harness



3. Speedbag

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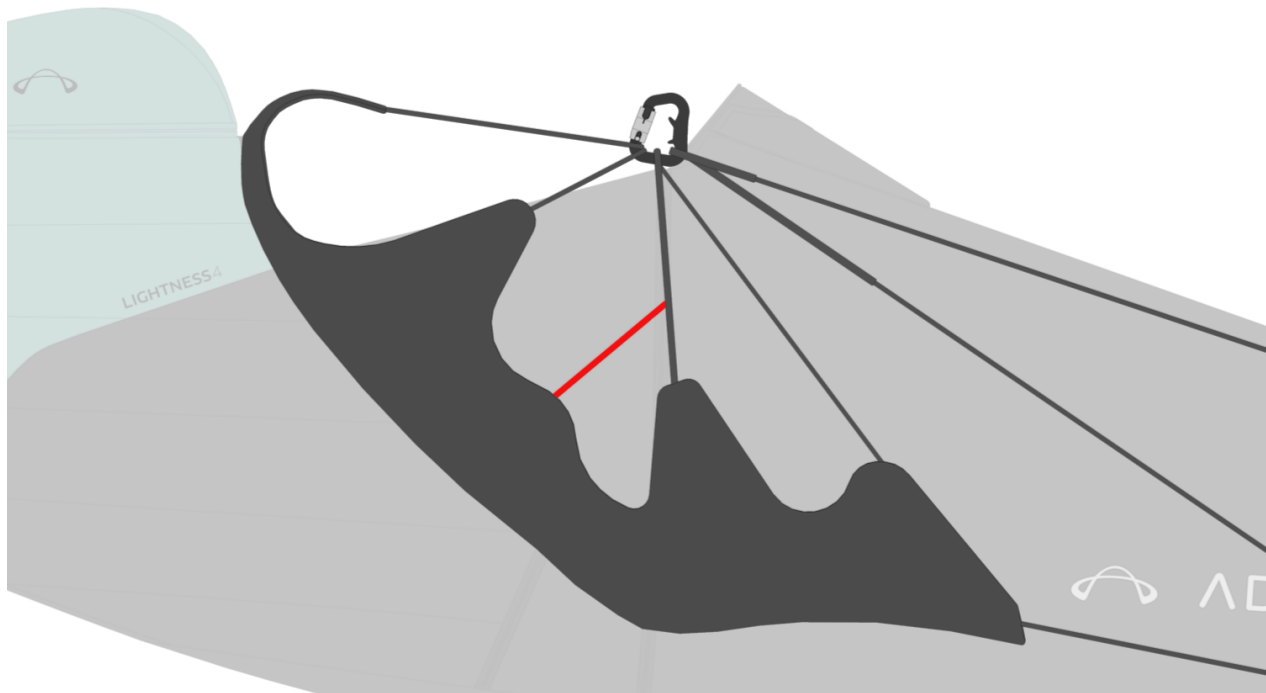
5.3.2. Adjustment steps

Body (center of gravity) position in the seat shell

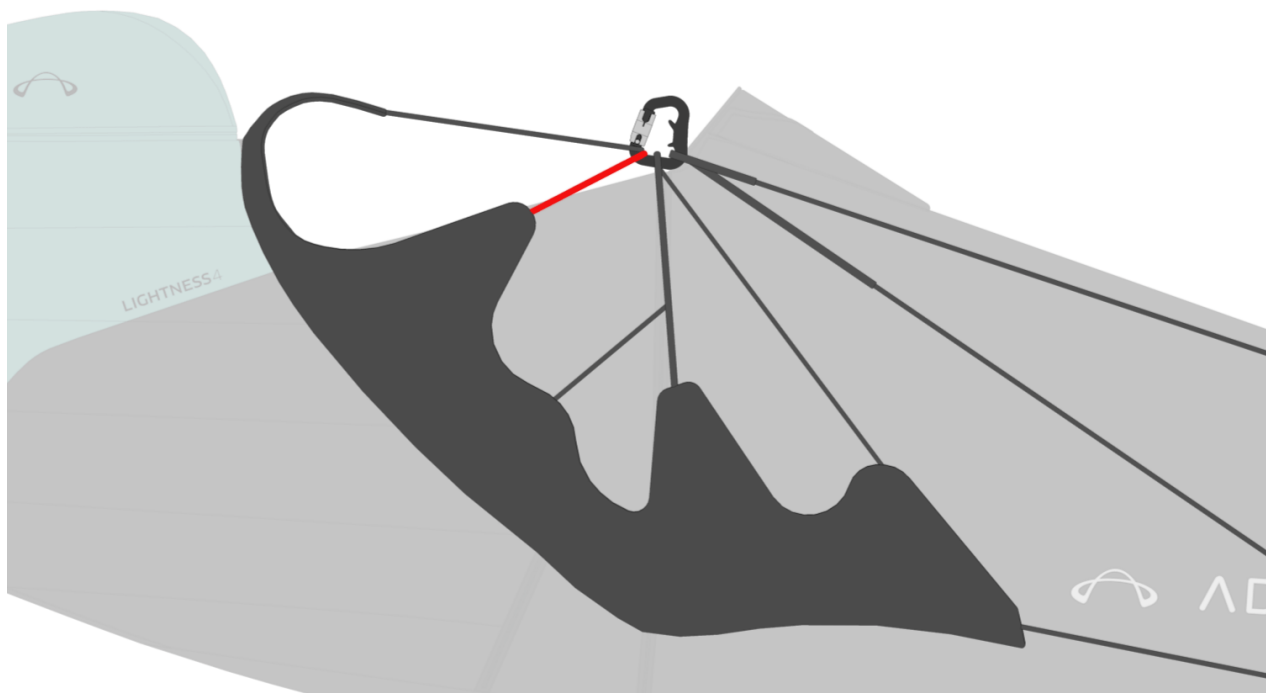
1. A comfortably supported back is a good indication of an ideal body position in the seat shell. An indication of the correct size and position in the harness is the distance between the edge of the harness and the shirt collar.



2. If your center of gravity is too far back (feet in the air) push it forward by pulling in the lower back straps – or vice versa.

