User's manual Harness

ALTIRANDO "

SUP'AIR - VLD 34 rue Adrastée Parc Altaïs 74650 Annecy - Chavanod FRANCE

45°54.024'N / 06°04.725'E









Thank you for choosing the ALTIRANDO3 harness. 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





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Introduction

Welcome to the paragliding world according to SUPAIR; a world of shared passion. The ALTIRANDO3 targets enthused pilots of all levels. It was designed with schooling and fun in mind to provide full comfort and a worry free learning curve.

harness was certified EN 1651 : 1999 and LTF 91/09 Indicating that it meets European and German safety requirements.

After reading this manual, check your harness during a hang-test to fully adjust it before your first flight.

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





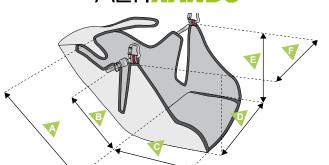
Caution!



Danger!!



ALTI*rando*



Technical specifications

A

Backrest height.

В

Backrest tilt adjustments.

C

Seat depth.

D

Seat length

E

Hooking point height.

F

Length between the hooking points.

	Length between the mooking points.					
Characteristics Harness size	S	M	L	XL		
Pilot size (cm)	155 -175	170 -185	180 -195	190 - 205		
Pilot weight (mini - maxi) (kg)	60 - 80	65 - 85	70 - 100	90 - 120		
Harness weight (+carabiners+speedbar)(g)	3 710	3 750	3 810	3 890		
Designed for	paragliding only					
Backrest height (cm)	57	64 70				
Backrest tilt adjustments (cm)	35	37	38	41		
Seat depth (cm)	46	47	48	50		
Seat width (cm) 🔨	35	37	39	41		
Hooking point height. (cm) 🝯	44	45	46	47		
Length between the hooking points. (cm) 🔻	40-53	40-53	40-53	40-53		
Impact damping system: Airbag	Yes					
Impact damping system: Bumpair	No					
Certification	Yes : EN 1651 : 1999 and LTF 91/09					
Tandem (Pilot or Passenger)	Passenger only					
Acrobatic flying	Yes					
Releasable carabiners	No					
Towing	Yes					
Reserve parachute pocket volume (Liters). (L)	7					





Size choice

Choosing your harness' size is important. You will find here below a height/weight table 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	1m55	1m60	1m65	1m70	1m75	1m80	1m85	1m90	1m95	2m00	2m05
50 kg	S										
55 kg	S	S									
60 kg	S	S	S	S							
65 kg		S	S	S	S						
70 kg			S								
75 kg				M	M	M					
80 kg				M	M		L				
85 kg					M	L	L				
90 kg						L	L	L			
95 kg							XL	XL			
100 kg							XL	XL	XL		
110 kg								XL	XL	XL	XL
120 kg								XL	XL	XL	XL

