



 **SUPAIR**

Skyp^ypper

User's manual

**SUPAIR-VLD
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FRANCE**

45°54.024'N / 06°04.725' E

Revision Indice 20130416 EN



Thank you for your choice of a SKYPPER. We are proud to join you on your journey in our common passion : paragliding.

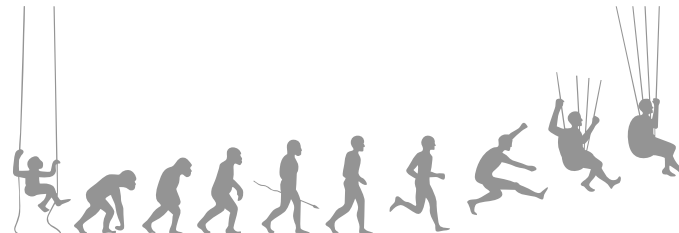
SUPAIR has been designing, producing and selling accessories for free flying activities since 1984. By choosing a SUPAIR product you benefit from almost thirty years of expertise, innovation and listening. This is also our philosophy : working endlessly to develop better products and to maintain a high quality production in Europe.

We trust that you will find this user's manual comprehensive, explicit and hopefully pleasant to read. We advise you to read it carefully !

On our website www.supair.com, you will find the last up to date information about this product. If you have any further questions, feel free to ask one of our retailers. And of course, the entire SUPAIR team are at your disposal through info@supair.com

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

The SUPAIR team



Introduction	4	Take-off	21
Technical sheet	5	Entrering the Speedbag	22
Technical specifications	5	In flight	23
Size choice	6	Speedbar use	23
Nomenclature	7	Landing	24
Harness overview	8	Throwing the reserve parachute	24
Storage and attachments	9	Complements/Accessories	25
BUMPAIR assembly	10	Wash and care of your harness	26
Cockpit assembly	11	Storage and transport	26
Rescue parachute pocket characteristics	12	Lifetime	26
Connecting the handle to the rescue parachute's deployment bag.	12	Care	26
Rescue parachute assembly	12	Repair	27
Placing the parachute in the rescue parachute pocket	13	Materials	27
Connecting the rescue parachute : Y risers	14	Recycling	27
Connecting the rescue parachute risers : standard risers	15	Warranty	28
Speedbar assembly	16	Disclaimer	28
Position setting	17	Pilot's gear	28
Speedbag angle setting	18	Service Book	29
Leaning angle setting	18		
Shoulders' straps adjustment	18		
Flight behavior	19		
Pre-Flight control	20		

Pictures credits : joël FAVRE, SUPAIR



Welcome to the world of the SKYPPER, a world of performance, comfort and precision. You have in your hands a complete yet light harness that will take you to longer and higher flights. Well fitted in your seat, you will be able to follow all the movements of your glider with an outstanding precision and for your biggest delight. With the SKYPPER (re)discover the pleasure to sail the sky.

After reading this manual, we suggest you check your harness by hanging in it before flying.

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



Advice



Caution !

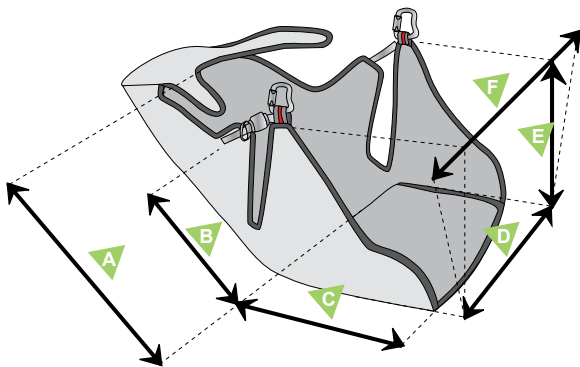


Danger !!



Technical sheet

- Back height (cm)
- Leaning setting height (cm)
- Seat length (cm)
- Seat width (cm)
- Carabiners height (cm)
- Carabiners distance (cm)
- Speedbag length (cm)



Model	SKYPPER S	SKYPPER M	SKYPPER L	SKYPPER XL
Pilot size (cm)	145-170	160-190	170-195	185-205
Pilot's weight (kg)	50-60	50-75	55-90	85-110
Harness weight (all included,kg)	5.345	5.445	5.545	5.645
Designed for	Paragliding only			
Back height (cm)	59	60	62	65
Leaning setting height (cm)	30	30	30	35
Seat length (cm)	45	45	46	46
Seat width (cm)	35	35	36	36
Carabiners height (cm)	45			
Carabiners distance (cm)	36-46			
Speedbag length (cm)	95	101	109	111
Impact damping system : Airbag (Volume)	No			
Impact damping system : Bumpair (Thickness)	Yes - 15 cm			
Homologation	EN 1651 - LTF			
Flight : tandem (Pilot- Passenger)	No-No			
Flight : acrobatic flying	No			
Take-off : Winching	Yes			
Quick-out carabiners compatibility	Yes			

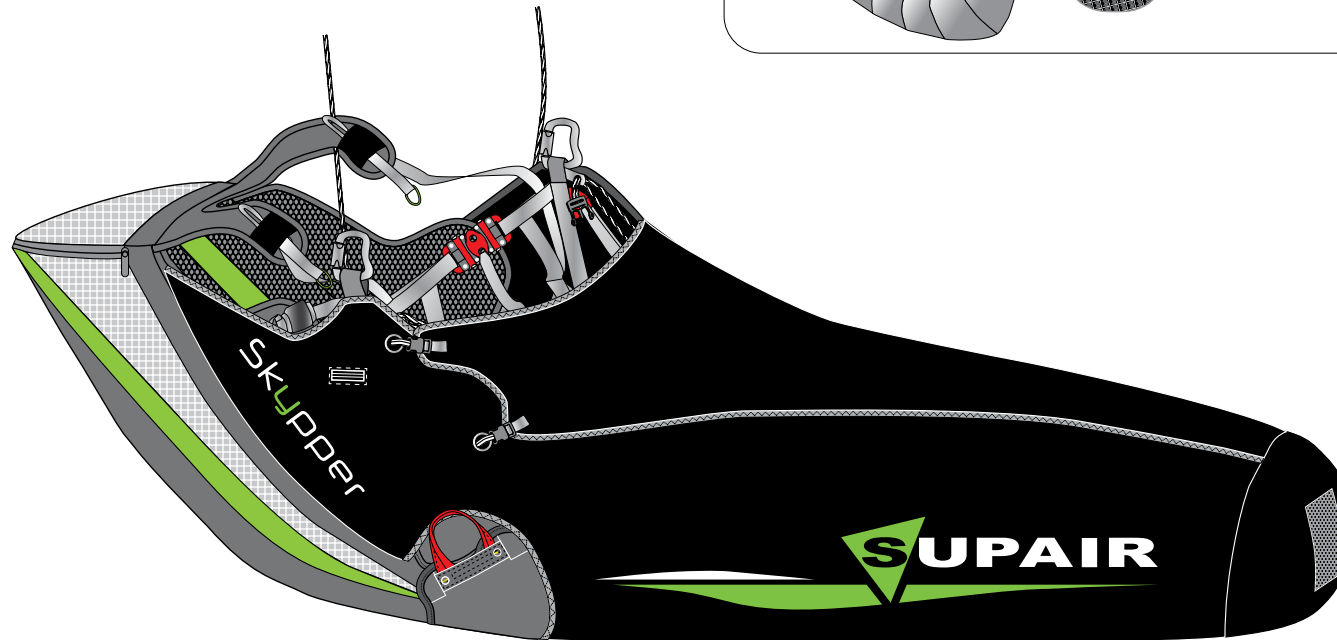
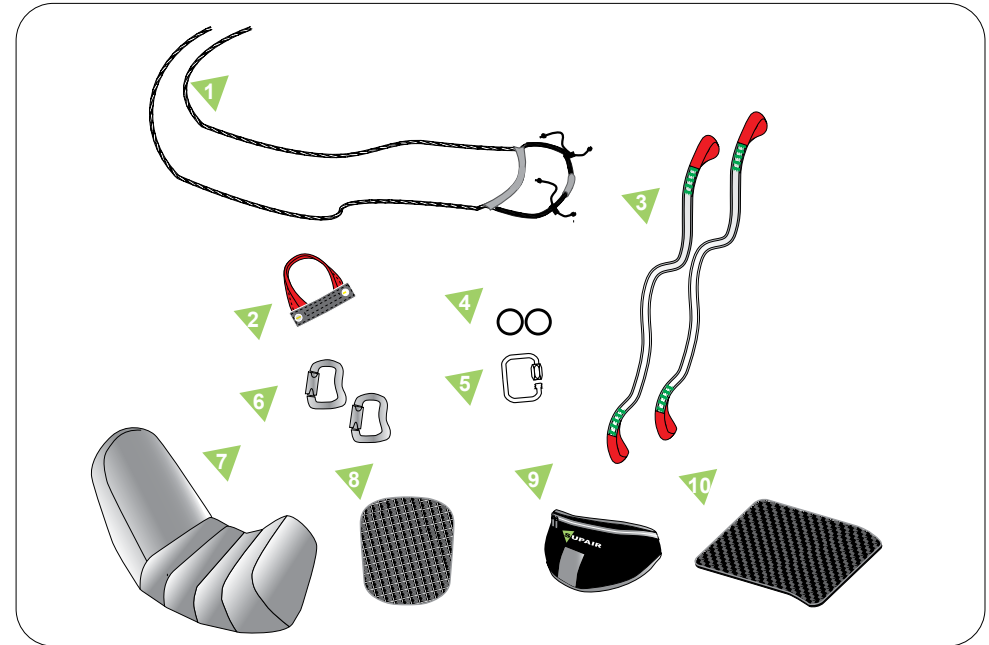
Choosing your harness' size is important. You will find here below a height/weight table that will help you in your size choice. Nonetheless we advise you to try out the harness under a hanging device and in different sizes at one of our retailers in order to choose the correct size.