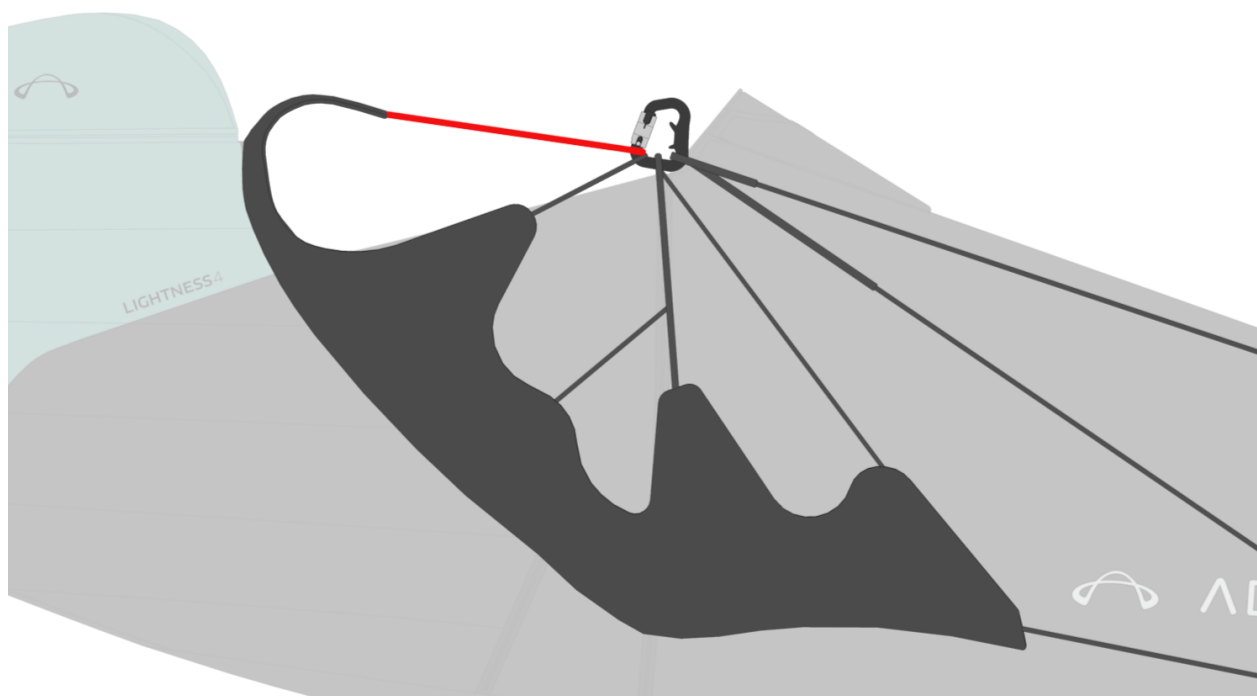


3. Then adjust the upper back straps (in or out) -until your back is comfortably -supported.



Adjusting upper body angle

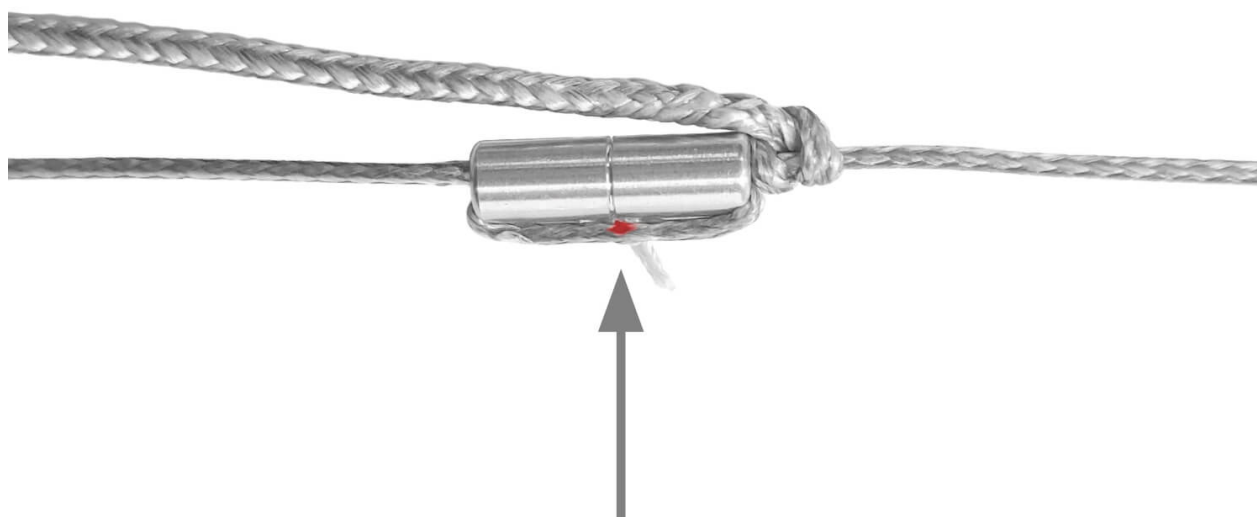
4. Now you can also adjust the shoulder straps so that they lie "lose" on your shoulders.

**Info**

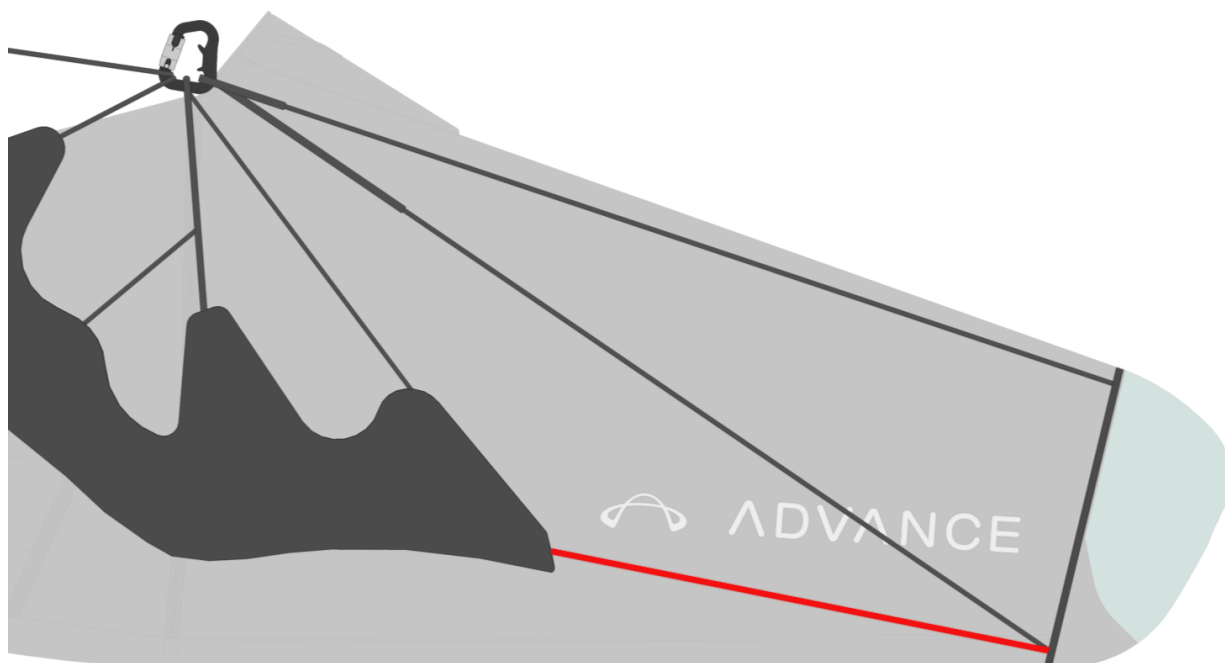
Make sure you always have some tension on the shoulder straps, this helps to stretch the seat shell.