XL





Nomenclature

∜ Ha

Harness

2

Zicral 30 mm carabiners



« ALT3 » reserve parachute handle



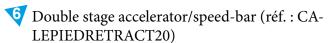
carbon fiber seatplate

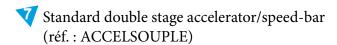
5

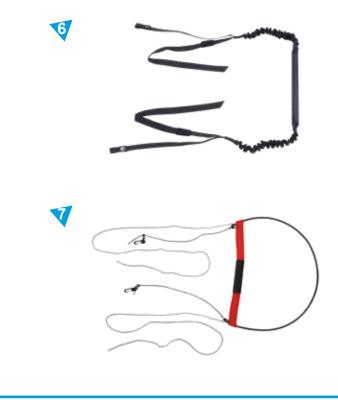
elastic cord for speedbar return



Options







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Harness overview

Chest strap with quick release buckles

Safe-T-bar

Leg strap buckle

Chest strap adjustment

Backrest tilt adjustment

Shoulder straps adjustments

Reserve parachute handle

Reserve parachute pocket

Reserve parachute paragliding main hooking points

Reserve parachute hooking points

Speed-bar/Accelerator pulleys

Speed-bar/Accelerator tube

Speed-bar/Accelerator recoiling cord

AIRBAG

AIRBAG air intake

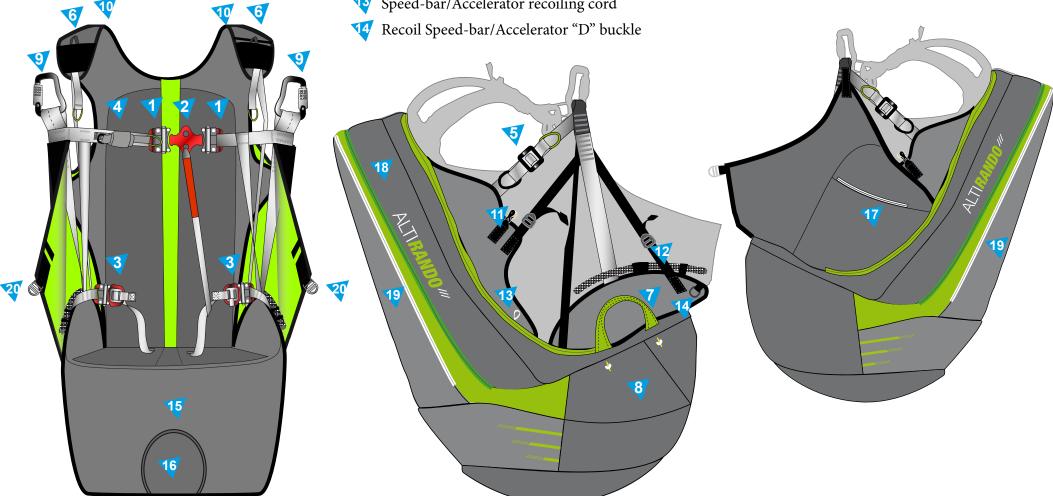
Radio and small storage pocket

Back storage pocket

Volume adjustment zipping panel

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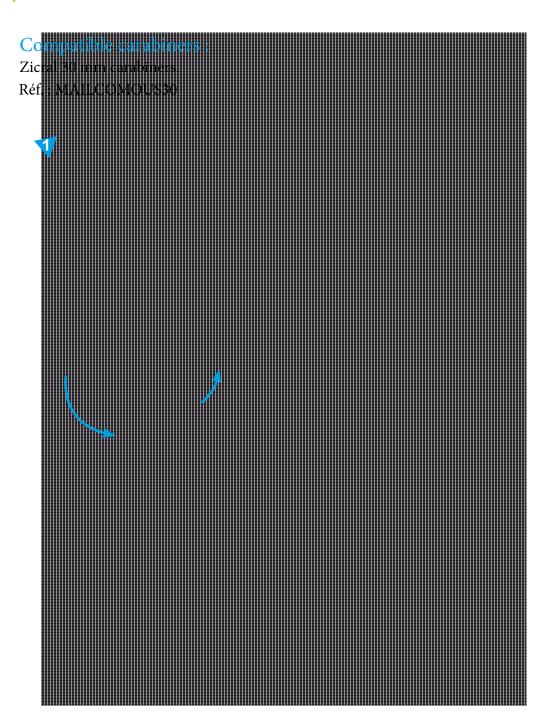
Foot-rest buckle

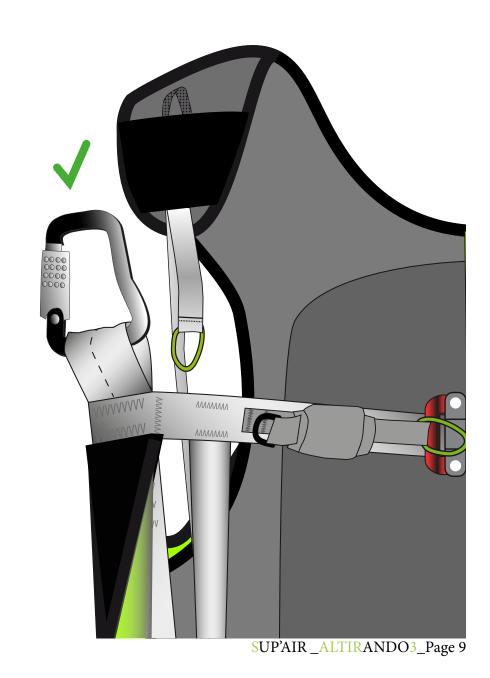






Accessories assembly Carabiners









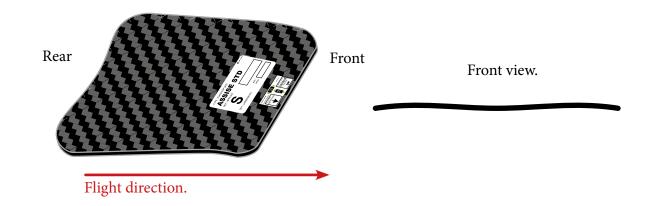
Accessories assembly

2. carbon fiber seatplate

Seat plate description.