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

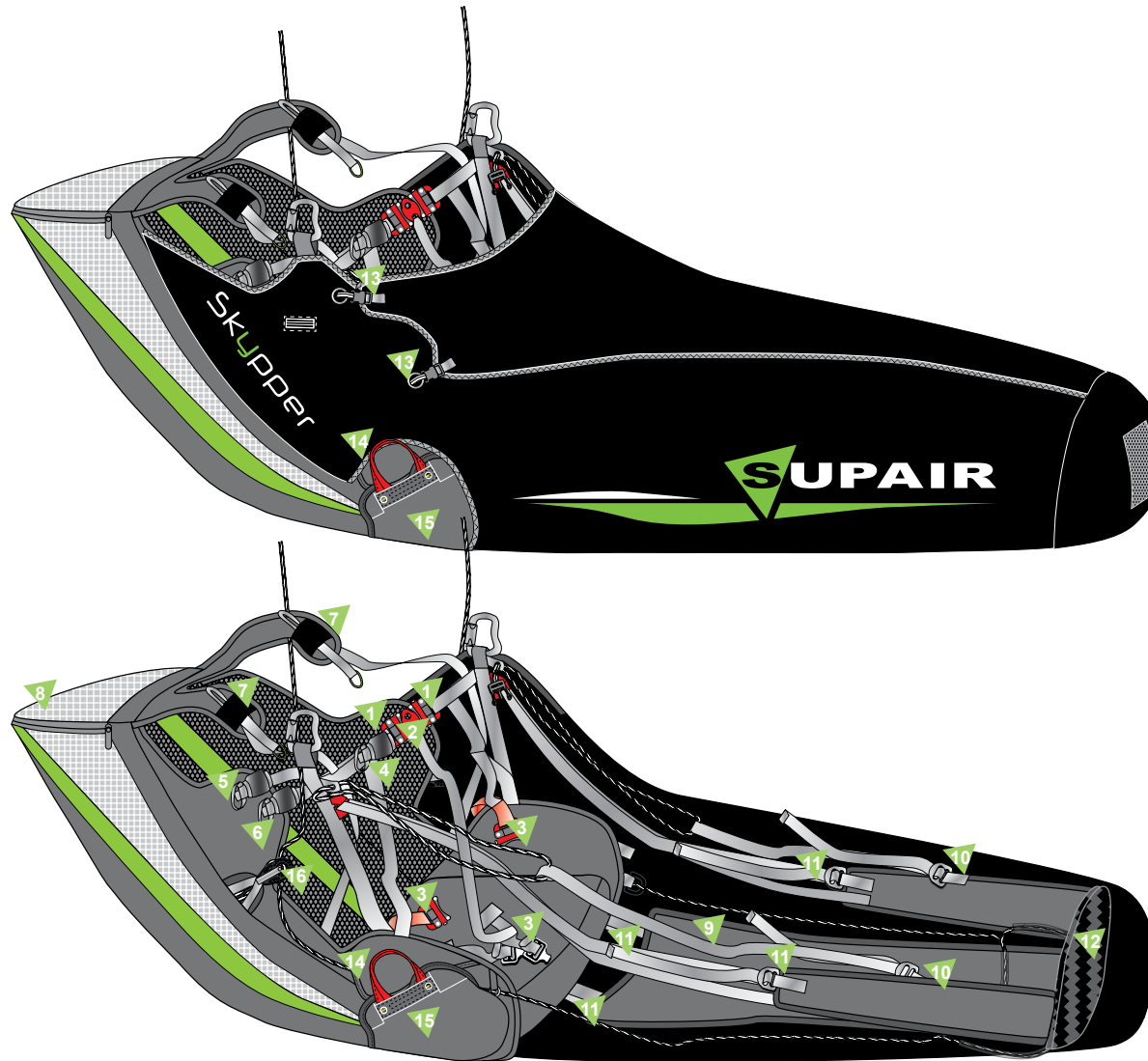
Size Weight	1m45	1m50	1m55	1m60	1m65	1m70	1m75	1m80	1m85	1m90	1m95	2m	2m05
50	XS	XS	XS/S	S	S	S							
55	XS	XS	S	S	S	S	S/M						
60	XS/S	XS/S	S	S	S	S/M	S/M	M					
65			S	S	S/M	S/M	M	M	M/L				
70			S	S/M	M	M	M	M	L				
75				S/M	M	M	M	M	L	L			
80					M	M	M	M/L	L	L	L		
85						M	M/L	L	L	L	L/XL		
90						M/L	M/L	L	L	L/XL	S	S	S
95							L	L	L/XL	S	S	S	S
100									L/XL	S	S	S	S
105										S	S	S	S
110										S	S	S	S