Aligning the speedbag

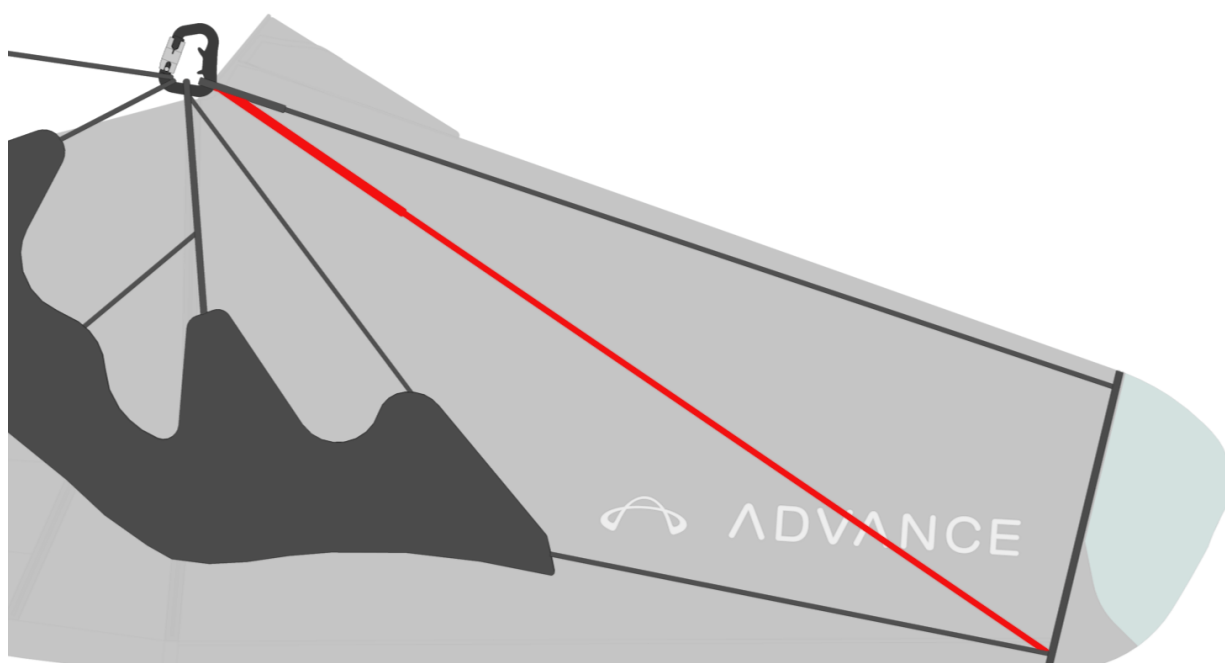
5. Release or loosen the anchor hitches and move the sleeve to adjust the speedbag.



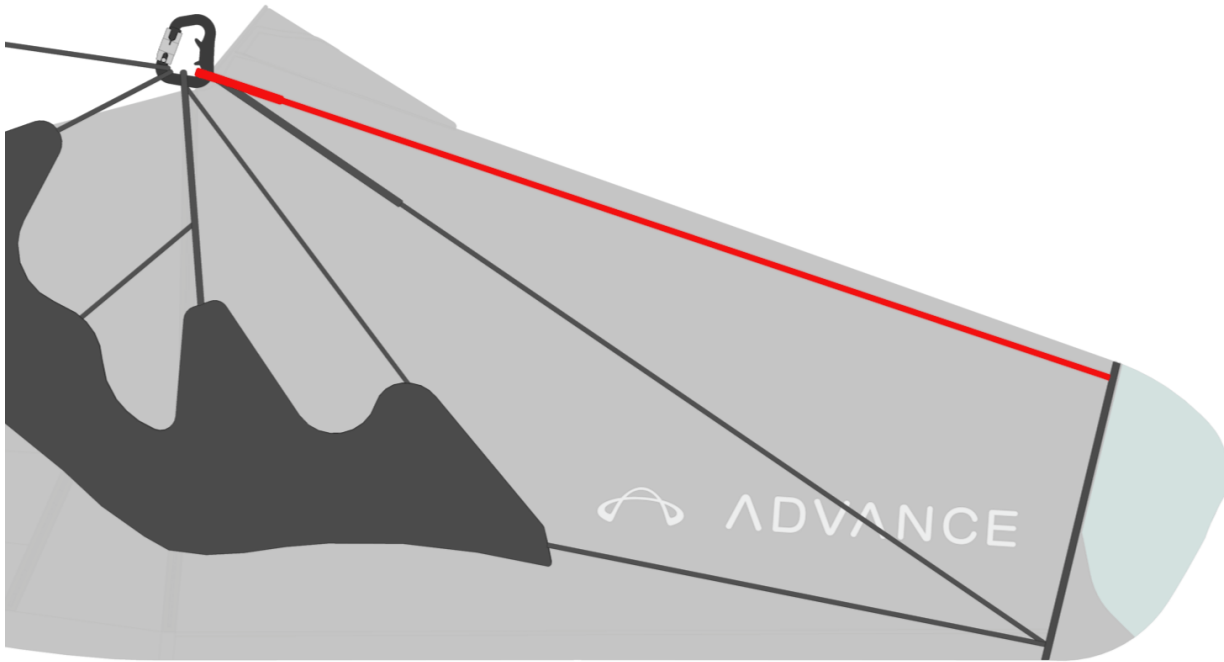
6. Adjust the lower line to a speedbag length where your outstretched legs press the footboard with light pressure.



