SUP'AIR

English

Revision index : 16/06/2020

User's manual
Harness

RADICAL3

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FRANCE

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www.supair.com

Thank you for choosing the RADICAL3. We are glad to be able to share our common paragliding passion with you.

SUP'AIR has been designing, producing and selling free flying equipment since 1984. By choosing a SUP'AIR product you benefit from almost thirty years of expertise, innovation and listening. Our mission statement: research and develop to constantly enhance our product line.

We hope you will find this user's manual comprehensive, explicit and hopefully enjoyable as well. We advise you to read it carefully.

You will find the lastest udated information about this product on our website www.supair.com. If you have further inquiries, feel free to ask one of our retailers for answers. And naturally, the entire SUP'AIR team is at your disposal at info@supair.com

We wish you many safe enjoyable flying hours and happy landings.

Team SUP'AIR

List of contents

Introduction

Welcome to the paragliding world according to SUPAIR; a world of shared passion.
The RADICAL3 was designed for pilots coming out of school or in progression. It brings comfort and peace of mind to pilots experiencing their first XC (Cross-Country) flights to discover new horizons !
The well though out design and choice of materials were guided by the same quality and longevity objectives.

The harness RADICAL3 harness was certified EN 1651 : 1999
The harness RADICAL3 + RADICAL3 Reversible backpack airbag was certified EN 1651 : 1999 and LTF* 91/09
* The RADICAL-3 LTF certification is valid only if the AirBag and the Safe-T kit are installed.
Indicating that it meets European and German safety requirements.

After reading this manual we suggest you to check your harness during a hang-test to adjust it before your first flight.

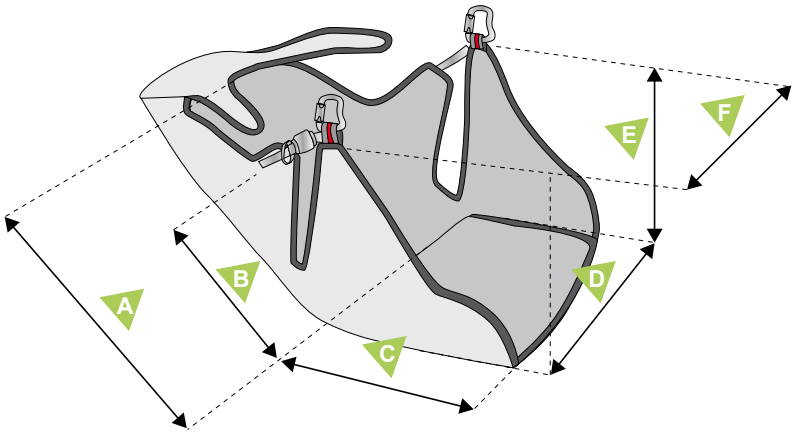
N.B : Three important icons will help you when reading this manual

 Advice

 Caution !

 Danger !!

Technical specifications



- A Backrest height.
- B Backrest tilt adjustments.
- C Seat depth.
- D Seat width
- E Hooking point height.
- F Length between the hooking points.

Characteristics / Harness size	S/M	L
Pilot size (cm)	160 / 180	180 / 200
Pilot weight (mini - maxi)	50 - 80	70 - 110
Harness weight (+carabiners+speedbar) (g)	830	870
Designed for	paragliding only	
Backrest height (cm) A	65	72
Backrest tilt adjustments (cm) B	33	36
Seat depth (cm) C	37	42
Hooking point height. (cm) E	45	45
Length between the hooking points. (cm) F	35 - 43	35 - 43
Impact damping system: Airbag	Options	
Impact damping system: Bumpair	No	
RADICAL3 harness certification	Yes : EN 1651 : 1999	
RADICAL3 harness certification + AirBag/Backpack	Yes : EN 1651 : 1999 and LTF 91/09	
Tandem (Pilot or Passenger)	Yes	
Acrobatic flying	No	
Towing	Yes	

Size choice

Choosing the right harness size is important. You will find below a height/weight chart to help you with your size choice. With its hammock architecture and reclined flying posture, we advise you to try out the harness during a hang-test first at one of our retailers location to choose the correct size.

For a complete list of our retailers list click here : www.supair.com

Size Weight	1m60	1m65	1m70	1m75	1m80	1m85	1m90	1m95	2m
50		S/M	S/M	S/M	S/M				
55	S/M	S/M	S/M	S/M	S/M				
60	S/M	S/M	S/M	S/M	S/M				
65	S/M	S/M	S/M	S/M	S/M				
70	S/M	S/M	S/M	S/M		L	L	L	L
75	S/M	S/M	S/M	S/M		L	L	L	L
80	S/M	S/M	S/M	S/M		L	L	L	L
85					L	L	L	L	L
90					L	L	L	L	L
95					L	L	L	L	L
100					L	L	L	L	

S/M

L

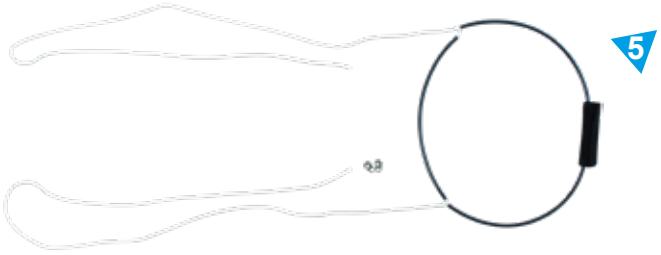
Preliminary hang-test.