-  XS
-  XS/S
-  S
-  S/M
-  M
-  M/L
-  L
-  L/ XL
-  XL

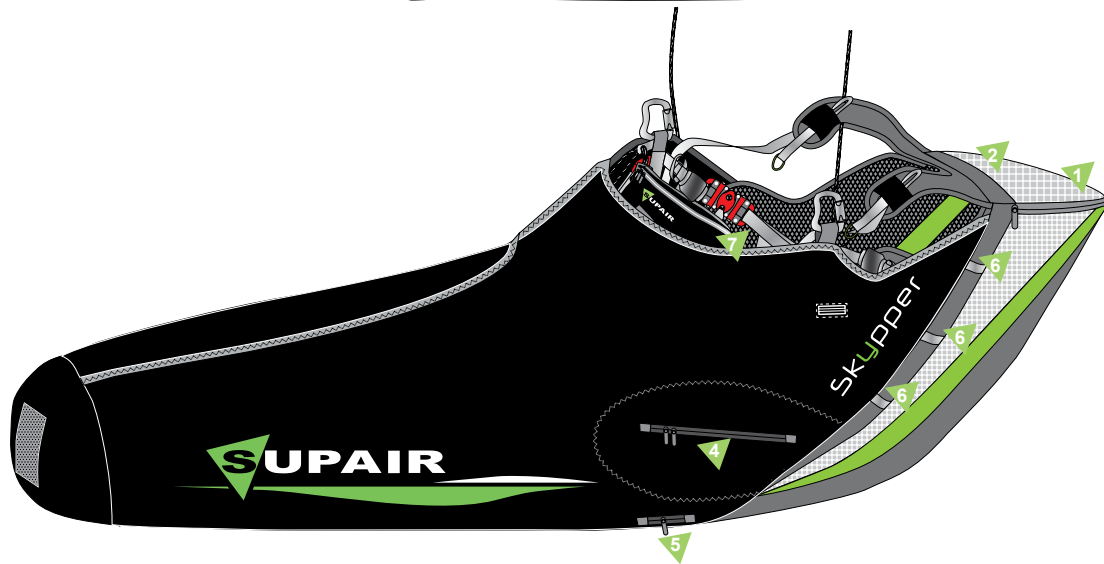
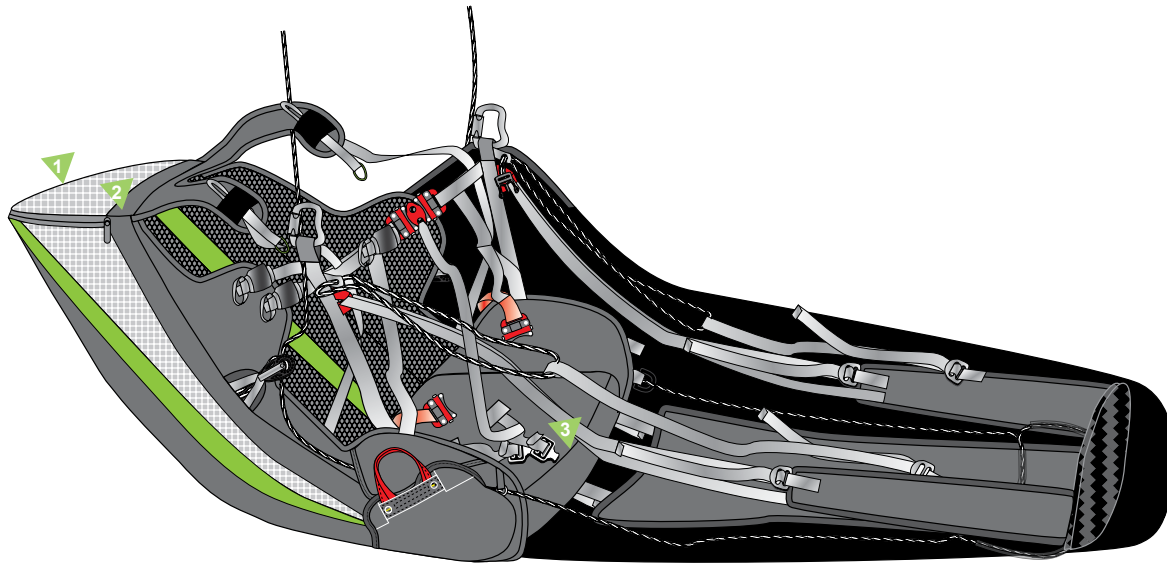
- | | | | |
|---|--------------------------------|----|-----------------------------|
| 1 | Speedbar | 6 | Zicral 30 mm carabiners(x2) |
| 2 | Rescue parachute handle | 7 | Bumpair 15 cm |
| 3 | Rescue parachute risers | 8 | Footrest Unique size |
| 4 | O rings (x 2) | 9 | Cockpit |
| 5 | Maillon Rapide® Inox 7 mm(x 1) | 10 | seat plate |



This illustration will help you during your reading.



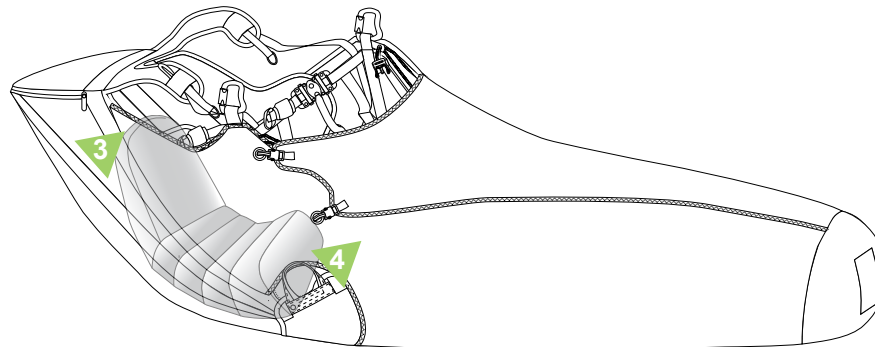
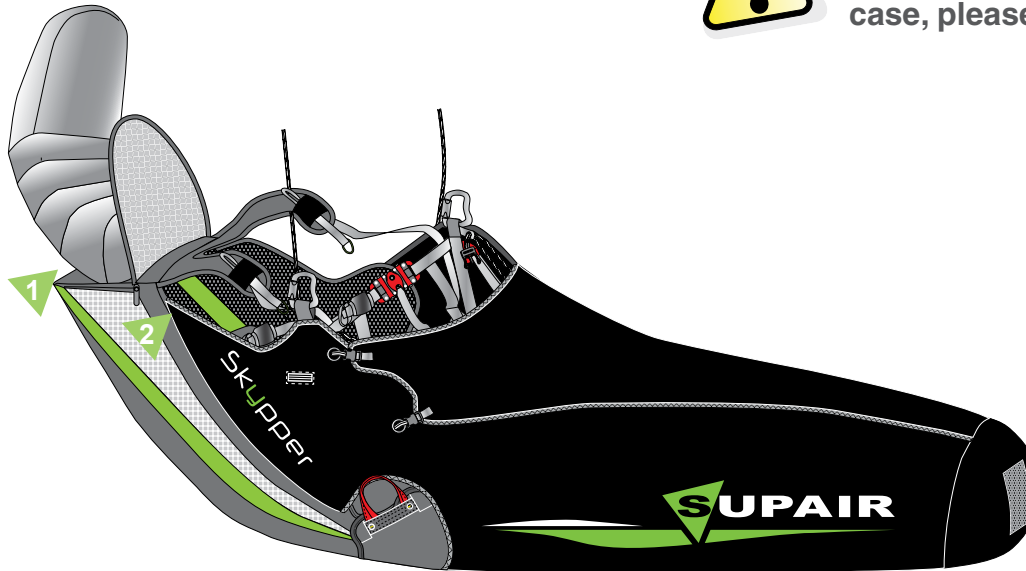
- 1 Automatic ventral buckle
- 2 Safe-T-bar (Sup'Air patent A1-1832/981)
- 3 Automatic thigh strap buckle
- 4 Ventral width adjustment
- 5 Leaning setting
- 6 lumbar support
- 7 Shoulders' straps adjustment
- 8 back pocket
- 9 feet glide part
- 10 Speedbag leaning adjustment
- 11 Speedbag length setting
- 12 Footrest
- 13 Speedbag closing buckles
- 14 Rescue parachute handle
- 15 rescue parachute pocket
- 16 Harken® Pulleys



- 1 back pocket
- 2 Internal pocket for water bladder
- 3 Internal pocket for ballast (8 litres)
- 4 Lateral storage pocket
- 5 Ballast outlet
- 6 Elastic webbings for microphone holding
- 7 Cockpit



The BUMPAIR has to be placed only once, there is no need to remove it from its location except in the case of a hard impact. In this case, please verify its integrity.



- 1 open the zipped dorsal pocket
- 2 open the internal zip (U shape)

Push the BUMPAIR forward and control the following points :

- 3 The top of the BUMPAIR must be placed inside the red « hood ».
- 4 The bottom of the BUMPAIR must be placed inside the red « hood ».