Carbon fiber seat-plate

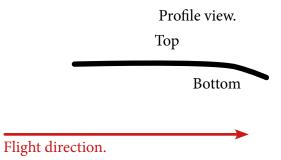
Size S Réf. : MPPL005 Size M Réf. : MPPL006 Size L Réf. : MPPL007 Size XL Réf. : MPPL008



Installing the seat plate.

- 1. Face the harness. Grab the upper layer end of the seating area and pull it toward you. Reach inside the seat-plate pocket and pull the leg straps rearward to give enough room to insert and sandwich the seat plate between them.
- 2. Sandwich the seat-plate between the leg straps and push it, leading edge first, all the way inside the seat-plate pocket.

Bring the leg straps back to their default length by pulling them forward toward the front of the seat.







Accessories assembly

3. Speed-bar system

Compatible speed-bar/accelerator:

STANDARD double stage speed-bar/accelerator.

Ref.: ACCELSOUPLE

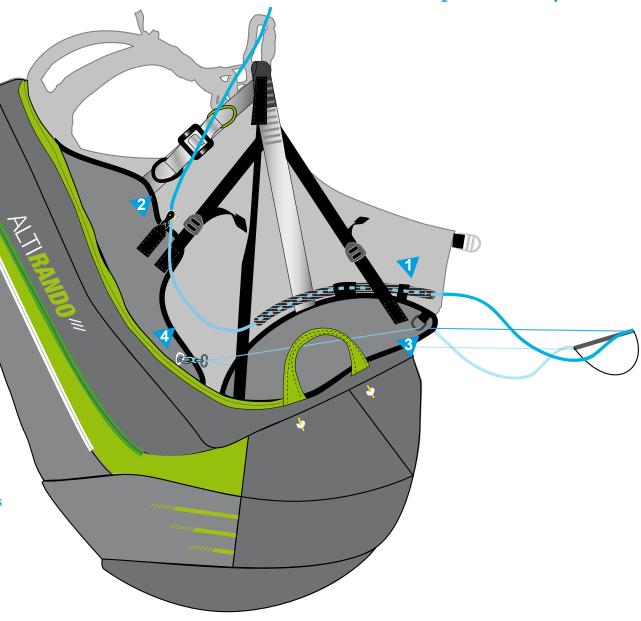
Speedbar assembly:

Regarding either side of the harness:

- 1. Push the speed-bar/Accelerator line through the tube located at the front side of the harness
- 2. Push the speed-bar/Accelerator's cord through the pulley located on the lateral panel.
- 3. Push the elasticated cord through the plastic "D" shaped buckle and connect the plastic clip to the elasticated cord.
- 4. Finally, attach a hook to the cord before connecting it to the glider's speed-bar/accelerator.
- 5. Simulate the speed-bar/accelerator's functionality by sliding the cord back and forth.



There are two Velcros® to keep the speed-bar/accelerators without elastic cord in place.