Nomenclature

1. Harness
2. Zicral 30 mm carabiners.
3. Removable storage pocket
4. Optional Safe-T kit

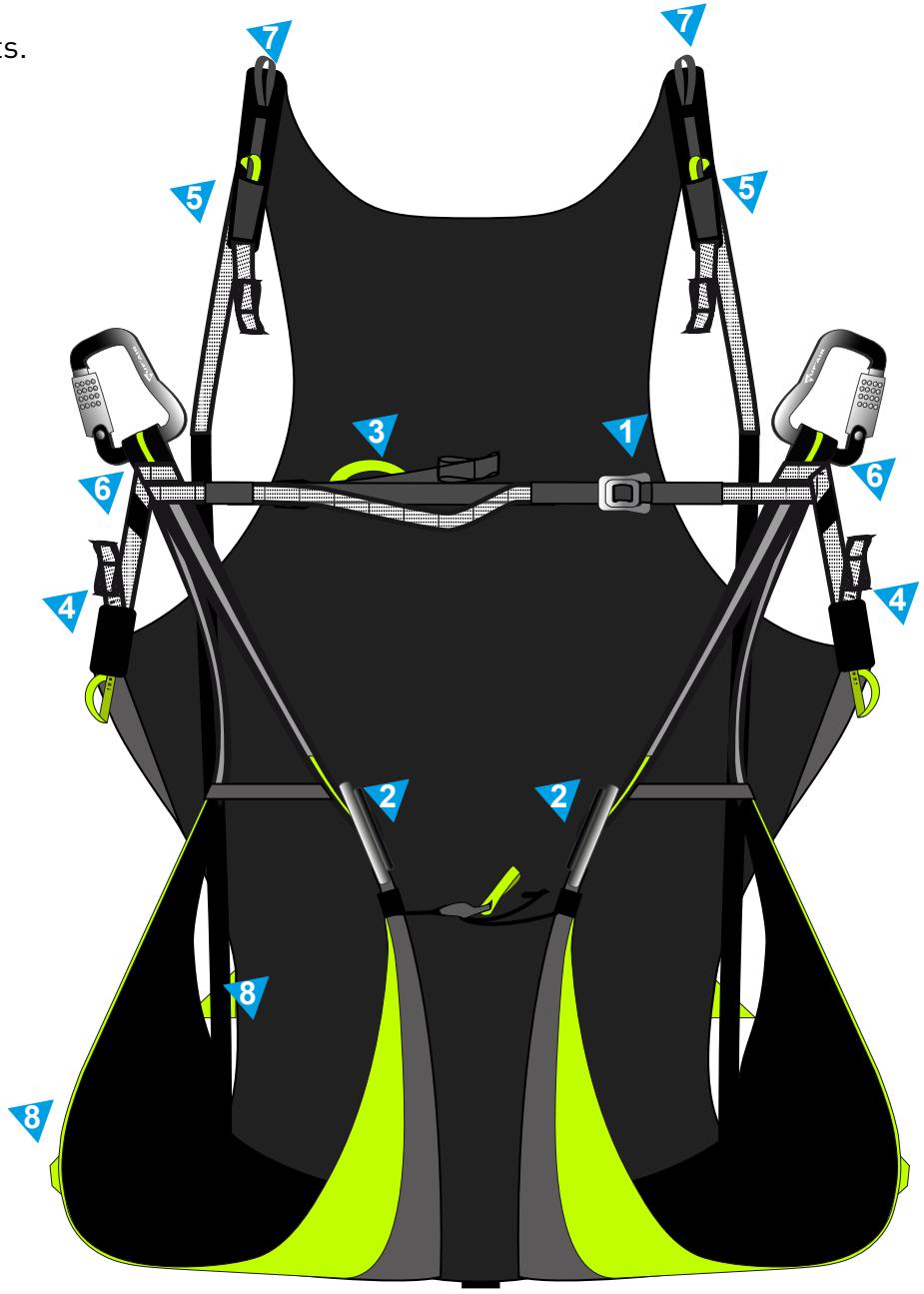
Options

4. Reversible AirBag/Backpack
5. Light double stage accelerator/speed-bar (réf. ACCELSOUPLELIGHT)



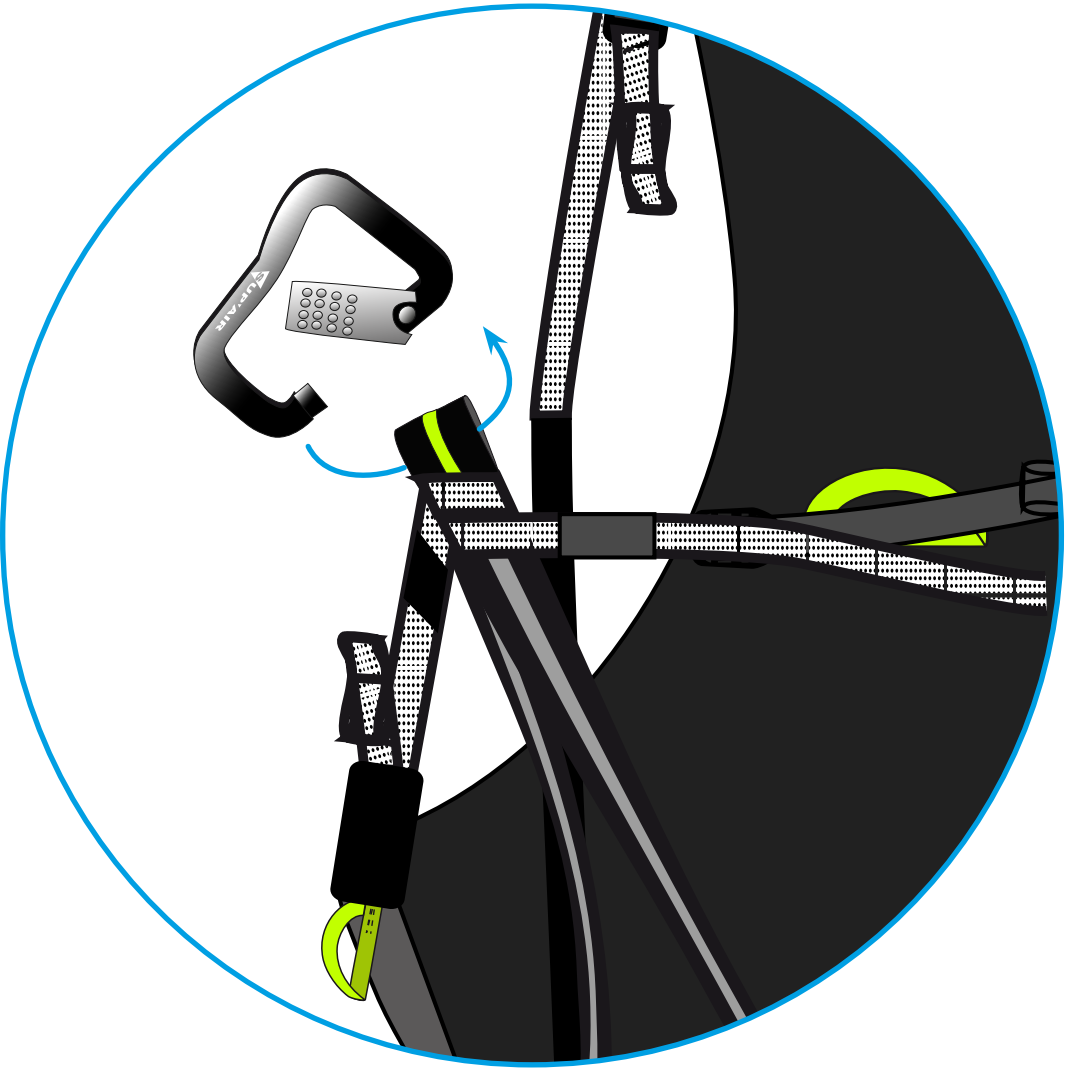
Harness overview

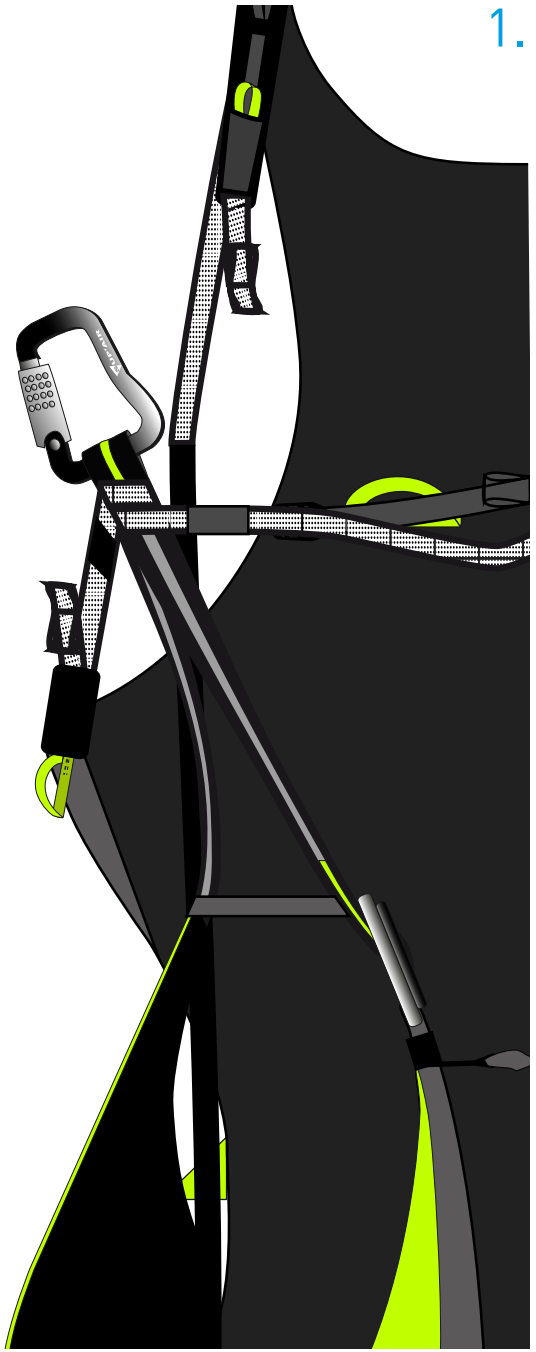
1. Chest strap with buckles.
2. Leg strap buckles.
3. Chest strap adjustment.
4. Backrest tilt adjustment.
5. Shoulder straps adjustments.
6. Paragliding main hooking points.
7. Reserve parachute hooking points.
8. Speed-bar grommets.
9. Back storage pocket.



Accessories assembly

1. Carabiners.





Accessories assembly

2. Speed-bar system.

>> Compatible accelerator/speed-bar

LIGHT double stage speed-bar/accelerator.