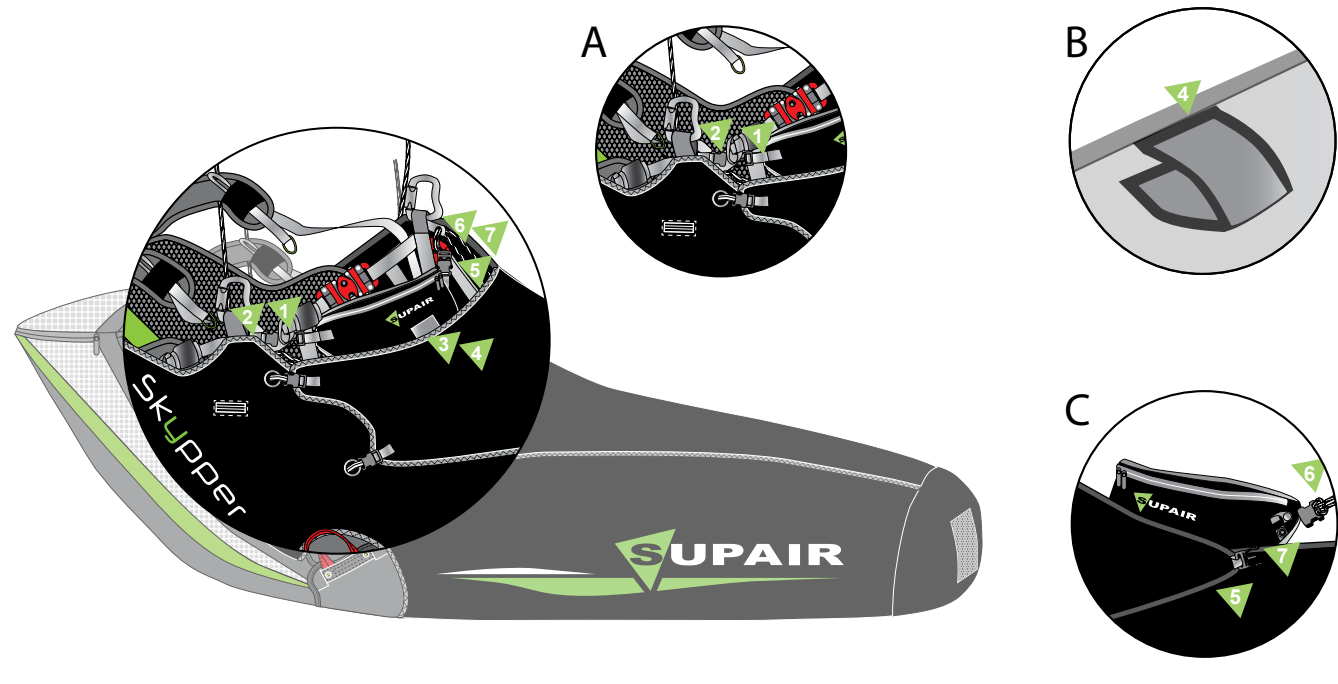
The cockpit has to be assembled on the left side of the harness and the Speedbag. By seating in your harness, the cockpit will find its natural position, thus providing an optimal visibility of your instruments. Easily removable, it is fitted with a velcro instruments-holding plate you can remove for briefings.

A- Connect the female buckle (1) to the male buckle (2).

B- Connect the cockpit's velcro patches (3) to the Speedbag's velcro patches (4).

C - Pass the male buckle on Speedbag (5) through the the strap loop with snap fasteners (7) and connect it to the female buckle (6) of the harness.

- 1 Female buckle
- 2 Male buckle
- 3 Cockpit
- 4 Velcro fastening Cockpit
- 5 Velcro fastening on Speedbag
- 6 Harness
- 7 Male buckle on Speedbag- Harness
- 8 Female buckle on braided rope
- 9 Harness
- 10 Strap with snap fasteners
- 11 Cockpit



Rescue parachute pocket characteristics

- 2 flaps lateral pocket (+2 inside compression flaps)
- Cable locking.
- Handle on the right-hand side.
- Volume : 3 to 8 litres.
- Compatible with the SUPAIR light and X-tralite rescue parachutes and other solo rescue parachutes.

A SKYPPER rescue parachute handle (S2)

B Parachute folded according to manufacturers specification and in deployment bag.

Connecting the handle to the rescue parachute's deployment bag.



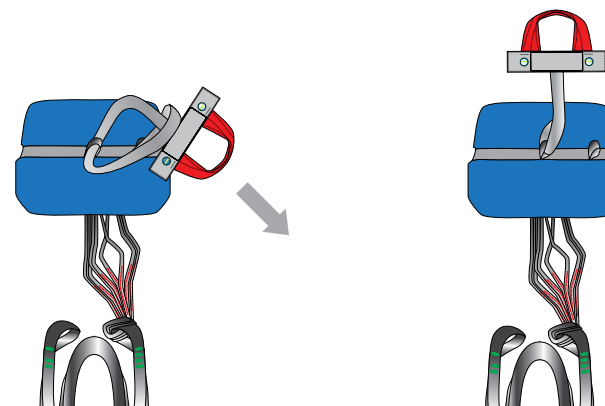
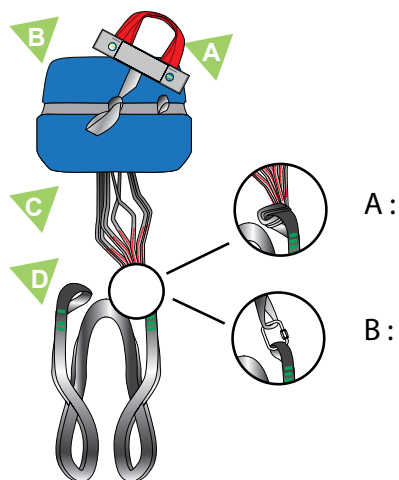
Thanks for reading carefully ! We recommend the initial rescue parachute assembly and installation is made by a qualified person.

C Parachute rigging lines

D Parachute risers

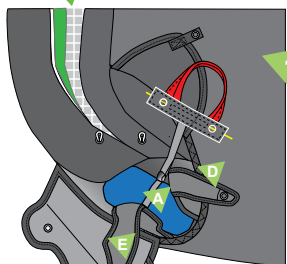
A : Y-Risers : make a lark's head and connect the risers to the harness using Maillon Rapide ® Inox 6 or 7 mm (x2) see page 14.

B: Standard Risers : use one Maillon Rapide ® Inox 7 mm. see page 15.

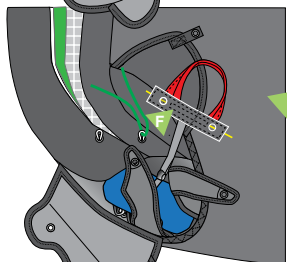


1. Place the handle inside the middle webbing loop and make a lark's head knot with the handle.

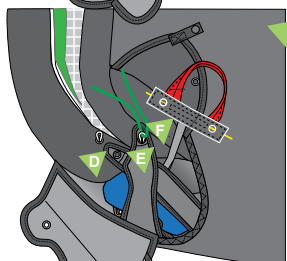
2. Fasten tightly the lark's head knot and verify the solidity of the link.



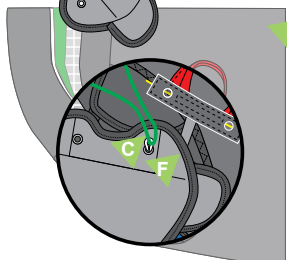
1 Put the rescue parachute inside the harness' pocket. Place the stretch flaps D and E outside. The rescue handle must be placed upwards. Place the parachute risers inside the sheath (the risers should be placed under the parachute).



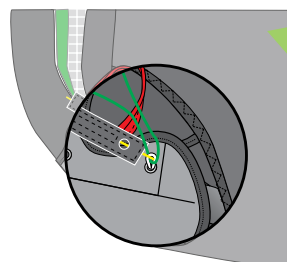
2 Pass a braided rope through the upper elastic cord.



3 With the braided rope, pass the elastic cord F through the under stretch flap E grommet. Pass the stretch upper flap D under the under stretch flap E.



4 Still with the braided rope, pass the upper elastic cord F inside the under flap C grommet. Pull away gently the braided rope in order to prevent any damage on the elastic cord.

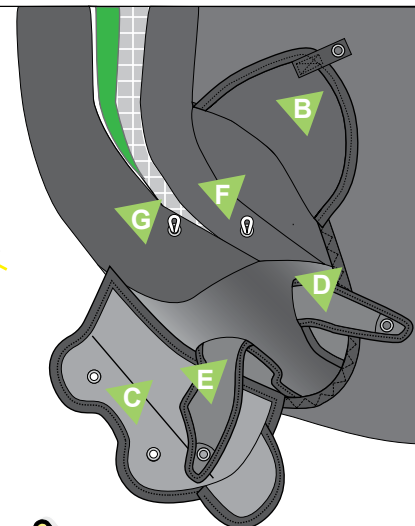
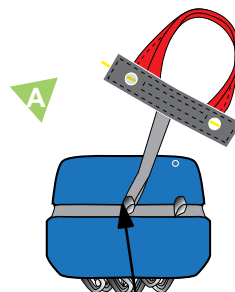


5 With the braided rope, pass the right tip of the cable inside the elastic cord.



Thanks for reading carefully ! We recommend the initial rescue parachute installation is made by a qualified person.

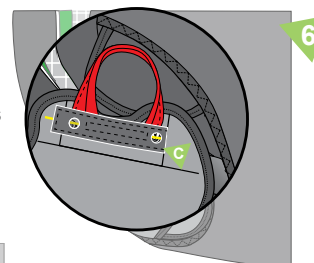
- A** Parachute folded according to state of the art technique, in its pod and connected to the handle
- B** Upper flap
- C** Under flap
- D** Upper stretch flap
- E** Under stretch flap
- F** Upper elastic cord
- G** Under elastic cord



the handle must be connected on central loop of the pod.