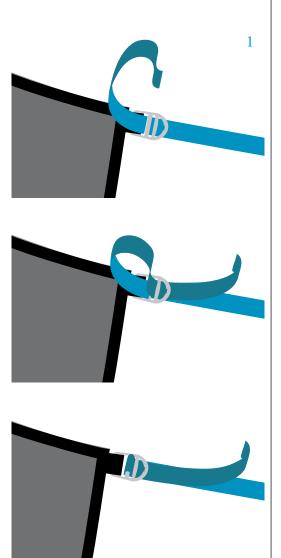




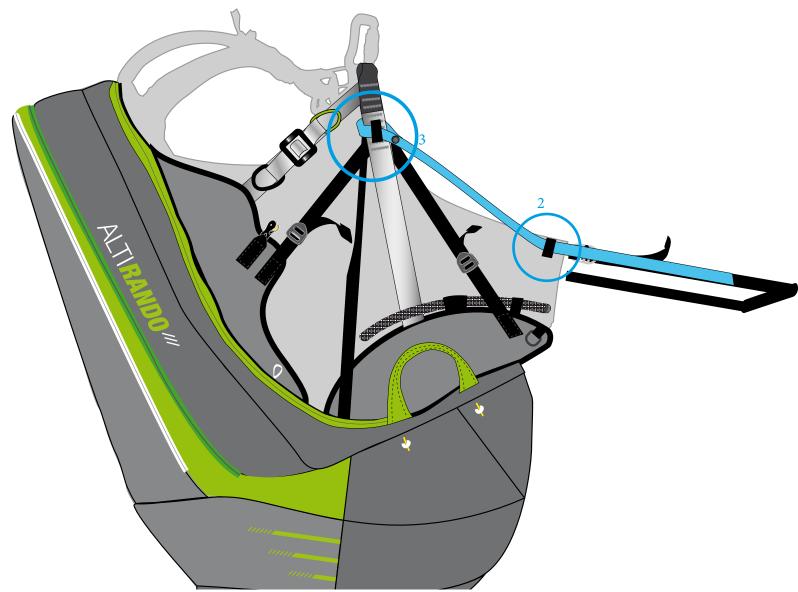
Accessories assembly

>> 4. Foot-rest (option)

1. Push the foot-rest strap through buckle located at the front of the harness's side skirt.



- 2. Push the elastic under the guide.
- 3. Wrap and connect the elastic around the main strap while pushing it through buckle.
- 4. Adjust the foot-rest length during a hang-test and stow away the straps excess in the elasticated holder.





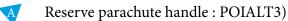




Thank you for reading the following carefully! We recommend for the initial rescue parachute assembly and installation to be made by a qualified professional.

Reserve parachute folding and installation inside the harness must conform to the specific guidelines found in this manual.

Necessary equipment needed to install the reserve parachute.



Reserve parachute inside its deployment bag and folded according the manufacturer's specifications

Parachute rigging lines

Single reserve parachute handle

E « Y » or separated riser set

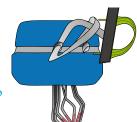
Toric rings

One 7mm rectangular Maillon Rapide® + two 6mm if you have a « Y » riser setup

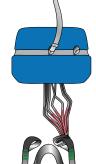


1. Fasten the handle strap to the POD's middle loop by making a loop to loop (Lark's head) knot.

If you have a large reserve parachute, and feel a slight resistance during the pod extraction hang-test, connect the reserve parachute handle to the side loop instead.



2. Tighten the handle/POD connection securely.

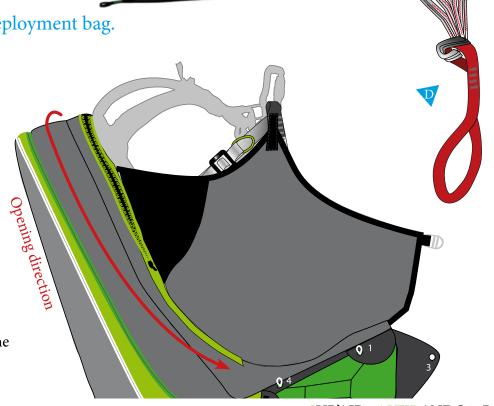


Riser/Harness connection:

>> Access to the reserve parachute connection points.

First, open the riser guiding sleeve all the way from top to bottom to access the reserve parachute connection loops.

Once the riser guiding sleeve is fully opened, the zipper tab must be located on the same side of the reserve parachute pocket.





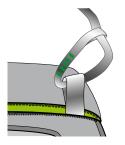


Reserve parachute/harness connection.

The reserve parachute riser installation will vary with the risers type you use.

ALTIRANDO3 riser connection with individual separated risers.

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





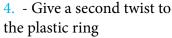
- 2. Assemble everything correctly.
- Make sure for the risers not to be longer than one another.
- Tighten each connection securely.