7. Now adjust the speedbag angle with the diagonal line. The speedbag underside should be horizontal.

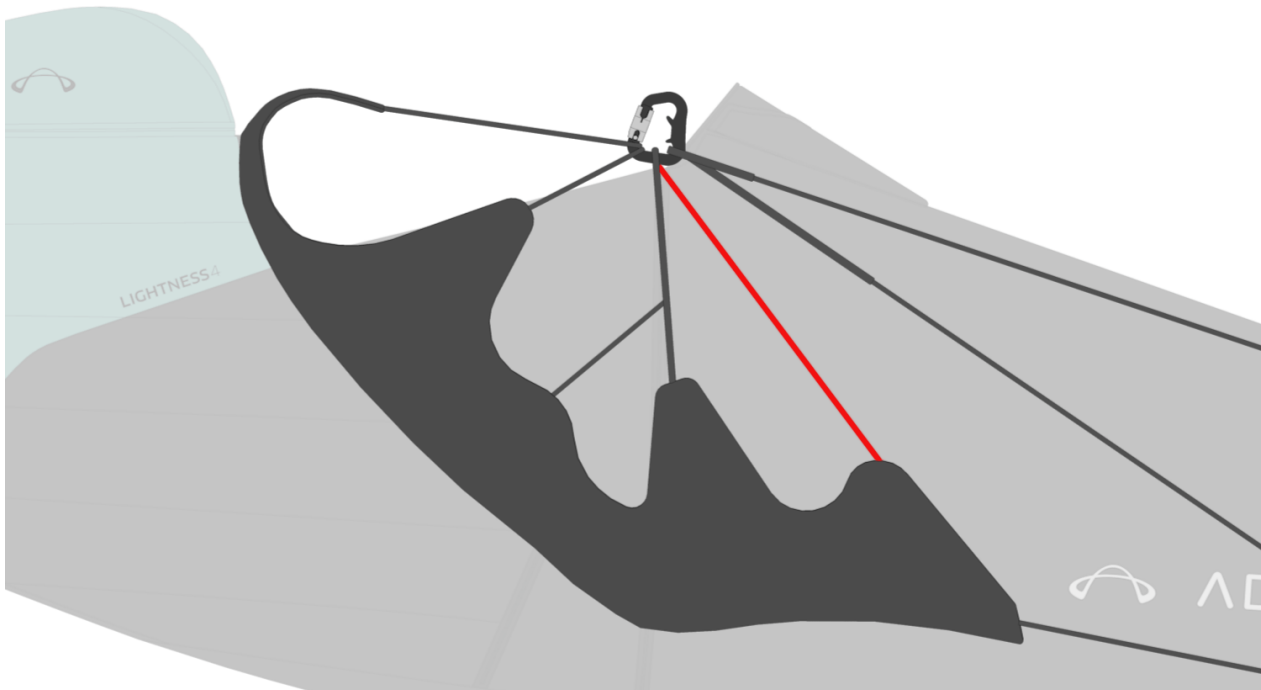


8. Now adjust the angle of the footboard with the upper speedbag line.



Adjusting the seat shell

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



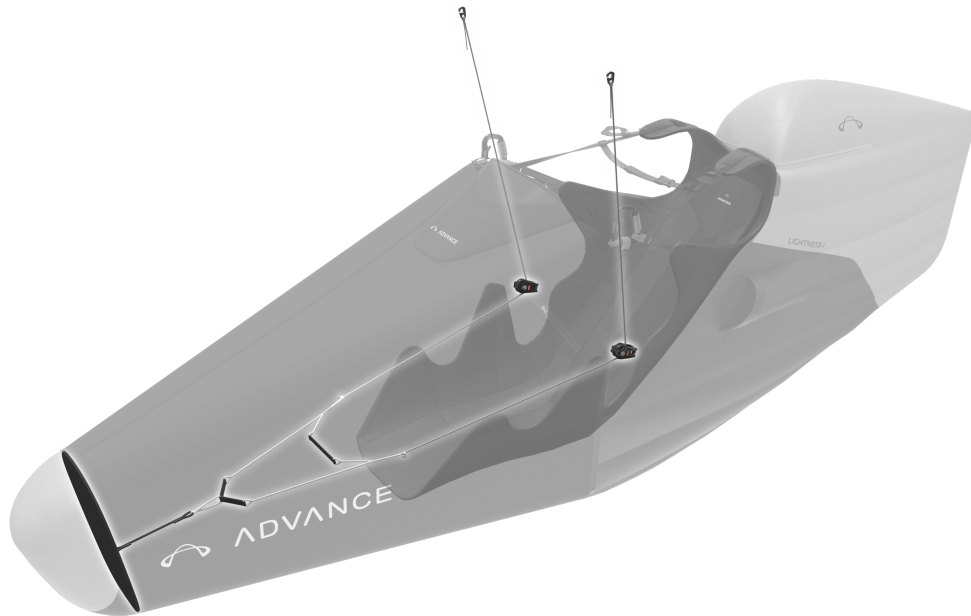
5.3.3. Setting up the speed system

The speed system is already pre-assembled. You only need to adjust it to the appropriate length according to your needs. The easiest way to do this is to hang up the harness for adjustment.

1. Connect the speed lines of the LIGHTNESS 4 to your paraglider using Brummel hooks or anchor hitches.
2. Position the knots on the speed lines inside the speedbag to the correct position and pull the anchor hitches to the same position each side.



3. The speed bar is held in position by an elastic line attached to the carbon footplate. This elastic line is looped in the middle of the footplate as standard. If preferred, it can also be attached in one of the loops on the sides of the footplate.

**Info**

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

Info

Make absolutely sure that the speed lines are not adjusted so short that the wing would be permanently accelerated in normal flight.

Hint

See also the Part: "Speedsystem handling"

6. PREPARATION FOR FLIGHT

6.1. Setting up the drink system

1. The tube is guided upwards via a loop on the right shoulder strap and fed into the back compartment in the middle under the ADVANCE label and the H2O label.