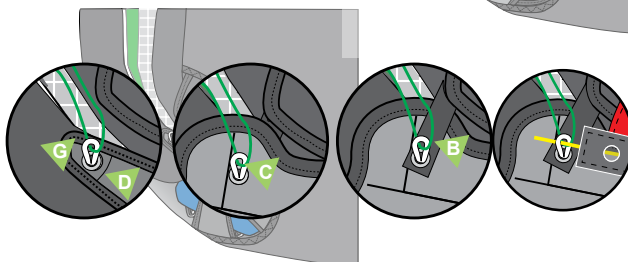


When the assembly is complete, perform a test pull of the handle to ensure the compatibility and the correct deployment of the rescue (pod + handle). Then reassemble as previously done.



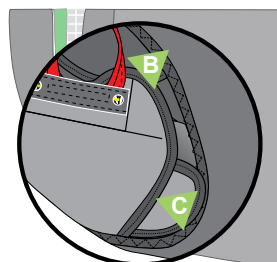
6

6 Hide the right tip of the handle in the specially designed housing on the under flap C.



7

7 Pass the braided rope through the under elastic cord G and then pass successively the elastic cord through : the stretch upper flap D grommet the under flap C left grommet the upper flap B grommet. Pass then the left tip of the cable inside the elastic cord.



8

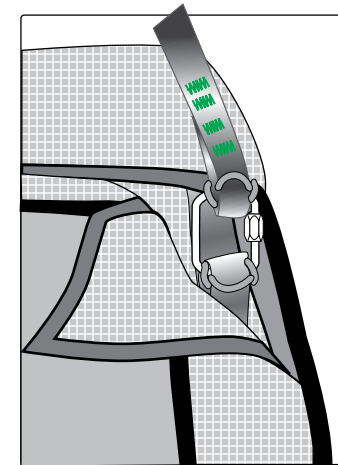
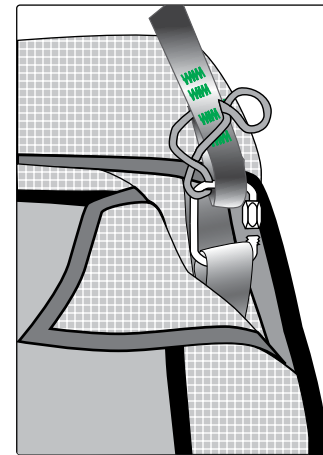
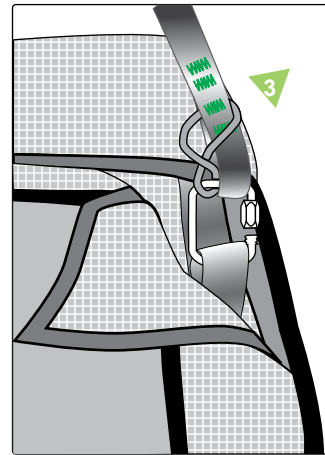
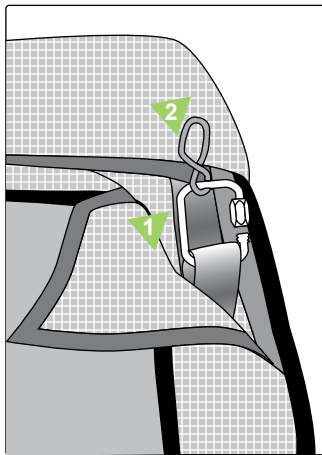
8 Hide the handle left tip in the specially designed housing on the under flap C. Then hide the under flap C right tip under the Speedbag. Finally hide the under flap upper tip under the upper flap B.

1. Place the Maillon Rapide® (locking nut upwards and on exterior side) inside the webbing loop. Place the O-ring inside the Maillon and twist it.

2. Pass the riser inside the free loop and inside the Maillon Rapide®.

3. Make a new twisted loop with the ring and pass it inside the Maillon Rapide®.

4. Repeat steps #1, #2 and #3 with another O-ring for the connexion to harness. Tighten the Maillon Rapide® locking nut correctly, with a spanner if needed.

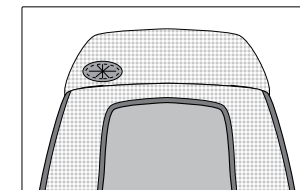
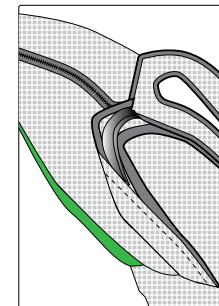
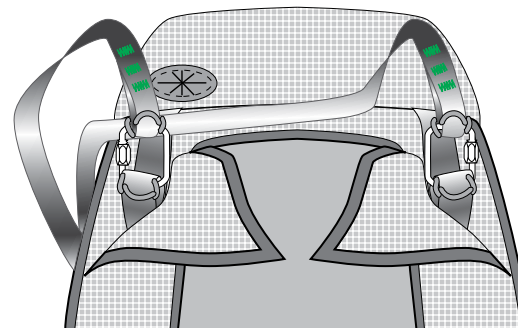


5. Neatly stow any surplus risers under the flaps.

1 Maillon Rapide® Inox 6mm (x2)

2 O-Rings (x2)

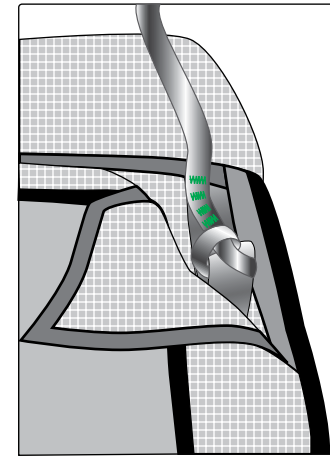
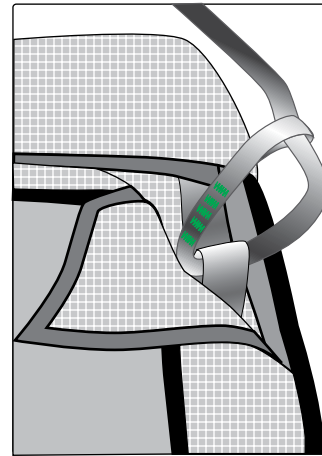
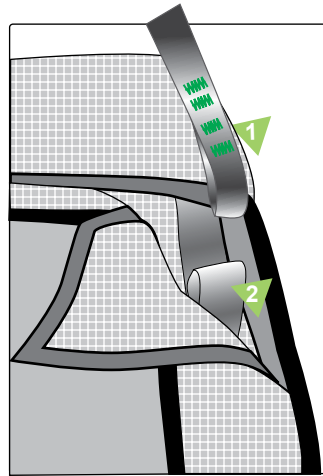
3 Parachute risers



Your SKYPPER is fitted with light standard parachute risers

1. Make a lark's head between the risers and the webbing loop for rescue attachment.

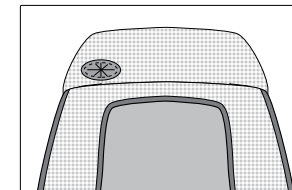
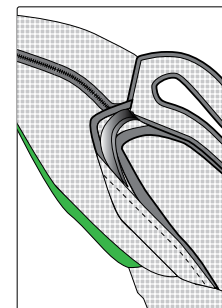
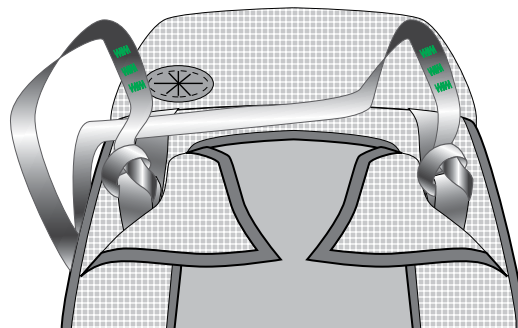
2. Fasten the lark's head neatly



3. Neatly stow any surplus risers under the flaps.

1 Rescue parachute standard risers

2 Webbing loop for rescue risers attachment



A light speedbar is provided with harness. The following illustration shows how to install it.