Ref. : ACCELSOUPLELIGHT

>> Speed-bar assembly

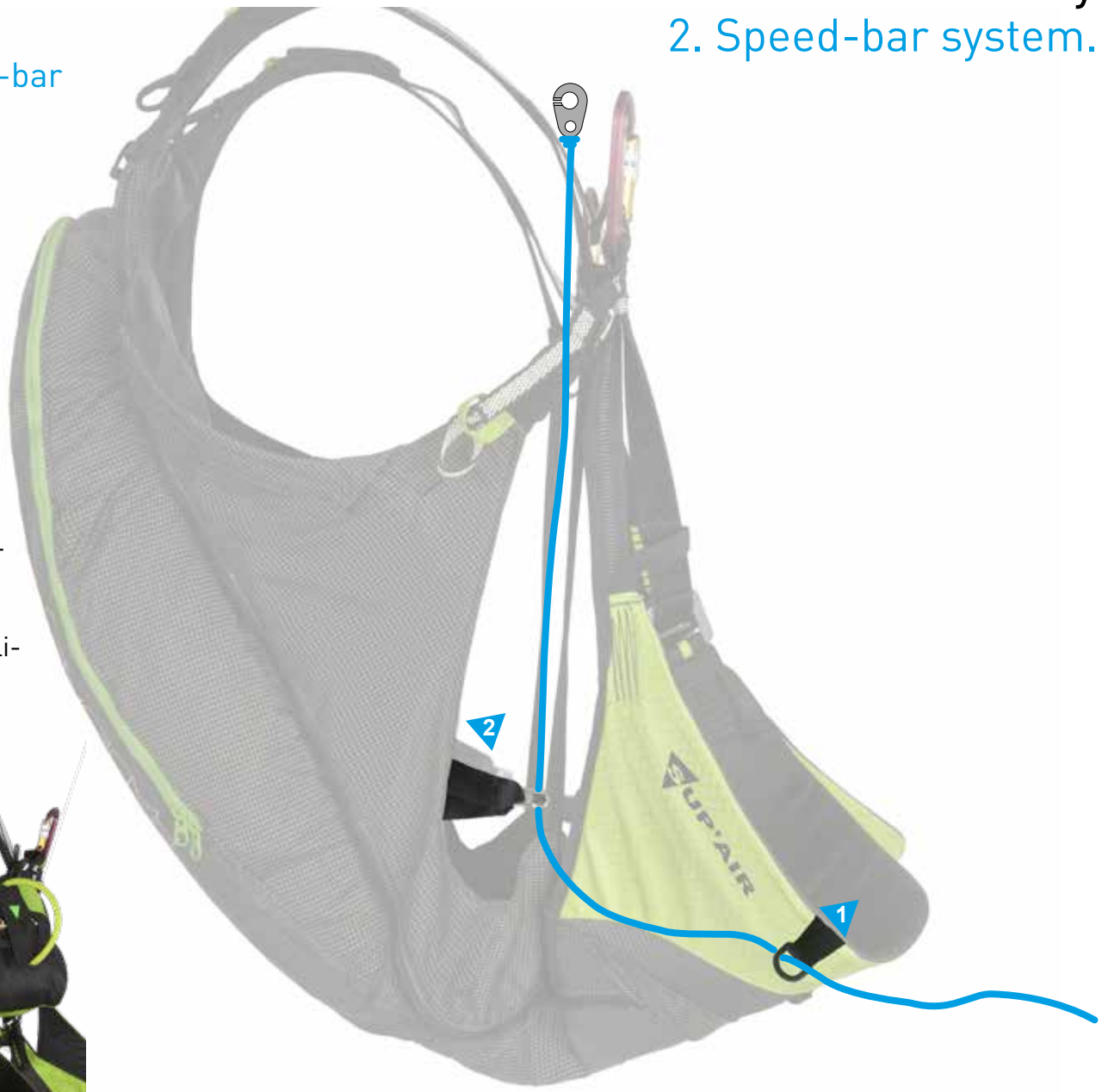
Regarding either side of the harness:

1. Push the speed-bar line through the grommet located at the front of the seat.

2. Push the speed-bar line through the grommet located on the lateral skirt of the harness.

5. Finally, attach a cimped hook to the cord before connecting it to the glider's speed-bar/accelerator.

6. Simulate the speed-bar/accelerator's functionality by sliding the cord back and forth.



Caution !
If you have a front mounted reserve parachute setup, be sure to guide the speed-bar line between the risers and the harness, not to hinder the rescue parachute's extraction/deployment sequence.

Accessories assembly

3. Optional AirBag/Backpack

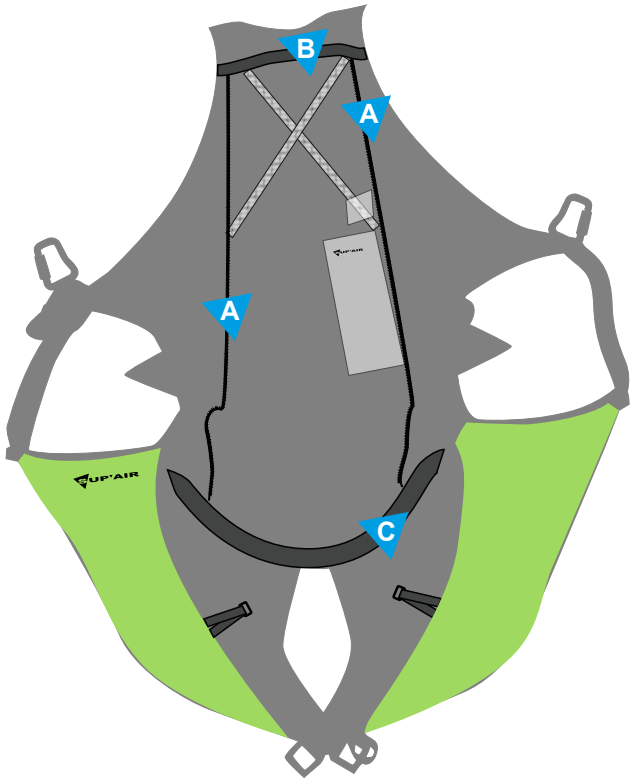
>> Removing the dorsal pocket

1 Unfasten the lateral Zippers located on each side of the pocket A

2 Unfasten the Velcro located at the back of the harness B

3 Unfasten the Velcro located under the seat C

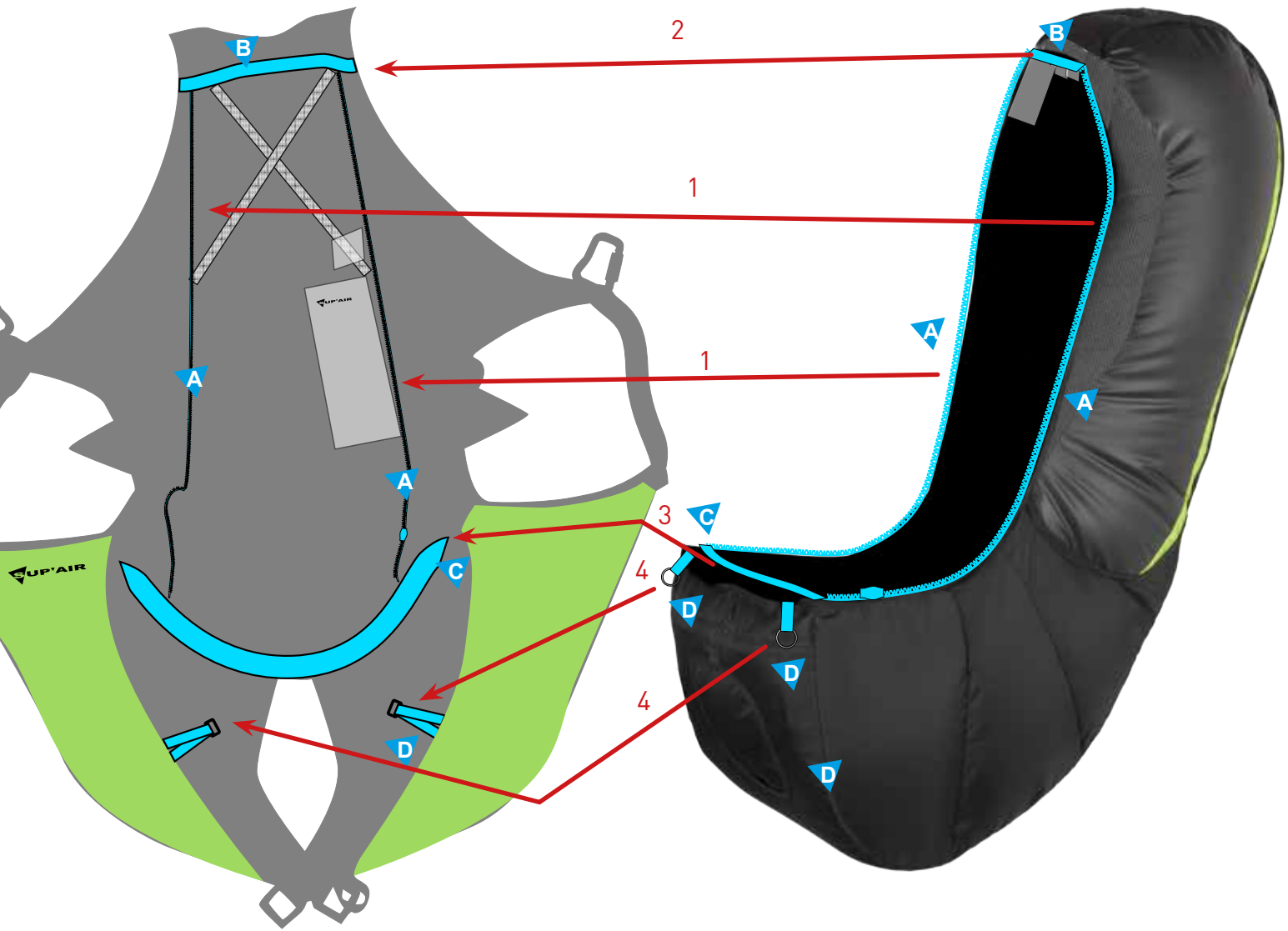
>> Layout the harness flat, with the seating and torso area facing the ground