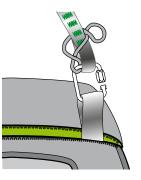
Loop to loop connection (Lark's knot) of the ALTIRANDO3 harness using square steel links 6mm (Maillon Rapide®) for a separate or "Y" riser setup.

- 1. Two maillon Rapide® 6mm and two toric flexible rings are needed
- 2. Open the 7mm square Maillon Rapide®
- Connect the bridle's loop to the Maillon Rapide®
- Push the maillon through the plastic ring
- Twist

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

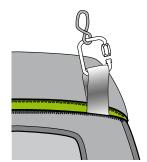


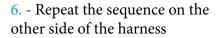
- Push the buckle through the maillon



- 5. Tidy up the assembly
- Be certain for the riser end loops to be securely fastened
- Close the Maillon Rapides® by hand first
- Tighten it using pliers by making a clockwise 1/4 turn











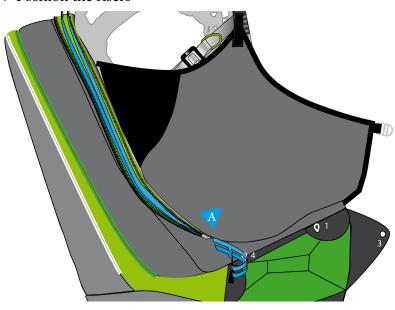




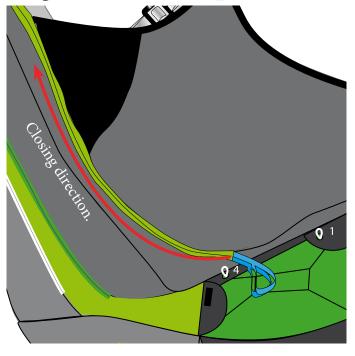


Reserve parachute/harness connection. :

>> Position the risers



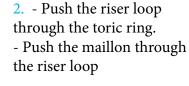
- Place the risers inside their guiding/protective sleeve connected alongside the harness.
- Push then Ahrough and under the zipper tab.
- Bring them out through the reserve parachute container.
- Close the Zip to the tab above the left shoulder.



Reserve parachute/risers.:

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

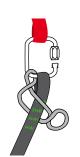
- 1. Open the 7mm square Maillon Rapide®
- Push the maillon through the risers loops
- Push the maillon through the plastic ring
- Twist



- plastic ring.
- maillon.
- 3. Give a second twist to the 4. If you use separate/independente risers: Repeat steps - Push the buckle through the 1 through 3 with the second riser.
- 5. Tidy up the assembly.
- Be certain for the riser end loops to be securely fastened.
- Close the Maillon Rapide® tightly by hand.
- Tighten using pliers and making a ¼ turn.









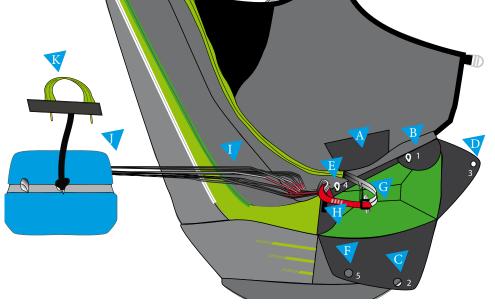






Rescue parachute pocket characteristics:

- One (big) flap dorsal pocket
- Locking via cables
- Handle «ALT3» (Ref.: ALT3)
- 3 7,5 liters



- M Upper flap
- **B** Cord (1)
- Grommet (2)
- Grommet (3)
- Cord (4)
- Grommet (5)
- **G** Reserve parachute risers.
- Reserve parachute single riser.
- Reserve parachute surplus lines (about 1 meter).
- Reserve parachute folded in its POD.
- Reserve parachute handle.