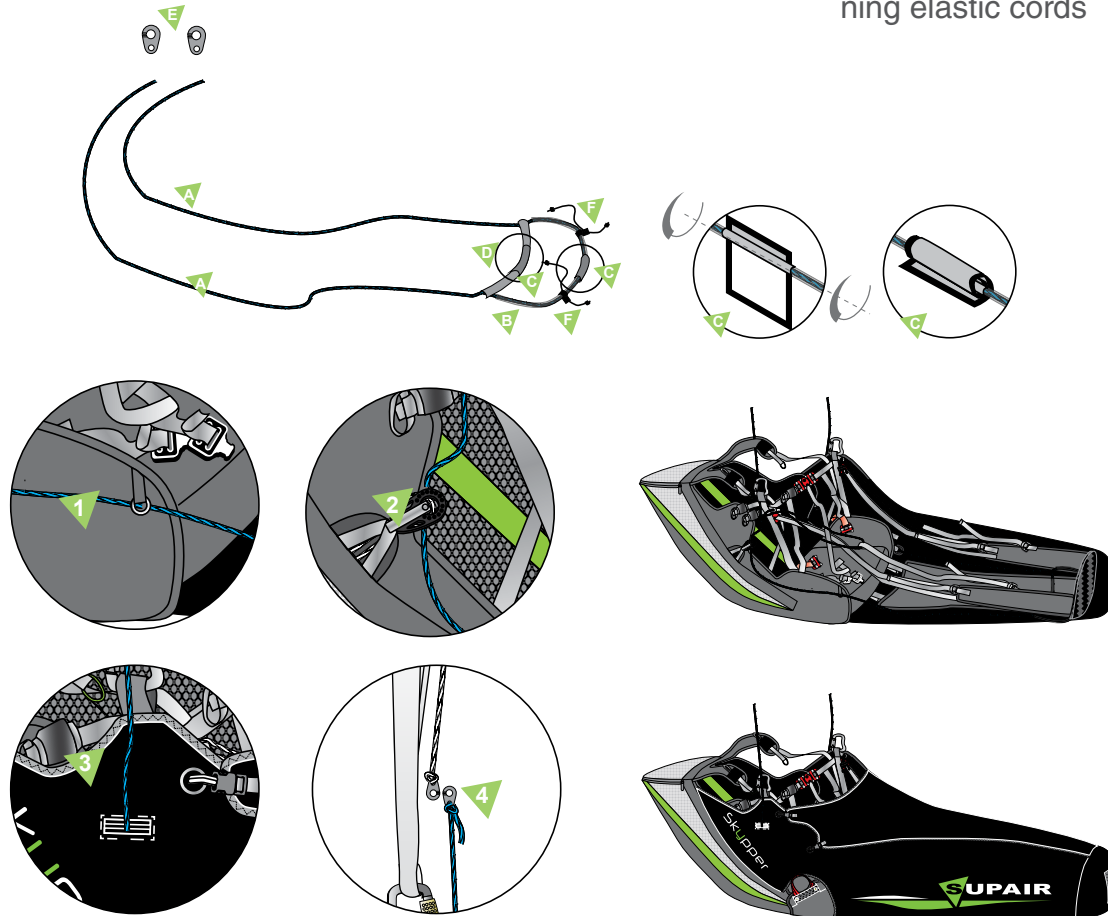
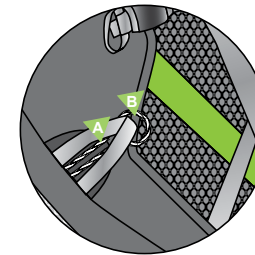
Composition

- A** Braided ropes
- B** First bar
- C** Centering spacer
- D** Second bar
- E** Speedbar hook
- F** Speedbar positioning elastic cords



Pulleys change

- A** Webbing for ratchet pulley (non provided)
- B** Snapper for Harken bearing pulleys (provided)



1 Pass the speedbar braided rope inside the metallic ring.

2 Pass the speedbar braided rope inside the pulley.

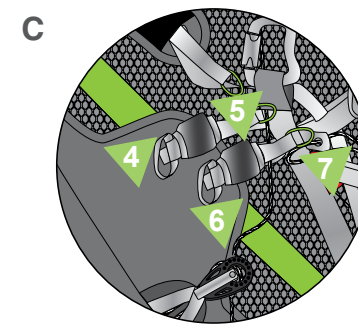
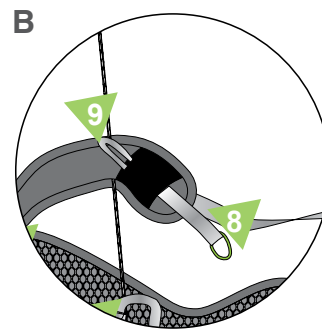
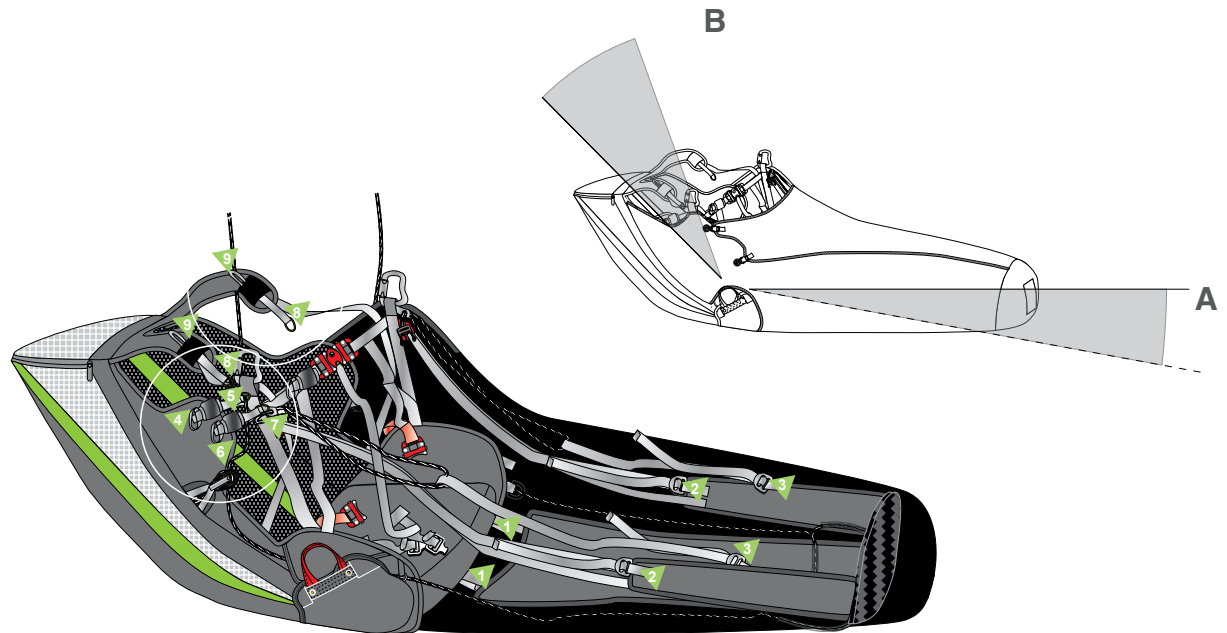
3 Pull out the braided rope outside the Speedbag.

4 Pass the braided rope inside the speed bar hook then tighten the hooks to the risers' accelerator loops. Adjust the length before making a bowline knot.



Setting your position inside the harness before taking-off is extremely important.

- 1 Under seating buckle for Speedbag setting
- 2 Lateral buckles for Speedbag setting
- 3 Lateral buckles for Speedbag tension setting
- 4 Loosening strap (leaning setting)
- 5 Tightening snapper (leaning setting)
- 6 Loosening strap (lumbar adjustment)
- 7 Tightening snapper (lumbar adjustment)
- 8 Tightening snapper (shoulder strap)
- 9 Loosening strap (shoulder strap)



A Speedbag angle setting

With the help of the two lateral and under seating buckles, set the angle of the Speedbag around horizontal position.

B Leaning angle setting

Set the angle of leaning by tightening the snapper (towards a more vertical position) or the black webbing (towards a more horizontal position). You can extend the lumbar support by tightening the #5 buckle.

You can increase or decrease the lumbar setting with the weebing 6 or the snapper 7.

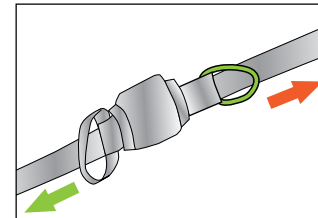


C Shoulders' straps adjustment

Tighten the shoulders' straps by using the snapper and pulling it forward. Loosen it with help of the tubular webbing by pulling it backward. The support of the shoulders' straps greatly helps comfort. It should be set precisely.