Accessories assembly

3. AirBag/Backpack (Option) continued

>> Connect the AirBag/Backpack, AirBag side to the harness

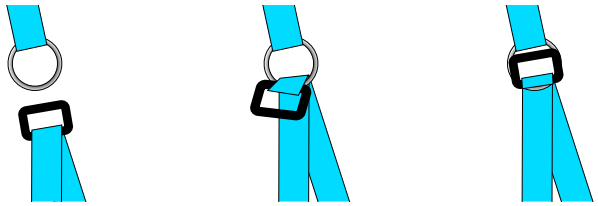


1 Fasten the Zippers on each side A

2 Fasten the upper Velcro B

3 Fasten the lower Velcro C

4 Fasten the front of the AirBag using the connection straps by pushing the rectangular buckles through the metal rings D



Mise en place des accessoires

4. SAFE-T KIT

For practical reasons, the RADICAL-3 was designed without a Safety-T strap. If you wish to have one, or have a harness meeting the LTF certification standard requirements, you must install this kit. It enables one of the leg straps to be permanently closed, hence preventing the risk of taking off in a unfastened harness.

This kit includes :
- A neoprene sleeve.
- A small strap.

1. Open the chosen leg strap, and slide the neoprene sleeve.

2. Close the leg strap.

3. Use the strap to lock the buckle :
Insert the strap through the buckle and the guide, then loop it back in, as indicated on the images below.

4. Slide the neoprene sleeve over the straps and buckle, to secure and protect the assembly.

To strap your harness on, start by entering one leg through the closed leg strap.
Reverse the entire procedure to remove the Safe-T strap.

Installing the reserve parachute

Thank you for reading the following carefully ! We recommend for the initial rescue parachute assembly and installation to be made by a qualified professional.
Reserve parachute folding and installation inside the harness must conform to the specific guidelines found in this manual.

>> Needed gear to install the reserve parachute

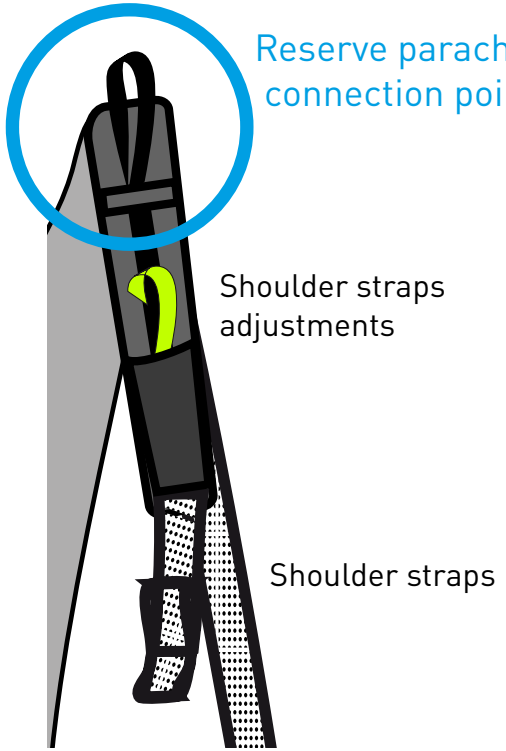
- A Independent Dyneema® risers
- B Front reserve parachute container with handle
- C Reserve parachute packed in its POD (according to the manufacturer's recommendations)
- D Single reserve parachute handle
- E Square 7mm Maillon Rapide®
- F Toric elastic rings

Installing the reserve parachute

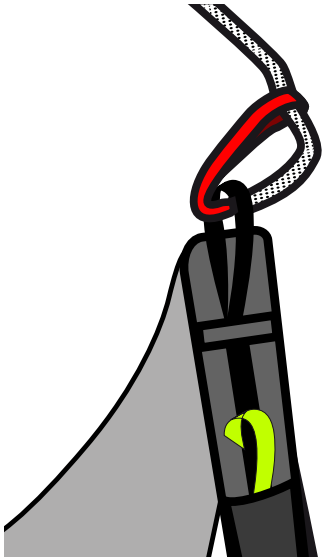
>> Connection risers/harness

1. Notice the reserve parachute's attachment point on the harness – reinforced black webbing loops located on the upper section of the shoulder straps.

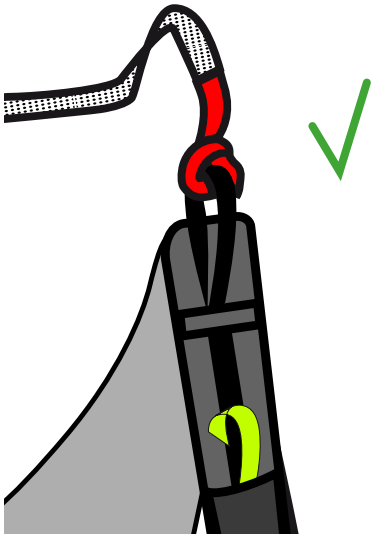
WARNING !
The reserve parachute connection points are colored black and located above the shoulders.



2. Attach each riser to the shoulder attachment points by making a Lark's knot (loop to loop connection). Use the largest bridle loop ends.



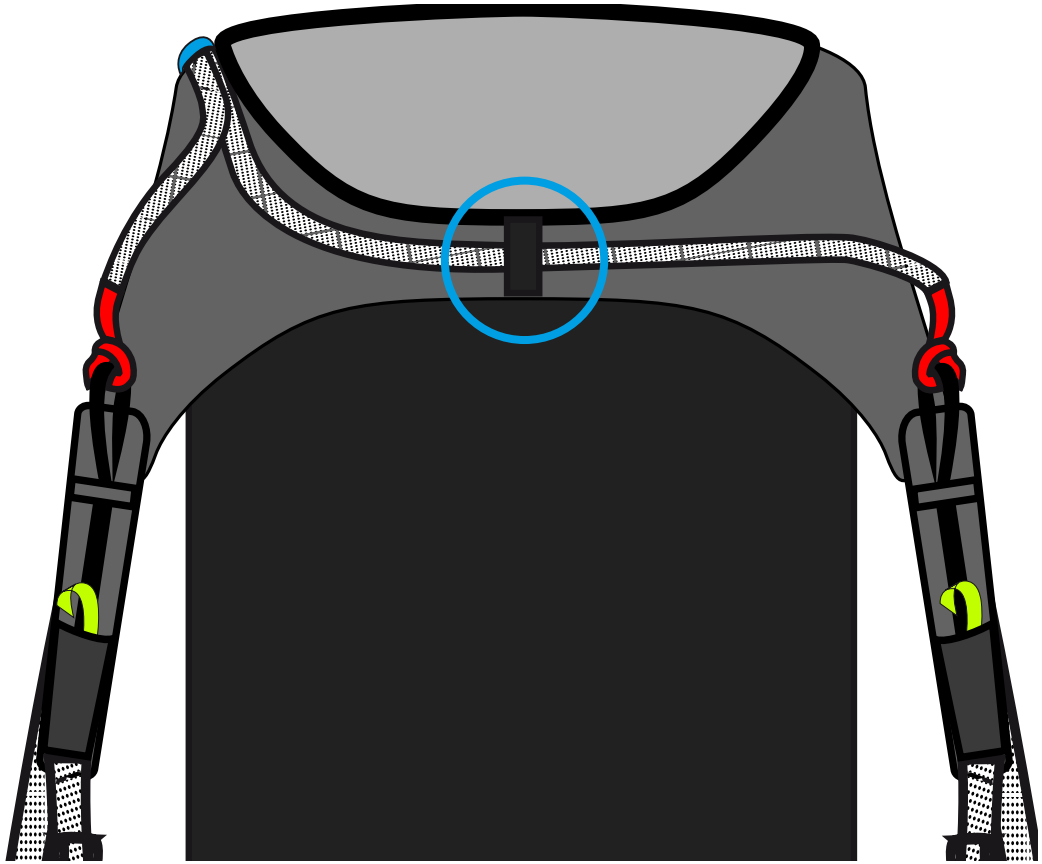
3. - Assemble everything correctly.
- Make sure for the risers not to be longer than one another.
- Tighten each connection securely.