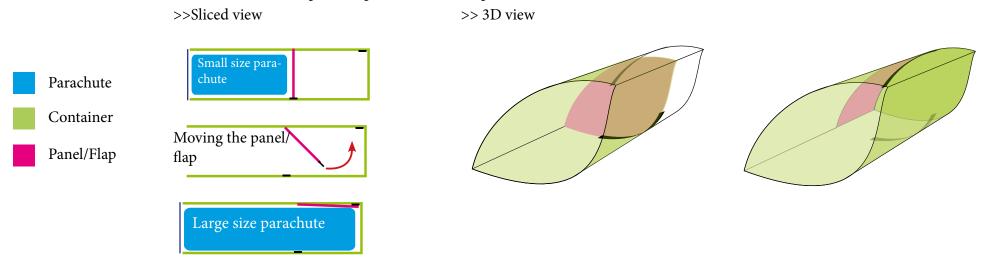


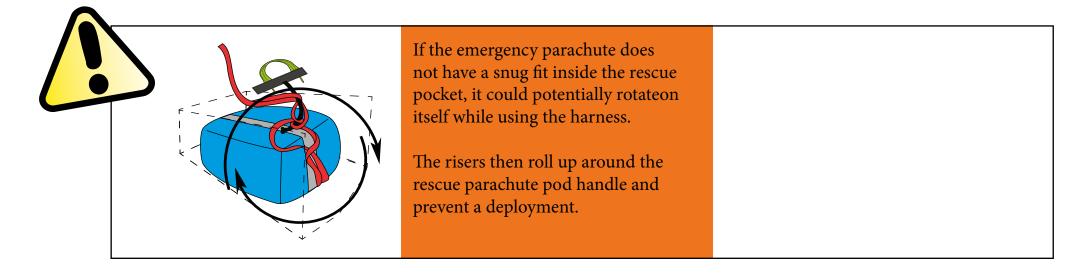


Adjusting the reserve parachute pocket:

A panel/flap (red on the illustration), is located on the inside of the reserve parachute container (green on the illustration), to adapt its volume to your reserve parachute size.

The Velcro® (black on the illustration) enables the panel/flap to be secured in place.



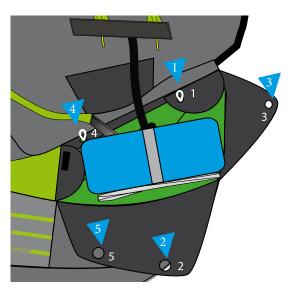


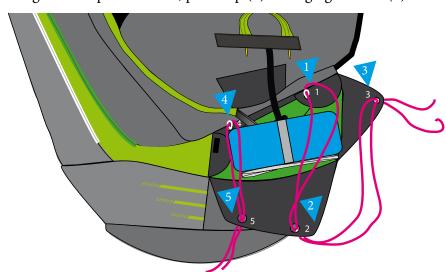




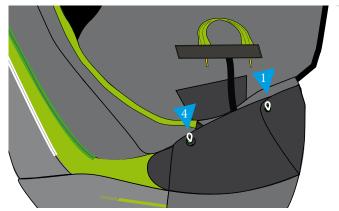
Installing the reserve parachute in its container.

- 1. Place the reserve parachute inside the container, with the handle positioned upward, and parachute risers downward.
- 2. Take a small piece of line to help with the installation procedure.
- Push it through loop #1.
- Using a piece of cord, pull loop (1) through grommet (2) and then (3).
- Using another piece of cord, pull loop (4) through grommet (5).

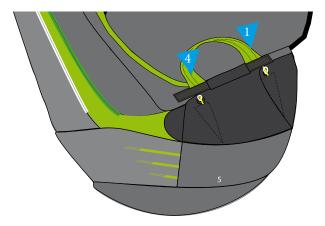




- 3. Secure the installation by pushing the right side of the yellow cable through the loop cord #1
- Secure the installation by pushing the left side of the yellow cable through the loop cord #4
- Carefully remove the line.



4. - Fasten the reserve parachute handle to the Velcro*
- Push and secure the two ends of the reserve parachute handle inside the Lycra* openings located beneath the grommets.





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.

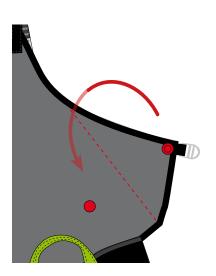


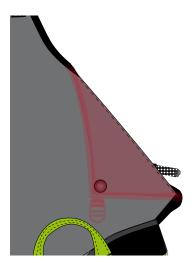


Gear packing and tips

>> Fold the foot-rest fastener

When flying without a foot-rest, fold the fastening side panel inward, and keep it in place with the snap button located on the inner side of the skirt.







Waist strap pockets





Adjusting the harness



Adjusting the harness prior each takeoff is vital.