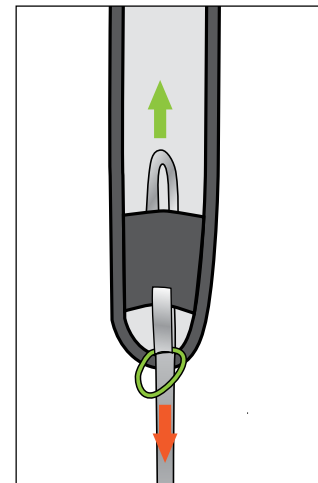
B



loosen

tighten

C



loosen

tighten

The SKYPPER is a harness designed for XC and competitions. It is a precise and stable harness that will transmit the informations of your glider.



Pre-Flight control

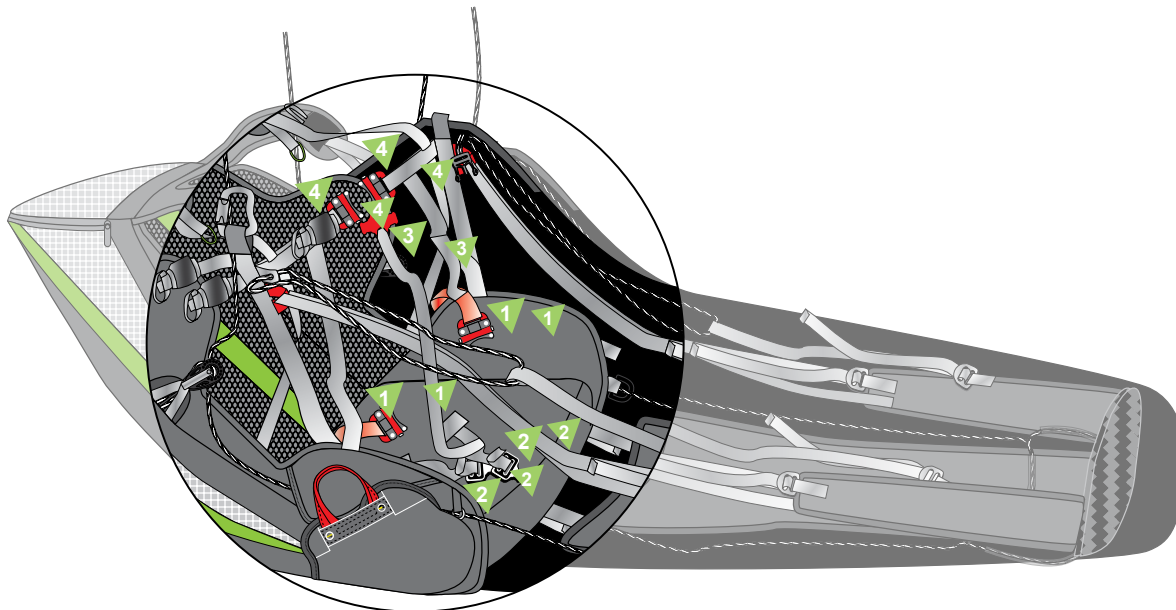






- Check that the harness and the carabiners did not deteriorate.
- Check thoroughly that the rescue handle's cable end has not got outside the snappers' flaps
- Check that your personal settings haven't changed.
- Check that all zippers and buckles are closed.
- Check that the speedbar is correctly connected and set.
- Check that no rigging line or other object comes in contact with rescue parachute handle.

After a thorough weather conditions analysis, when the decision to fly has been taken, fit into the harness :



- Fasten the buckles (thigh straps, safe-T-bar and ventral buckles) with application.
- Check that the carabiners are correctly locked.



-  Thigh strap automatic buckles (female)
-  Thigh strap automatic buckles (male)
-  Safe-T-Bar® Sup'air patent A-1832/981
-  Chest strap automatic buckles (female)

Take-off

After being correctly fitted into your harness, fasten the left buckle (1, on braided rope) of the Speedbag then fasten the second Speedbag buckle (2).

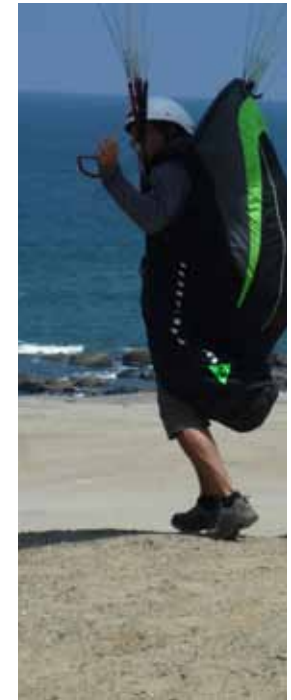
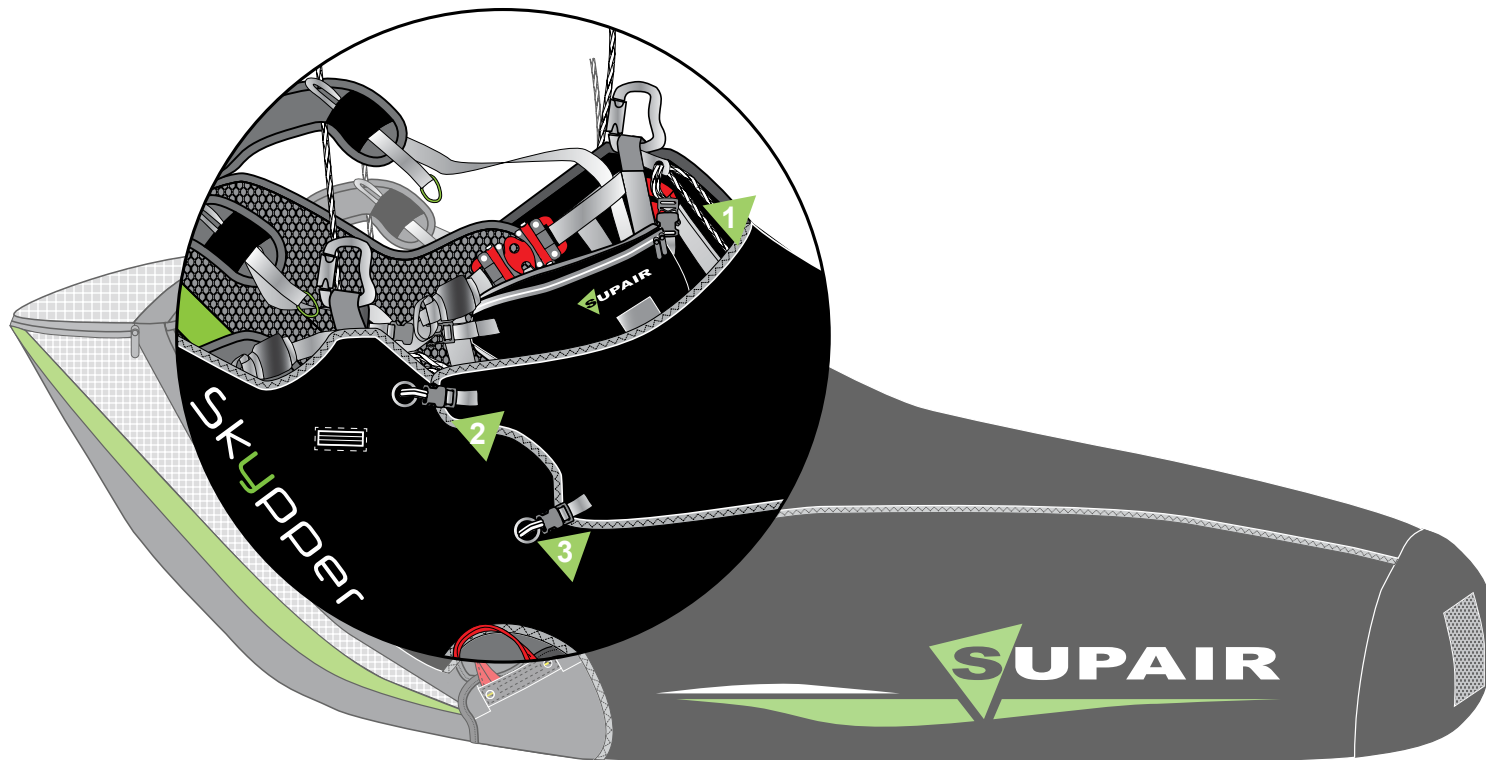


If you wish a bigger opening for your legs, you may let unfastened the buckle (3) and close it when flying, as soon as the flying conditions allow it.