Installing the reserve parachute

>> Riser reserve parachute connection

1. - Push the left riser from the right side of the harness over the shoulders, and keep it in place using the fastening loop.



2. - Keep the risers in place in the sleeve located on the harness's right side.

Installing the reserve parachute

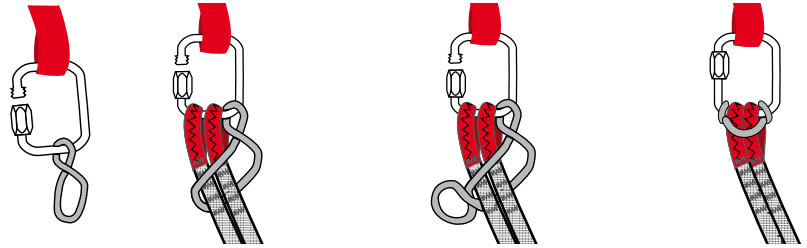
>> Riser reserve parachute connection

One (1) square 7mm Maillon Rapide® will be needed + two (2) flexible toric rings.

1. - Open the 7mm square Maillon Rapide®
- Connect the reserve parachute single riser loop
- Push the maillon through the plastic ring
- Twist

2. - Push the end riser through the toric ring
- Push the maillon through the risers buckles

3. - Give a second twist to the plastic ring
- Push the buckle through the maillon



4. - If you use separate/independente risers Repeat steps 1 through 3 with the second riser
- If you use separate risers

5. - Tidy up the assembly
- Be certain for the risers end loops to be securely fastened
- Close the Maillon Rapide® tightly by hand
- Tighten using pliers and making a ¼ turn

>> Installing the front mounted reserve parachute

For the following procedure :
- Connect the reserve parachute handle to the POD.
- Pack your reserve parachute inside your reserve parachute container.
- Connect the reserve container to the harness.

Carefully and exactly follow the installation procedure provided and recommended by the front mounted reserve parachute container manufacturer.

WARNING !
If you have a front mounted reserve parachute setup, be sure to guide the speed-bar line between the risers and the harness, not to hinder the rescue parachute's extraction/deployment sequence.

Check the completed installation during a hang-test.

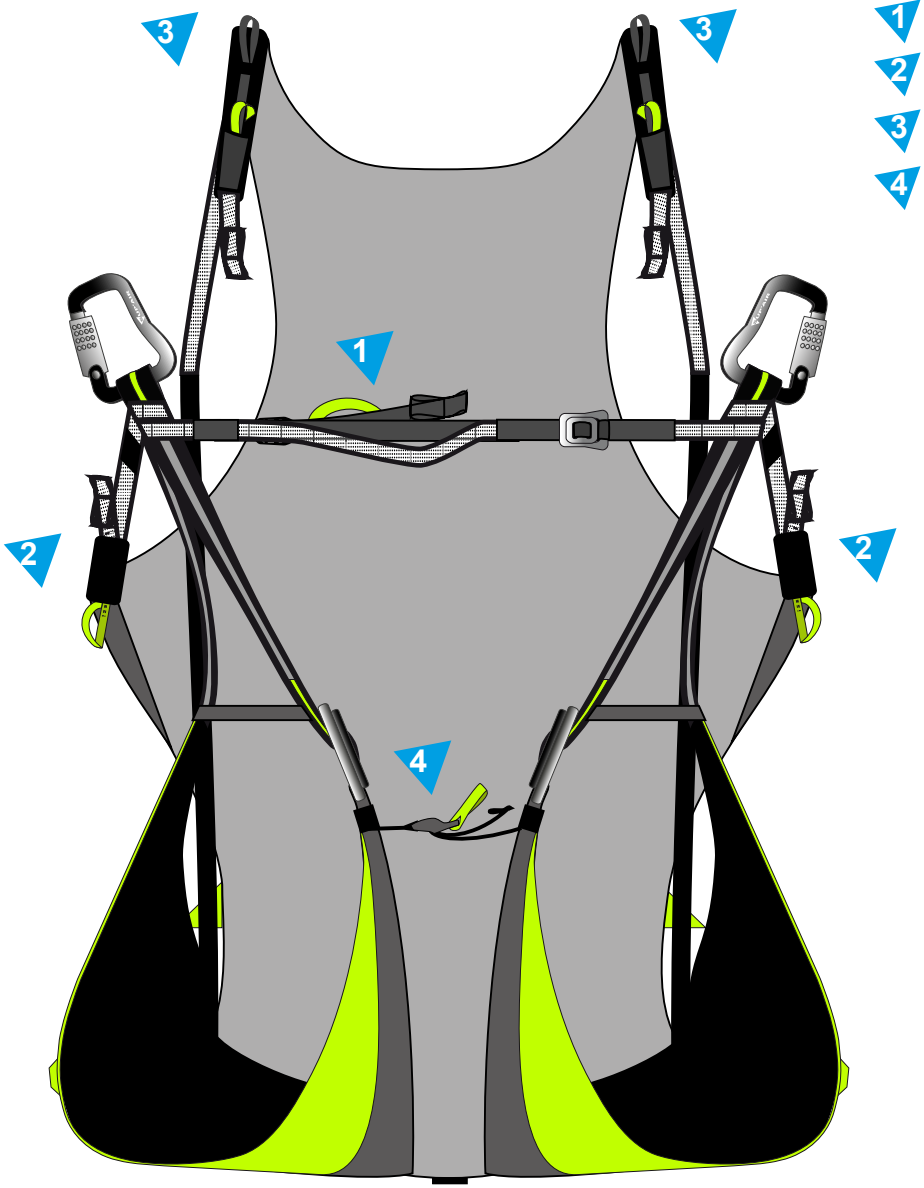
Have the installation checked by a professional outfit.
Conduct an extraction test every six (6) months to assure proper system functionality.

Note : conducting and extraction test does not imply deploying the reserve parachute which will stay inside its POD.

Adjusting the harness

Adjusting the harness prior each takeoff is vital.

>> The various adjustments

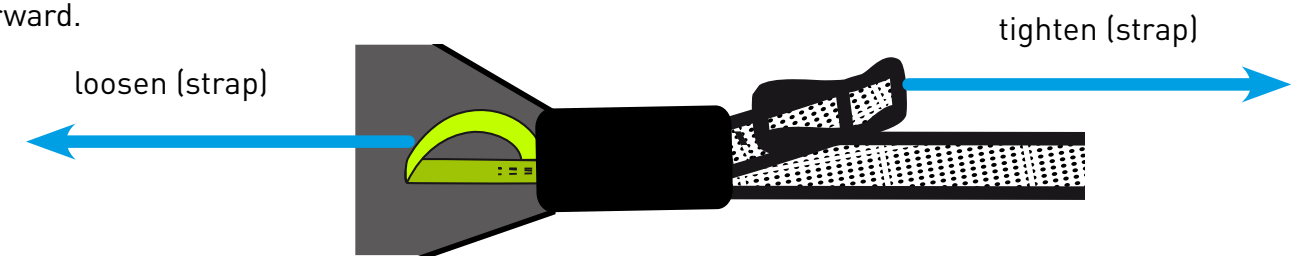


1. Adjusting the chest strap
2. Adjusting the backrest
3. Adjusting the shoulder straps
4. Leg straps width adjustment

Harness adjustments

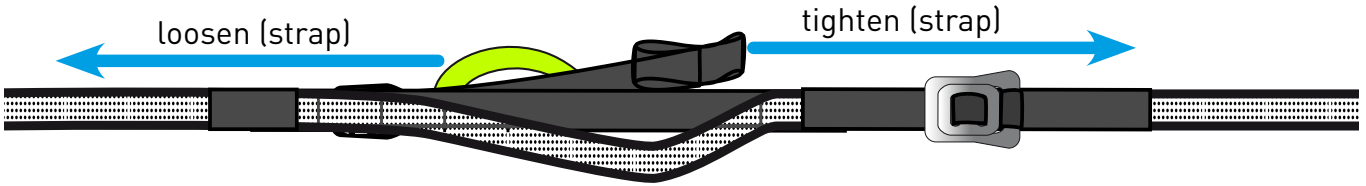
>> Adjusting the harness.