Hint

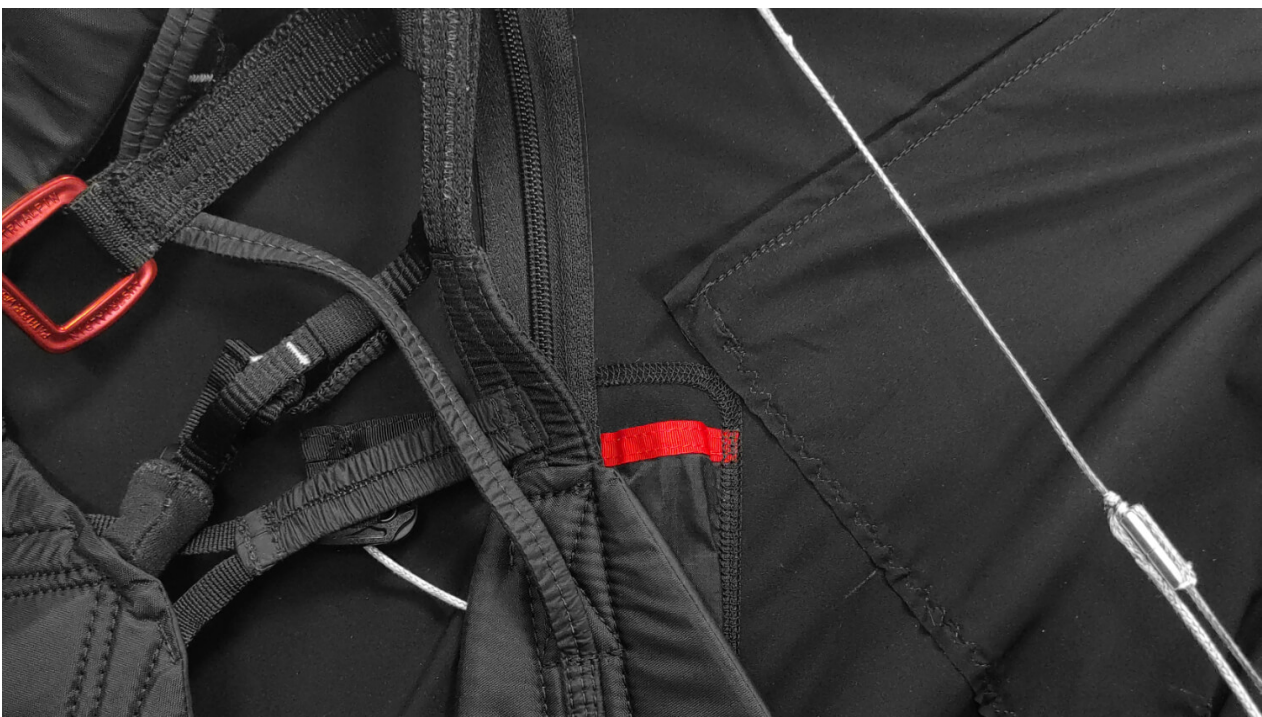
Use your finger to open the hole first.



2. The drink container is stowed in its pocket.

6.2. Relief tube routing

The opening for the relief tube is located on the left inner side and marked with a red band.



6.3. Pack the back compartment

Careful packing of the back compartment contributes significantly to flight comfort. Hard objects will be felt through the back wall or harness shell and can affect your comfort.

Pack the paraglider COMPRESSBAG first at the bottom of the back compartment. Then roll the LIGHTPACK DLS into

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a long, thin shape and push it into the back compartment. You should use the remaining space logically. Pack trekking poles – with the tips up –, food and clothing carefully around the backpack. Do not overfill the back compartment.

Hint

Cover the sharp/tipped ends of your hiking poles with a protective cap, otherwise they can damage the harness.

6.4. Cockpit

Cockpit Features & Handling



YouTube video player:

https://www.youtube.com/embed/J_ADtwKECNU

General

The cockpit has been completely redesigned and is now even easier to use. Practical details such as a battery compartment with cable exits and the hook knife are integrated into the cockpit. The cockpit panel offers sufficient space and security for your electronics.



For take-off, the press of a button ensures that the contents do not fall out. An additional magnetic catch makes the cockpit easy to open and close in flight.



You can stow items you need in flight in the large storage compartment. E.g. gloves, food etc.



Cockpit Strap

The cockpit strap allows the cockpit to be held in the optimum position. The length is adjustable.



Packing

The cockpit can be folded small for packing.



6.5. Installing the windshield

Attach the speedbag popper on one side, then insert the windshield under the elastic edge of the speedbag and attach the second popper.





6.6. Closing the harness

Video Tutorial Closing the harness



YouTube video player: <https://www.youtube.com/embed/tWlfc92Xu5w>

Close the front strap

Close the front strap by pushing the right and left plates through the matching latches.



Front strap basic setting:



Warning

Make sure the plates are pushed correctly through the red latches. Perform these steps carefully!

Warning

Note that the front strap can be set wider than the basic setting for easier handling (getting in/closing). However, always pull the front strap to the basic setting for flying. If necessary (conditions, turbulence), the front strap can be tightened as usual.

Close speedbag

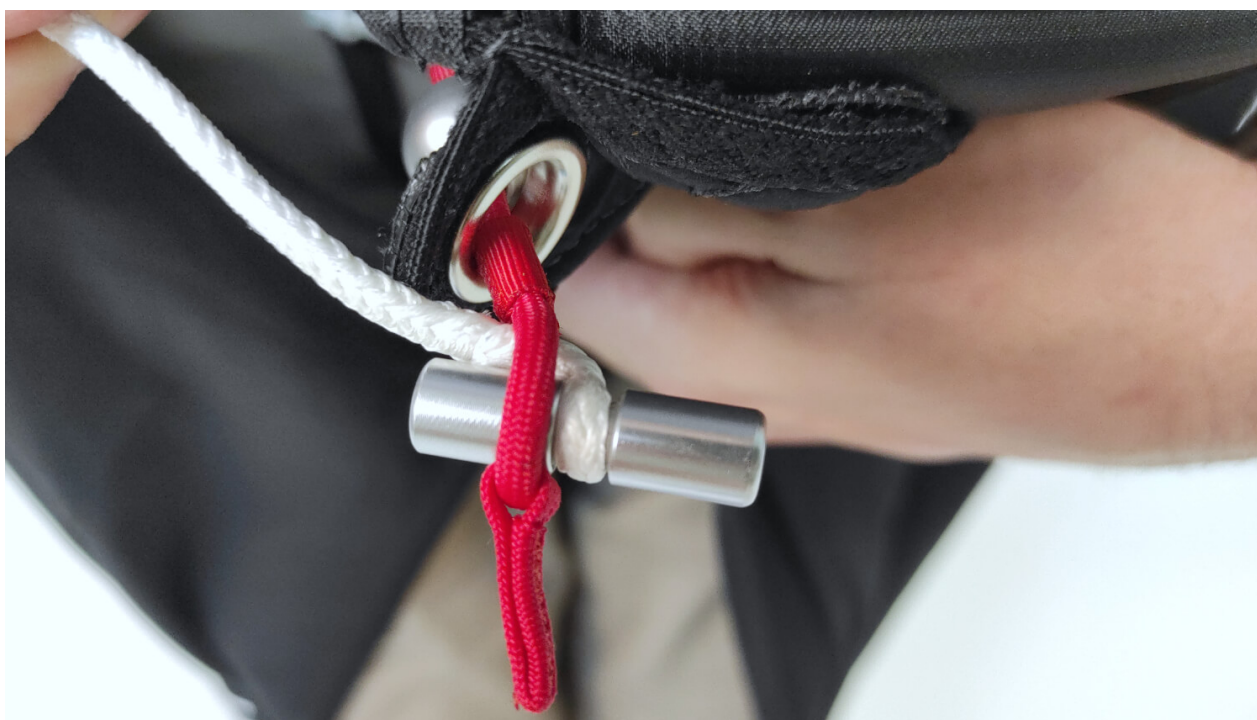
1. Close the speedbag as shown in the pictures. Follow the steps.