During take-off, maintain a standing position and as soon as you are far enough from the ground, fetch the Speedbag with one of your heels. With help of the foot-rest, push back into your harness.



Do not release your hands from the brakes when you are close to the ridge.



CAUTION : to properly enter and seat inside the Speedbag, the harness must first be adjusted during a hang-test.

WARNING : the pilot must not let the toggles out of his/her hands while entering the Speedbag.



1 Close the Cockpit buckle/clip

2 Close the upper Speedbag buckle/clip

3 takeoff Running phase

4 After takeoff, do not immediately try to seat inside the harness but keep instead an applied torso pressure on the chest strap while hooking the Speedbag with the heel of your shoe.



5 Apply pressure at the bottom of the Speedbag with your feet to transit to the seating posture.

6 After installation, pilot can close the last Speedbag buckle/clip

In flight

As soon as you are airborne, the behaviour is very instinctive and precise.



Please set the distance between the two carabiners according to aerology and to wing's manufacturer recommendations



Tightening provides more stability but less harness piloting efficiency. Be careful as it increases the risk of risers twisting. On the contrary, loosening the strap provides more efficiency but can be dangerous by turbulent aerology (increased risk of falling towards the collapsed side of your glider).

Speedbar use

We recommend a careful use of the speedbar because of an increased risk of massive collapse. Please read carefully the manual of your glider.

To use the speedbar, maintain one foot on the footrest then with the other, place your foot onto the centering space and push the first bar.



This spacer helps you to obtain a symmetrical acceleration.

Once your foot touches the footrest, use the other foot to push the second bar.

Landing

In order to land, during the approach, take your legs out of the Speedbag in plenty of time. Stand up inside the harness and adopt an upright position in order to run to dissipate horizontal speed.



Do not land whilst in the seated position, this is dangerous.

Throwing the reserve parachute



We strongly advise you to check frequently the location of the reserve parachute's handle. To do this, we recommend that you lower your right hand following the risers. This movement should be done without looking. By doing this, you increase your chances in case something goes wrong and you need to throw the reserve parachute.

Evaluate your height from the ground. If you have a lot of altitude, it may be better to attempt to recover your wing to normal flight, But if you are in any doubt, deploy your rescue parachute.



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

With a strong, lateral and then vertical tug, pull the handle towards you and then throw the whole parachute (including the bag and handle) as hard as you can towards a clear area of sky. As soon as the parachute deploys, haul down the glider by pulling as symmetrically as you can the risers (C or d D) or on the brakes.

Be prepared to land by adopting an upright position, with knees together and legs slightly bent. Prepare to roll down with pivoting shoulders.

We propose you optional accessories that combine perfectly to your SKYPPER harness.

Function	Code	Description	Weight
Portage	SACAVENTURE	sac AVENTURE . 110 l/noir/ Cordura 500D, PA 420 D	2150 g
Rescue parachute	PARXTRALITE S	Parachute SUPAIR X-tralite S (PTV Max 80 kg)	990 g
	PARXTRALITE M	Parachute SUPAIR X-tralite M (PTV Max 95 kg)	1190 g
	PARXTRALITE L	Parachute SUPAIR X-tralite L (PTV Max 115 kg)	1410 g
	PARASUPAIR08 S	Parachute Supair light S (PTV Max 85kg)	1210 g
	PARASUPAIR08 M	Parachute Supair light M (PTV Max 110kg)	1510 g
	PARASUPAIR08	Parachute Supair light L (PTV Max 135kg)	1850 g
Ballast	BALLAST	Water pocket with tap. Max volume: 15 lts.	185 g
pulley		Harken® ratchet pulley	

All the information for the accessories are provided with the product or are easy to access on our website www.supair.com



Wash and care of your harness

It is a good idea to wash your harness from time to time. To do this, we recommend to use a soft solvent (such as soap), use a brush and rinse thoroughly. In any case, do not use chemicals such as detergents or strong solvent because it may deteriorate the webbing, stitching and fabrics of your harness.

The zip fasteners should be lubricated from time to time, using a silicon spray.

If your harness gets wet, it is advisable to treat your automatic buckles and carabiners with silicone grease from time to time.

Storage and transport

When you don't use your harness, store it inside your paragliding rucksack, in a dry, cool and clean place, protected from UVs exposure. If your harness is wet, please dry it thoroughly before storing. For transport, protect the harness from any mechanical or UV deterioration (use a bag). Please avoid long transports in wet conditions.

Lifetime

Independently of the pre-flight check-out, you have to open and unfold your rescue parachute once every 6 months.

Once every 2 years, you need to perform a complete check of your harness :

- webbings (no excessive wear, no rip beginning, no unwanted folds)
- buckles and carabiners



The threads that compose the webbing and fabrics used in the SKYPPER have been selected in order to ensure the best possible lightness/lifetime compromise. Nonetheless, in some conditions, after a long term exposure to UV and/or significant abrasion or exposure to chemicals, it is compulsory to check your harness in a certified repair centre. It is about your safety.



These carabiners must never be used for anything else else than paragliding (not for climbing, no towing, etc.).

The carabiners must be replaced by new ones every 5 years.

Repair

Though we use the highest quality materials, it is possible that your harness may eventually deteriorate through general use. If it is showing any signs of significant wear and tear, you should check it and repair it in an certified repair centre.



SUPAIR offer a repair facility for their products beyond the end of the warranty period. Please contact us either by telephone or by E-mail sav@supair.com in order to receive a quotation.

Materials

Fabrics

DYNEEMA® RIPSTOP
CORDURA®
CORDURA® RIPSTOP

Connection straps (Rescue risers to Maillon Rapide®)

Dyneema® (1350 N)

Speedbag

LYCRA

Webbings

Polyamide 20 mm (500 DaN)
Polyester 25 mm (1250 DaN)

Recycling

All our materials are selected for their technical and environmental characteristics. No components of our harnesses may harm nature. Most of our components are recyclable.

If you judge your harness has finished its life, you can separate all the plastic and metallic parts and apply up-to-date sorting rules in effect in your community. For recycling of the fabric parts, we advise you to contact your local authority that deals with fabric recycling.

Warranty

SUPAIR takes the greatest care in the design and production of its products. SUPAIR guarantees its products 5 years (from purchase date) against any defect or design fault 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 etc will invalidate this warranty

Disclaimer



Paragliding is an activity that requires, skill, specific knowledge and sound judgement. Be careful, learn in certified schools, subscribe an adequate insurance policy as well as a flying license and make sure your skill match the conditions. SUPAIR cannot be held responsible for your paragliding decisions or activities



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

Pilot's gear



This is essential that you carry a helmet, suitable boots and clothing. Taking a reserve parachute suitable for your weight and correctly connected to your harness is also very important.

This page will help you to record all the life stages of your SKYPPER harness.

Serial number :

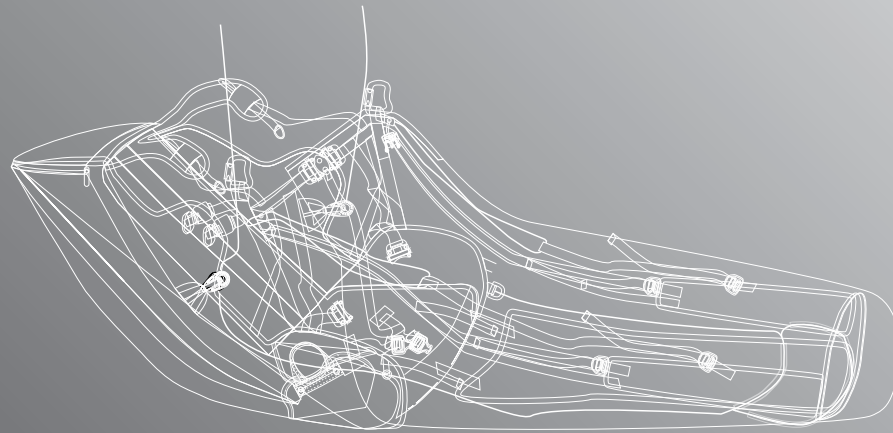
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 **SUPAIR**

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