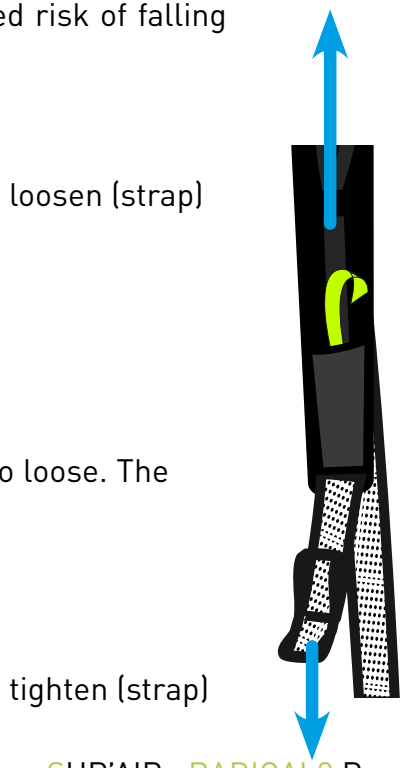
1. Without strap tension, first adjust the backrest incline at the desired angle.
>> Tightening will bring the backrest at a more vertical angle (recommended posture for beginners).
>> Loosening the backrest will tilt the back support rearward.



2. Adjusting the chest strap.
The distance to consider corresponds to the length between the middle points at the bottom of each carabiner.
The ideal distance varies between paragliding wing models.
Adjust your harness's chest strap according to the wing manufacturer's recommendations.

Tightening the chest-strap provides more stability but less piloting efficiency while increasing the risk of riser twisting.
On the contrary loosening the strap provides more efficiency but can be dangerous in turbulent aerology (increased risk of falling towards the collapsed side of your glider).



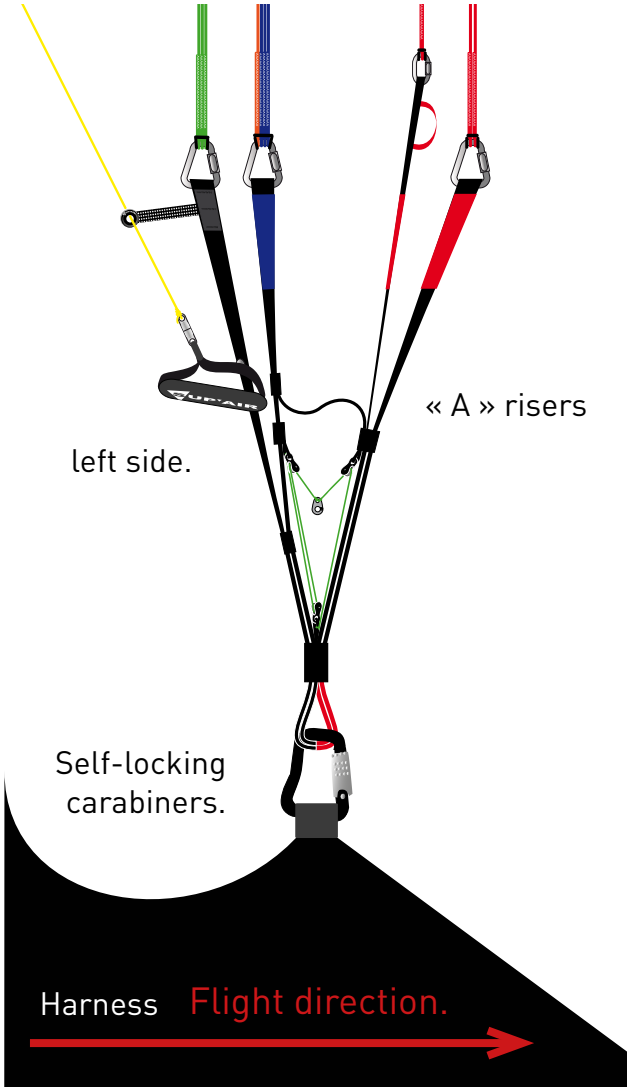


3. Adjust the shoulder straps length using the trimmers.
The pressure on the shoulder straps contributes to general comfort in flight. It must be precise: not too tight nor too loose. The upper area of the straps must offer enough support to maintain your torso in a comfortable position.

Connecting the wing to the harness

>> Connecting the wing to the harness.

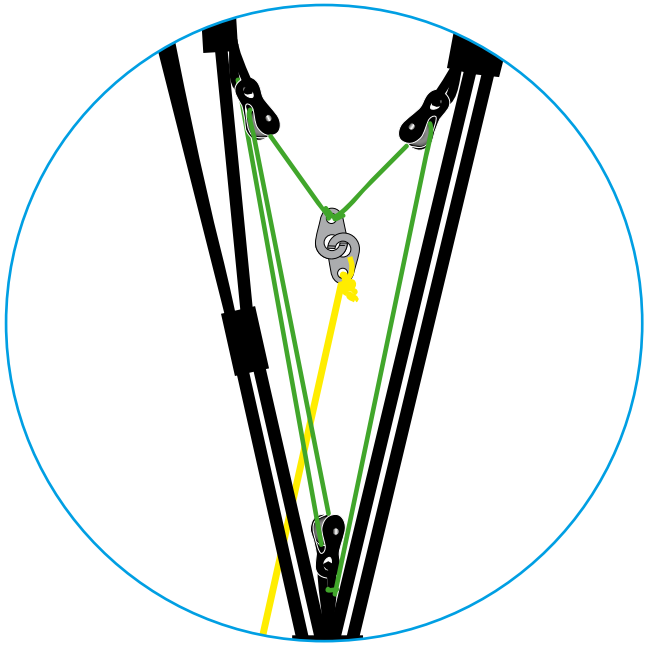
Without twisting the risers, connect them to the harness attachment loops using the self-locking carabiners.
Check for the risers to be properly positioned and untwisted. The «A» risers must be located at the front and facing the flight direction (see diagram).
Lastly, check for the main self-locking carabiners to be fully closed and locked in place.



>> Installing the accelerator.

Install the accelerator by following the previous instructions.
Connect it to the wing using the split hooks.
Once the accelerator/speedbar is connected adjust its length according to the wing recommended measurements.

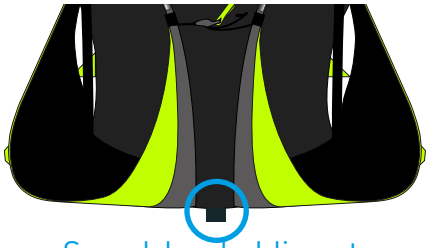
For correct use, there must not be any line tension at the split hook level when the accelerator/speedbar line is fully relaxed.