2. Push the CRS leash through the eyelet.



3. Push the T-piece through the latch.



4. T-piece correctly fitted.

**Info**

If you push the T-piece through the latch as shown in the photo, it can be done easily and with little resistance.

5. Fasten the small strap and adjust the length to your needs.



6. Finally, fasten the cockpit strap, the length of which can also be adjusted to suit your needs.



Warning Check that the front strap is still properly closed, especially after an aborted takeoff. With an open front strap you could fall out of the harness!

Warning Always make sure that all buckles are closed correctly!

6.7. Clipping in the paraglider

The EASY CONNECT SYSTEM with its coloured markings on the LIGHTNESS 4's main support loops makes clipping in an ADVANCE wing especially straightforward. The pilot only has to check that the red and blue lines on the glider

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risers match the same colours on the LIGHTNESS 4 support points. The EASY CONNECT SYSTEM improves safety before takeoff.

6.8. Takeoff preparation and checks

Before every takeoff carry out the following pre-takeoff checks:

1. Harness and helmet buckled, reserve OK?
2. Lines free?
3. Canopy open?
4. Wind direction and strength assessed?
5. Airspace and field-of-view clear?

Hint

To get the wing in the right shape for takeoff do the following: pull the brake lines in while you are sorting the lines until the canopy arrives at the perfect banana shape.

Warning

Before each flight, check that the reserve handle is in the intended position and that the yellow locking cables of the reserve handle are correctly stowed.

7. USE IN PRACTICE

7.1. 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.

Hint

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

Careful packing & 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 gray 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, after it is packed in its COMPRESSBAG.

7.2. Speedbag use

For takeoff

A quick and trouble-free step into the speedbag after takeoff needs some practice for any reclining harness. With the right technique you should be able to do this without using your hands (letting go of the brakes).

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.

Hint

Alternatively, you can attach the elastic connector to your footwear to make it easier to get into the speedbag. The connector is pre-mounted in the speedbag.

For landing

Get both legs out of the speedbag in good time before landing and adopt an upright position. A stand-up landing should always be made to avoid damage to yourself or your equipment.

7.3. Speed system handling**Symmetrical acceleration**

The two rungs of the LIGHTNESS 4 speed loop are reinforced in the middle. This not only increases comfort when pushing the accelerator, but also makes it easier to center the feet in the accelerator and thus accelerate symmetrically.

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 chapter "Setting up the speed system".

Warning

Make sure the speed system is always connected to the wing in flight, even when you do not intend to use it. A loose speed line could prevent a successful reserve deployment.

7.4. Packing the equipment**Video Tutorial Packing the equipment**

YouTube video player:

<https://www.youtube.com/embed/siFFMGNNiG4>

The LIGHTNESS 4 is easy to pack due to its dimensions. Fold the cockpit and put the speedbag including the foot plate into the seat. Then fold the harness once and fold the rear spoiler. Turn the now compact package over once as shown in the picture.



Prepare your rucksack and your glider as shown in the picture. Put your glider in the backpack and slide it all the way down under the rucksack flap. Then place the folded harness on top of the glider with the protector facing upwards and pull the flap of the rucksack over the glider and the harness. This will allow the zipper to close smoothly.



Warning Always remove the Windshield before packing.

Info When closing the rucksack, always make sure the zipper runs smoothly. It should never be under lateral tension when pulling the zipper.

7.5. Emergencies

7.5.1. Reserve

Throwing the reserve

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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 transverse direction so that the lines are quickly extended and tensioned.

Hint We recommend that you make a brief tactile check on your reserve handle during every flight. This will program the subconscious 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.

Hint 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 cockpit and the speedbag while descending, so that you only have to open the front buckle after touchdown.

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.

Warning In the event of very strong winds on the ground, consider also cutting the paraglider risers on at least one side with the hook knife before touchdown.

Warning If a buckle or the speedbag cannot be opened, cut it with the hook knife before touching down on the ground.

Warning The front buckle will not open under tension. Immediately after touchdown, open the T-piece as soon as it unloads. If this is not possible, use the hook knife here as well and cut the strap.

7.5.1.1. Direction of pull

Warning When pulling the reserve, it is imperative to ensure that the direction of pull is to the side. If the reserve handle is pulled backwards/downwards at the same time, the deployment forces increase significantly.

Warning If the reserve parachute is not pulled straight out of the emergency parachute compartment, it could become jammed in its compartment. In extreme cases, this can lead to a release blockage.

7.5.2. Water landing

Water landings are dangerous and should be avoided at all costs. Landing in flowing water or in coastal surf is often fatal (drowning). ADVANCE recommends that you always carry a hook knife.

- Warning** 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.
- Warning** 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 the reserve or paraglider lines.
- Warning** 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.

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 the front strap must be opened or cut. Get away from the harness and all your equipment as quickly as possible.

- Warning** The front strap will not open under load.

Water landing without reserve

Everything described so far applies. Depending on the situation and danger (current, waves) it may be useful to cut straps with the hook knife before touching down, as the front strap cannot be opened under tension, or even to cut all straps and jump or slide out of the harness into the water.

- Warning** If a buckle or speedbag will not open, cut it with the hook knife before landing in the water. You can mount a hook knife on the shoulder strap and secure it with a long line.

Maintenance and care of the harness after a water landing

After contact with water, all protectors and the comfort foam should be removed from the LIGHTNESS 4. See chapter "Installing/removing components". 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.