>> The various adjustments



Adjusting the chest strap

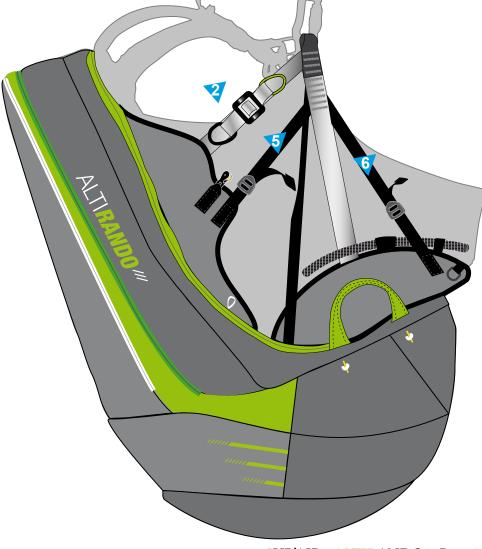
Adjusting the backrest

Adjusting the shoulder straps

4 Adjusting the leg straps

Seat depth adjustment

Seat-plate tilt adjustment



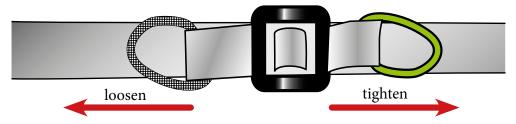




Harness adjustments

>> 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).

loosen

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.

tighten





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.

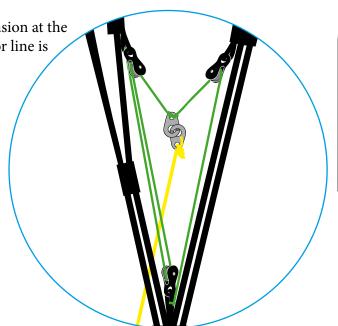
Install the speedbar/accelerator by following the previous instructions.

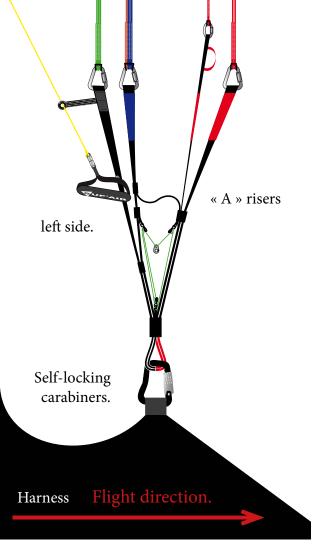
Connect it to the wing using the split hooks.

Once the speedbar/accelerator 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 speedbar/accelerator line is fully relaxed.









Flight behavior



The transition from running to seating is made easy after takeoff due the centered geometry of the harness.

Once airborne, weigh-shifting piloting becomes efficient, intuitive and comfortable while remaining simple to adapt to in all circumstances.

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 have not changed.
- Check that all zippers and buckles are closed.
- Check that the speedbar/accelerator is correctly connected and adusted.
- Check that no rigging line or other object comes in contact and interferes 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 to grab the second bar.

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.



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 ALTIRANDO3 were specifically selected for their quality and resilient 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!



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



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

- Zicral 30 mm carabiners. (réf. : MAILCOMOUS30)
- Carbon seat plate
- « ALT3 » Reserve parachute handle (POIALT3)

Materials

Fabrics

Polyamide 210D RIPSTOP

Straps

Polyester 25mm and 28mm (1250 daN)

Polyamide 15 mm, 20 mm, 25mm et 40mm

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 ALTIRANDO3 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

SUPAIR 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 damage.

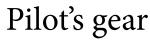
Disclaimer



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.





It is essential for you to wear a suitable head protection (certified paragliding helmet), adequate footwear and the 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 ALTIRANDO3 scheduled maintenance.

Purchase date	☐ Care	☐ Care
Owner's name	Resale	Resale
Name and stamp of the shop	Purchase date	Purchase date
	Workshop's name/ Buyer's name	Workshop's name/ Buyer's name
	☐ Care ☐ Resale	☐ Care ☐ Resale
	Purchase date	Purchase date
	Workshop's name/ Buyer's name	Workshop's name/ Buyer's name