Gear packing and tips

>> Mini-variometer holder

>> Hiking pole holder



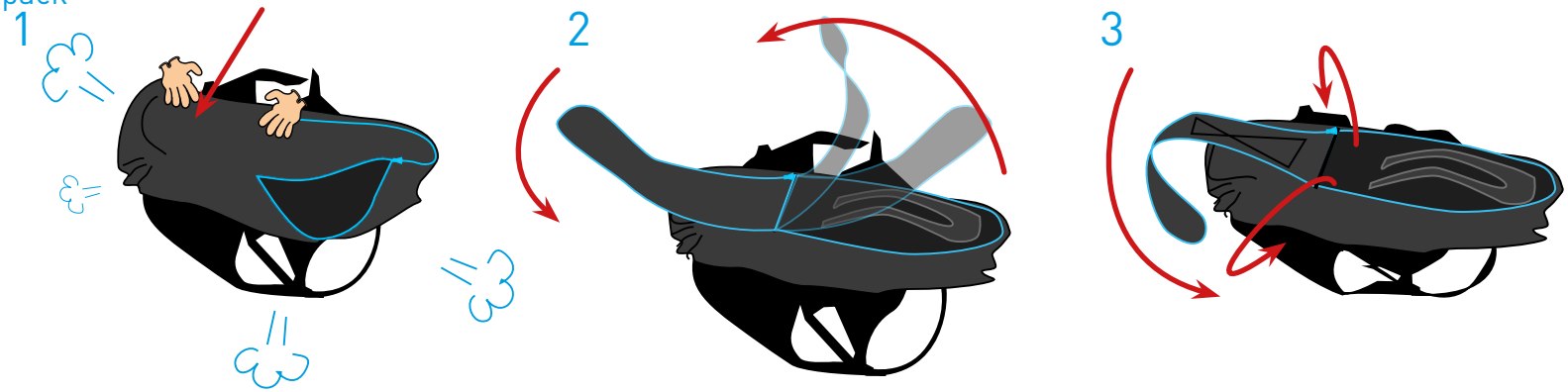
>> Speed-bar holding strap

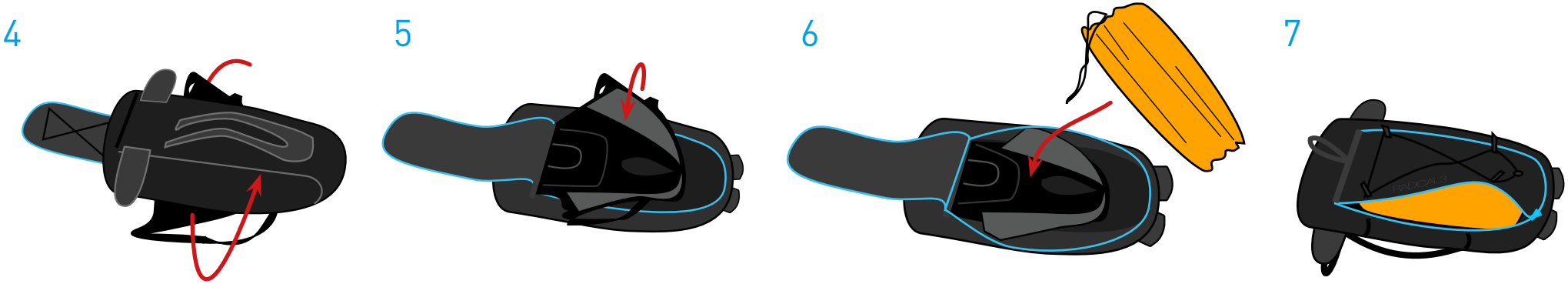
During your pre-flight packing procedure, do not over-load your backpack, and distribute the load evenly to prevent obstructing air intake and flow.

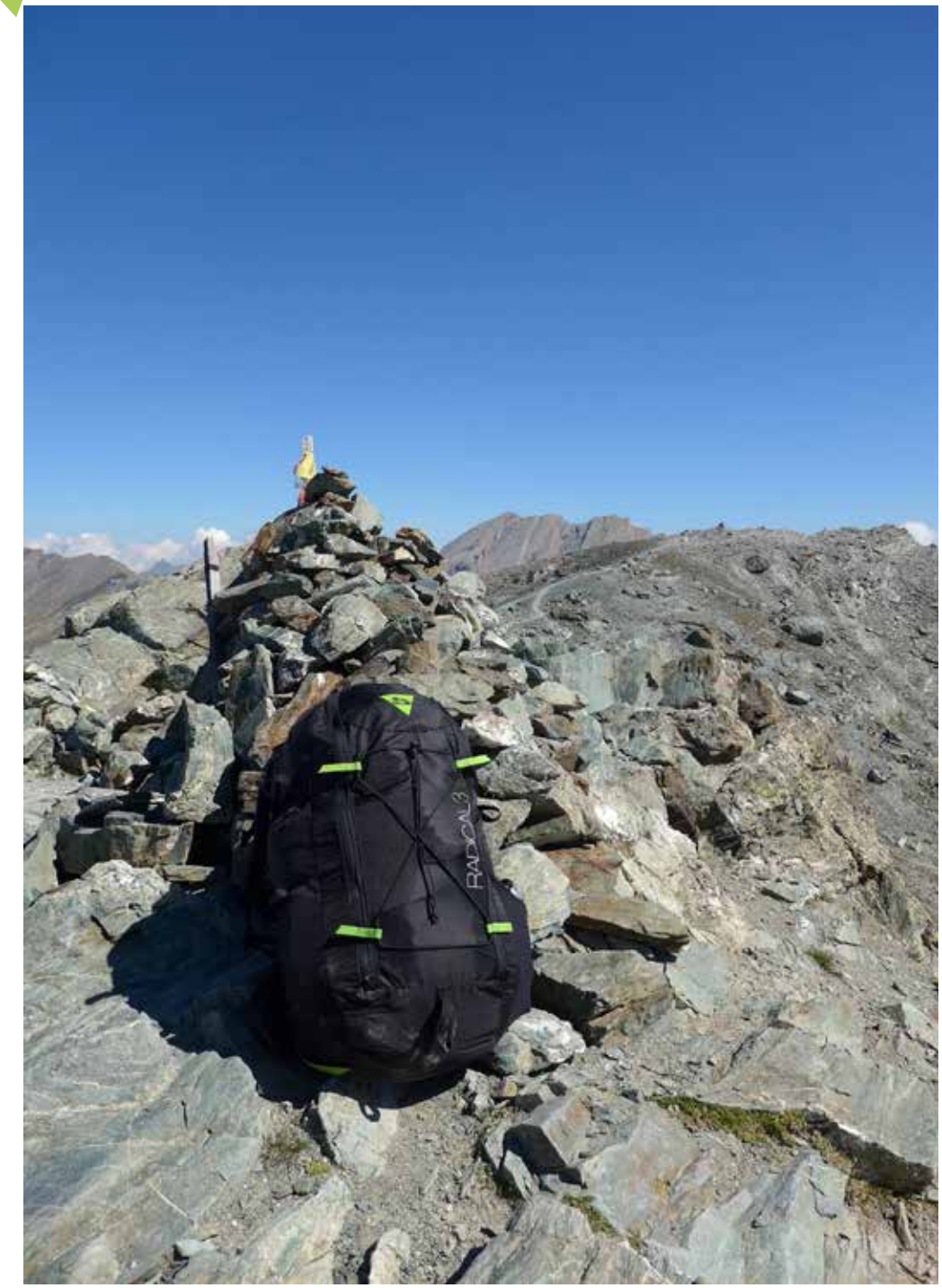
- Wallet pocket.
- Load adjustment straps
- Compression straps
- Water bottle lateral holding pockets.
- Waist strap pocket

>> Turning the AirBag into the backpack

1. Take the air out of the AirBag
2. Open the main pocket
3. Flip the AirBag/Backpack walls outward
4. The backpack section must be totally apparent
5. Position the harness flat at the bottom of ther bag
6. Place your wing inside
7. Close the bag







Flight behavior

Easy to ground handle with, once in flight, piloting with this very agile harness becomes precise and fun play even close to the ground during low passes.
The feedback from the wing is translated through the leg suports which inversely to a wooden seat plate, transmit the left and right motions independently.
This harness is a great all-around product, ideally suited for mountaineering Hike & Fly excursions, local sites flying and costal ridge soaring.
We recommend using the optional AirBag/Backpack with a rescue front mounted reserve parachute for flying in crowded sites.

To discover your new harness, we will recommend making your first flights on a school training hill in calm weather conditions with low wind speeds.

Flight phases

Pre-Flight control.

- Inspect the harness and the carabiners for possible wear and tear.
- Be certain for the handle cables to be securely fastened in place inside their respective reserve parachute pocket housings.
- Check that your personal settings haven't changed.
- Check that all zippers and buckles are closed.
- Check for the speedbar to be properly connected and precisely adjusted.
- Check that no rigging line or other object comes in contact and interfere with the rescue parachute handle.
- Make sure that the self-locking carabiners are locked and connected to the paraglider.
- Be certain for the accelerator/speed-bar line not to ride through the reserve parachute handle.

Takeoff

After a thorough weather conditions analysis was conducted and the decision to fly was made, put your harness on, and follow the next steps :

- Fully close the leg straps, Safe-T-bar and chest strap buckles.

- Takeoff maintaining a vertical posture and push yourself inside the harness but only once away from the ridge.

Do not let go the brakes when close to the terrain.

Flight phases

In flight.

Set the distance between the two carabiners according to the aerology of the moment and the wing manufacturer's recommendations.