- Info** The protectors may take several days to dry

7.5.3. Tree landing

In the event of a tree landing, with or without a reserve parachute, there is a risk of a possible fall.

- Warning** The most dangerous part of a tree landing is climbing down. Always wait for a rescue party to get you out of the tree.
- Info** We recommend that you keep a rope sling with a carabiner in the cockpit so that you can secure your harness to a branch and relax while you wait.

8. MAINTENANCE & CARE

8.1. Storage

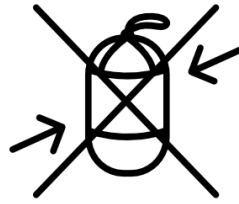
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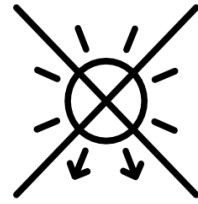
**DON'T STORE
WET**



**AIR PERIODICALLY
OR STORE OPEN**



**DON'T STORE
COMPRESSED**



**DON'T LEAVE IT
UNNECESSARILY
IN THE SUN**

Ultraviolet light, heat, humidity, sea water, aggressive cleaning agents, unsuitable storing and physical abuse (□ dragging across the ground□) speed up the ageing process.

Hint Always store your harness uncompressed in a dry and dark place.

Hint Allow a wet or damp harness to dry by leaving it completely unpacked at room temperature, or outside in the shade.

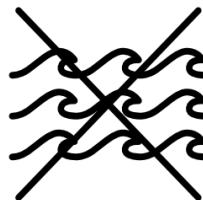
Hint Allow a wet or damp reserve to dry by leaving it completely unpacked at room temperature, or outside in the shade, then always repack it.

8.2. Maintenance

8.2.1. Cleaning



**DO NOT USE
SOLVENTS FOR
CLEANING**



**AVOID
SEAWATER**

All rubbing and sliding action speeds up the harness fabric ageing process.

If your harness gets heavily soiled with dirt, grass stains, grease, cow dung, mold, resin or other dirt, just clean the fabric with a soft, damp cloth. Then allow the harness to dry thoroughly before packing it away.

It is best to use baby powder gently on adhesive residues.

Hint Clean the harness only with fresh water. Do not use solvents under any circumstances.

Hint If the harness gets wet with salt (□sea□) water rinse it thoroughly with fresh water.

Hint If the rescue gets wet with salt (□sea□) water rinse it thoroughly with fresh water. Always repack it.



8.2.2. Visual Inspection

Like any flying device, every harness should be routinely inspected by its pilot so that any damage to seams, straps etc. can be quickly detected and repaired. . Especially after a tree landing or a hard emergency landing on the protector, the harness must be visually inspected in detail for damage, before it flies again..

Warning Do not make any modifications to your harness and never fly with a harness whose straps are damaged in any way.

Warning If the harness was used as part of a rescue emergency opening, the harness must then be inspected by the manufacturer or an authorized service center.

Hint Check the harness regularly for damaged seams and straps. In particular, check the reserve connection / main connection straps and the seams on the main carabiners loops.

8.2.3. Packing the reserve parachute

Most reserve parachute manufacturers recommend maintenance or repacking of the reserve parachute every 6 months to ensure reliable and quick opening at all times. If the reserve gets wet, damp or overheated, it must be definitely repacked. We strongly recommend that you let a qualified person pack your reserve. ADVANCE also strongly recommends that you regularly check the yellow locking cables in the locking loops of your harness. It is sufficient to move the cables slightly.

8.2.4. Carabiner service life

EDELRID ALIAS Speed

Maximum 5 years or 1500 flight hours

The main support carabiners are high quality ALIAS Speed Alu Carabiners (58 g, 23 kN). Aluminium carabiners must be regularly visually inspected for metal discolourations, dents, obvious scratches or cracks. In addition you must be careful that a carabiner is always loaded vertically – along its major axis. If a carabiner shows any of the above visually evident conditions or has been incorrectly loaded, both carabiners must be replaced immediately. In any case the carabiners must be replaced no later than 5 years after being put into service (time period starts with the first flight) or after 1500 flight hours and may not be used again.



8.2.5. Foam protector

The foam protector does not require any special care, but it should definitely be inspected for possible damage after an impact. In case of damage to the outer shell/s, the protector must be replaced.

8.2.6. Removing & replacing components

General

The LIGHTNESS 4 is delivered with a built-in main protector, SAS-TEC, comfort foam, mounted speedbag incl. acceleration system, footboard and step-in-aid. All individual parts can be easily removed, e.g. to carry out any repairs or to replace them.

1. SAS-TEC

The SAS-TEC is stored in a separate compartment. To remove it, open a horizontal zip on the left-hand side of the harness at about the height of the air inlet and pull the SAS-TEC out of its compartment. To reinstall, proceed in reverse order.

2. Comfort foam

The comfort foam is stored in a separate compartment. To remove it, open the side compartment in the same way as the SAS-TEC and pull out the SAS-TEC first, then open the horizontal zip in the middle to pull the comfort foam out of its compartment. To reinstall, proceed in reverse order.

3. Main protector

The main protector compartment is located under the seat area. Open the zipper at the bottom of the harness. Then pull out the foam protector. When reinstalling, make sure that the protector is installed correctly. The areas are marked in green. Then close all zippers correctly.

**Footboard**

To replace the carbon footboard, remove it from its compartment in the nose pocket of the leg bag (open twice a zip) and insert the new one. Make sure to insert the footboard in the center.

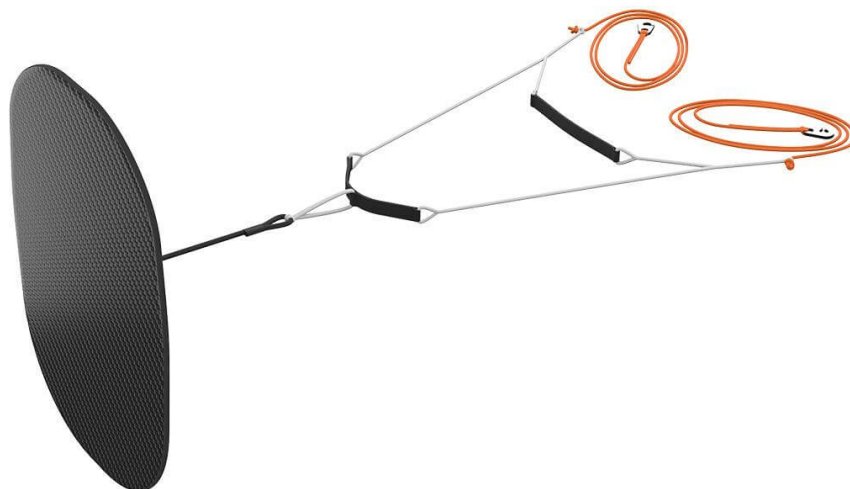
Speed system

Unloop the Brummel hooks and pull the speed bar lines out of the Ronstan pulleys on either side of the harness. To reinstall, reverse the procedure.

{INFO.} The elastic tensioner in the foot area can be replaced separately.

Warning Check the routing of the speed bar lines and the speedbag lines. These must not cross each other, danger of chafing!

Warning Use only the original accelerator lines. A different line or even an accelerator bar could damage the leg bag and the harness considerably due to friction.



4. Speedbag

The LIGHTNESS 4 is delivered with a mounted speedbag as standard. To mount a new speedbag you have to remove the old one first. Proceed as follows:

Warning When replacing a speedbag, always use the speedbag lines belonging to the respective speedbag.

Remove speedbag

1. Detach the foot accelerator.
2. Detach the suspension loops from the main carabiners.
3. Open the zippers on both sides.
4. Open the Velcro on the bottom of the harness.
5. Loosen the two lower gray speedbag lines that connect the speedbag to the harness.
6. To do this, loosen the anchor stitch knot under the adjustment tube and release the gray line completely from the black tab on the edge of the seat shell.

Installing the speedbag

1. Pull the upper end of the gray speedbag line through the black loop at the edge of the seat shell.
2. Form an anchor stitch with the upper loop of the leash and pull the lower, red sewn part of the leash through it.
3. Tighten the anchor stitch behind the adjustment tube.
4. Close the zippers that attach the speedbag to the harness.
5. Attach the speedbag cover to the bottom of the harness.
6. Fix the suspension loops in the main carabiners.

Warning It is mandatory to fix the suspension loops in the main carabiners otherwise the speedbag zippers will be damaged. Attach the foot accelerator as described in the manual.

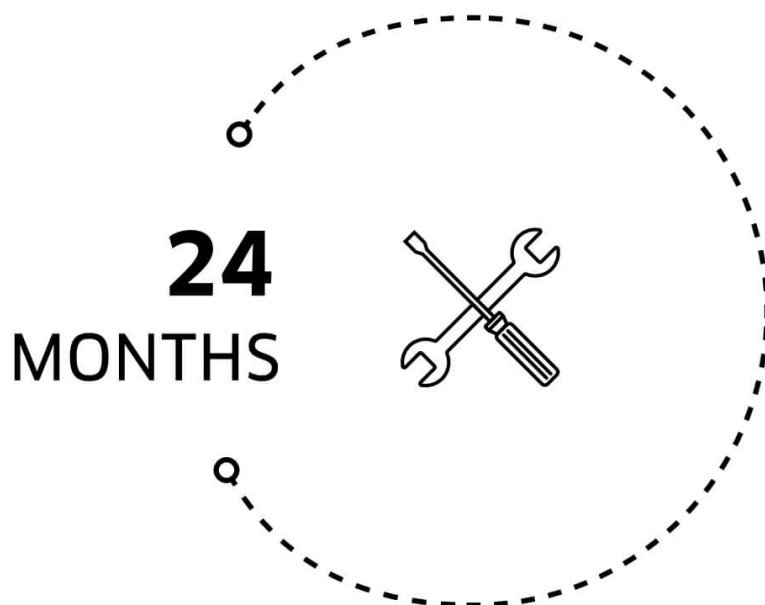


5. Windshield

See instructions in the "Flight preparation" chapter.

8.3. Inspection

Inspect your harness regularly for damage and have it thoroughly visually inspected by a professional every 24 months. The inspection includes a visual assessment of the fabric, straps and connections, major stitching and main carabiners. All parts are inspected for tears, kinks, pre-damaged seams, damage and severe wear. Detected damage requires the harness to be professionally repaired before the next flight.



You can find more information about the check in the "Service" chapter of this manual or at www.advance.swiss.

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8.4. Repairs

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.

8.5. Disposal

Environmental protection plays an important role in the selection of materials and the manufacture of an ADVANCE product. We use only non-toxic materials and fabrics that are subjected to continuous quality and environmental impact assessments. When your equipment reaches the end of its useful life, please remove all metal parts (recycling) and dispose of straps and material in the designated facilities.

9. SERVICE & WARRANTY

9.1. ADVANCE Service Center

ADVANCE operates two company-owned service centres that carry out checks and repairs of all types. The workshops based in Switzerland and France are official maintenance operations, which have many years' experience and in-depth product-specific expertise. The ADVANCE worldwide service network includes other authorised service centres that provide the same services. All service facilities use original ADVANCE materials exclusively. You can find all information on checks and repairs and the relevant addresses at www.advance.swiss.

9.2. Support (Website)

At www.advance.swiss you will find detailed information about ADVANCE and our products as well as contact details for any questions you may have.

You also have the opportunity to register your product online up to 10 days after purchase in order to enjoy the full benefits of the ADVANCE warranty. You can also:

- Keep yourself updated about new safety-related findings about ADVANCE products.
- Download an application form for the check at ADVANCE as a PDF in order to be able to send in your product.
- To find an answer to a burning question under FAQ (frequently asked questions).
- Subscribe to the ADVANCE newsletter to receive regular e-mail updates about new products and services.

9.3. Online Account

Set up a MyADVANCE account at www.advance.swiss/warranty and register your product directly online after purchase.

In the MyADVANCE account you will find all documents for your product as PDF, e.g. the manual, security updates and much more. You can also view spare parts for your product and make support requests directly.

9.4. 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.

10. TECHNICAL DATA

10.1. Data

LIGHTNESS 4		S	M	L
Pilot height	cm	155-172	165-183	178-200
Rucksack volume	l	81	91	91
Weight rucksack	kg	0.62 (81 l)	0.64 (91 l)	0.64 (91 l)
Harness certification		EN & NfL / 120 kg	EN & NfL / 120 kg	EN & NfL / 120 kg

10.2. Materials

We continuously review and test the variety of materials on offer. Like all ADVANCE products, the LIGHTNESS 4 has been designed and manufactured according to the latest findings and processes. We have chosen the materials very carefully and with the strictest quality requirements in mind.

10.3. Certification

The LIGHTNESS 4 including protector is certified according to EN 1651:2018+A1:2020 & NfL 2-565-20 up to 120 kg. The test reports can be downloaded from www.advance.swiss.