Speedbar use.

We recommend using the speed-bar cautiously due to the increased risk of a partial or full frontal collapses.

Use the speed-bar/accelerator (transitions) only when far away from the ridge and in calm weather conditions as the wing becomes more sensitive to turbulence when accelerated. If you feel a loss of tension in the speed-bar/accelerator, stop pushing it and apply a light brake pressure on the toggles to prevent the glider from experiencing a potential frontal collapse.

Beware not to push on the speed-bar/accelerator to enter the harness after takeoff (it is not a foot-rest) or there could be the risk of a frontal collapse taking place as a result.

To use the speed-bar/accelerator, backpedal and grab the bar with the back of your shoe, push and use the second foot to stabilize it or grab the second bar (upper stage).
Apply pressure symmetrically to the first stage (first bar), when reaching the maximum enabled distance, then push on the second stage (upper bar). To decelerate, reverse the procedure.

Landing

Always be certain to have enough altitude to make a landing approach corresponding to the weather conditions of the moment and terrain. During the landing approach, never make hasty maneuvers. Always land upwind in a standing posture and be ready to run upon touchdown if necessary.
During your final approach, use as much airspeed as possible based on the weather conditions of the moment, then gradually reduce the glider air speed by pushing the toggles all the way down until contact with the ground is made. Beware not to brake too soon and too rapidly and too deep which could lead to a stall and a dangerous landing.
During high wind speed landings, turnaround and face the wing as soon as ground contact is made and move toward the wing while braking symmetrically to deflate it.
Do not land in a seated position as it is dangerous.

Using the reserve parachute

Throwing the reserve parachute.

It is strongly recommended to frequently check your reserve parachute handle location while in flight. This exercise should be executed instinctively and will increase your chances of a successful parachute extraction in case of an emergency.

Estimate your AGL (Altitude Above Ground Level) which if high enough may make it worth trying to bring your wing back to a normal flying configuration. If in doubt quickly deploy your emergency parachute.

Deploying a rescue parachute should only be done in an emergency situation.

With a strong lateral and then vertical tug, pull the handle towards you and then throw the parachute away from you (including the container and its handle) toward a clear unobstructed area of the sky. As soon as the parachute deploys, bring as much of the glider as possible toward you by pulling symmetrically on the "C" or "D" risers or on the toggles/brakes.
Be prepared to land by adopting an upright position with knees together and legs slightly bent. Prepare to roll down, hands on your chest, ankles together with pivoting hips and shoulders in a Paragliding Landing Fall (PLF) configuration.

Towing

To takeoff under tow you must be equipped with a quick release specially designed for the task.
Connect the towing release system to the main carabiner attachment points in accordance to manufacturer recommendations.
Before towing you should consult with a competent towing outfit about safety recommendations.

Mandatory controls

Mandatory biannual inspection.

- Ascertain parachute deployment functionality by pulling the handle to activate a clean POD extraction sequence.
- Inspect the harness for wear and tear.

Annual check

- An annual deployment and repacking of the reserve parachute must be conducted by competent and certified personnel.

Care

Harness cleaning and maintenance.

It is a good idea to clean your harness from time to time. We recommend using a brush and soft solvents only (soap or mild cleaning agents).
Rinse thoroughly. Never use aggressive chemicals such as strong solvents which could be harmful to the fabric, webbings, stitching and weaken the overall integrity of the harness.
The zippers should be lubricated from time to time using a silicon spray.

If you regularly use your harness in a dusty environment (dirt sand etc...) we advise you to regularly check and maintain your carabiners and buckles : clean them with a mild detergent then blow-dry them fully but DO NOT LUBRICATE !
Prior to using them conduct a thorough carabiners and buckles checkup to insure their full functionality.
If you use your harness in a marine/sandy/salty environment pay particular attention to your gear and follow a regular rigorous maintenance routine.
If your air bag is damaged, have it professionally checked and repaired if necessary.

Storage and transport.

When not in use your harness should be stored inside your paragliding backpack in a dry cool and clean place protected from UV exposure. If your harness is wet please dry it thoroughly before stowing it away.

During transport protect the harness against mechanical or UV deterioration (use a bag). Avoid long transports in wet conditions.

Life-span

Once every two (2) years a thorough harness inspection must be conducted :

- Webbing wear and tear (no excessive wear nor rip beginning or unwanted folds).
- Buckles and carabiners (functionality wear and tear).
- The AIRBAG's integrity (especially after a strong impact), in other words, no holes, tears or rips..

The threads and fabric used to manufacture the RADICAL3 were specifically selected for their quality and resilience capacities. However in particular instances such as long term UV exposure abrasion, contact with damaging chemicals, general wear and tear, the harness will need to be inspected at a professional certified repair facility. Safety comes first!

Supair advice to replace the carabiners every 5 years or after 500 hours of use.

The self-locking carabiners are NEVER to be used for any activities other than paragliding.

Care

Repairs

In spite of using the highest quality products used for manufacturing, it is possible for your harness to deteriorate through general use. If showing any sign of wear and tear it should be sent for inspection and/or repairs at a professional certified facility.

SUP'AIR offers an extended warranty period reaching beyond the product standard protection plan against manufacturing defects. Contact us either by telephone or by E-mail sav@supair.com to receive a quotation.

Hardware & Parts

- Self-locking Zicral 30mm carabiners. (Ref.: MAILCOMOUS30).
- « Plume » GRIVEL carabiners.

Materials

Fabrics
- Polyamide

Straps
- Polyester 25mm and 28mm
- Dyneema®

SUP'AIR manufactures its harnesses in Europe. Most of the components used are Made in Europe.

Recycling

We have minimized our manufacturing footprint by carefully selecting environmentally friendly materials; most of our components are recyclable.
If you estimate that your RADICAL3 has reached the end of it life-span, you can separate plastics from metals and dispose of them according to your community recycling rules. As for the fabric itself contact your local authorities to find out how to proceed to discard it.

Warranty

SUP'AIR takes the greatest care in its products design and manufacturing and hence offers a five (5) year limited warranty from the date of purchase against manufacturing defects or flaws occurring during normal use. Any damage or degradation resulting from incorrect or abusive use, abnormal exposure to aggressive factors, including, but not limited to; high temperature, intense sun exposure, high humidity, excessive abrasion, etc, will invalidate this warranty.
The safeguards incorporated in the SUP'AIR harnesses are guaranteed for use in temperatures averaging (-10 ° C to 35 ° C). The lifespan of foam protectors is 5 years or limited to three substantial impacts. If an air-bag protection is used instead, check for

Disclaimer

Paragliding is an activity requiring specific skills and sound judgement. Learn how to fly within the environment of a certified paragliding school. Carry an insurance policy with you in addition to you pilot certification. Always mind and gauge your personal skills against the weather conditions of the day. Better be safe than sorry ! SUP'AIR can not be held responsible for your paragliding decisions or activities.

This SUP'AIR product has been designed exclusively for paragliding. Any other activity such as skydiving or BASE jumping is absolutely forbidden.

Pilot's gear

It is essential for you to wear a suitable head protection (certified paragliding helmet), adequate footwear and right clothing for the activity. Moreover carrying a reserve parachute connected to your harness in flight is highly recommend.

CE certification : About the paragliding harnesses protection

We want to inform you and let you know that no harness protection can guarantee a complete protection against injury. In particular, the back protector which does not prevent potential injuries to the spine or pelvis.
Moreover, only parts of the body covered by the air bag may benefit from protection against potential impacts.

Warning, any modification or misuse of the protection can dangerously alter its performance and compromise the integrity of the safety device.

Protection is ensured only when the protective elements are present and properly installed. Thus, when the protection is removable, check that it is correctly positioned.

Your harness protection CE conformity labeling is certified by the following laboratory :
CRITT Sport Loisirs nr. 0501, Z.A. du Sanital, 21 Rue Albert Einstein, 86100 Chatellerault – FRANCE

Service Book.

This page will help you keep record of your ACCESS AIBAG scheduled maintenance.

Purchase date	
Owner's name	
Name and stamp of the shop	

☐ Care
☐ Resale

Purchase date	
Workshop's name/ Buyer's name	

☐ Care
☐ Resale

Purchase date	
Workshop's name/ Buyer's name	

☐ Care
☐ Resale

Purchase date	
Workshop's name/ Buyer's name	

☐ Care
☐ Resale

Purchase date	
Workshop's name/ Buyer's name	

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