PRO GUIDE

/ SPIRIT

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1 INTRODUCTION

Welcome to skywalk!
Congratulations on the purchase of your new SPIRIT and thank you for your trust in us and in our products. In this manual you will find product-specific information that will help you quickly get to know your new paraglider to ensure your fun for a long time.
General information about the most important safety-relevant points for handling your paraglider can be found in the attached „BASIC GUIDE".

We are always open for questions, comments or critique and are happy to provide you at any time with further information!

Your skywalk Team
PURE PASSION FOR FLYING

Edition 1.0 / 12_21
The latest version of the manual can be found on
www.skywalk.info

2 DESCRIPTION

The SPIRIT was developed for adventures in alpine terrain and is your ideal companion for demanding hike/climb&fly tours. In the development of this lightweight wing, we focused sharply on minimum pack volume, lowest weight, easiest handling and maximum flying fun.

PILOT REQUIREMENTS

Depending on the size and wing load, the SPIRIT sets different requirements to the pilot.
With the highest wing load (LTF/EN C), the SPIRIT is suitable for pilots with regular flight practice who already have gained solid experience with other wings and pilots who can handle the dynamics and agility of a wing with high wing load.
With medium wing load (LTF/EN B), the SPIRIT is also suitable for occasional pilots with less flight experience, as well as for pilots who fly for the first time a wing with higher wing load an shorter lines.
With low wing load (LTF/EN A), the SPIRIT is suitable for all pilots, including training.
The lightweight design requires a certain amount of caution in handling.

SCOPE OF DELIVERY

The SPIRIT comes standard with inner bag, compression strap, riser bag and "BASIC GUIDE".

3 TECHNICAL DATA

Size	**75+**	**85+**	**105+**	**120**
Cell number	33	33	33	33
Area flat (m²)	16,30	18,70	21,10	23,10
Wingspan flat (m)	8,40	9,00	9,60	10,00
Aspect ratio flat	4,33	4,33	4,33	4,33
Area projected (m²)	14,00	16,00	18,10	19,80
Wingspan projected (m)	6,75	7,24	7,69	8,04
Aspect ratio projected	3,27	3,27	3,27	3,27
min. profile depth (cm)	95	102	109	116
max. profile depth (cm)	237	254	269	282
Middle line length without risers (m)	5,29	5,67	6,02	6,30
Line consumption (m)	226	243	259	271
Weight (kg)*	1,75	1,95	2,2	2,35
Take-off weight from - to (kg) for EN/LTF A	–	65-85	65-100	
Take-off weight from - to (kg) for EN/LTF B	–	50-85	86-105	101-120
Take-off weight from - to (kg) for EN/LTF C	50-95	86-105	106-120	–
Winch certified	yes	yes	yes	yes
JET FLAP Technology	yes	yes	yes	yes
Paramotor homologation	no	no	no	no
Accelerator	yes	yes	yes	yes
Maximum speed bar travel (mm)	140	140	140	140
Brake line travel max. (cm)	55	61	62	66
Trimmers	no	no	no	no
Number of seats	1	1	1	1

* with Ultralight-riser. Weight with Light-riser approx.+120g

4 LINE SYSTEM

The layout of the suspension points is designed for optimal load distribution and a long lifespan. With all considerations and calculations however, our focus is always on safety. The mix of materials used on the lines of the SPIRIT is an ideal combination of durability, low stretch and low drag.

The skywalk SPIRIT has 3 A-, 3 B-, 3 C-, and 1 stabilo line.
The main-stabilo is connected with the B-riser. The brake lines are not load-bearing and lead from the trailing edge over the main brake lines through the brake pulleys on the C-risers to the brake handles. A marking on the main brake line indicates the position of the handle attachment.

This setting should not be lengthened, for example, to provide more brake travel in extreme flight situations or during landing, nor shortened such that the glider is flown constantly with some brake on.

To provide a better overview and to make sorting easier, the lines have different colors:

→ the AI, AII, AIII-main lines and the A-risers are red.
→ the BI, BII, BIII-main lines are yellow.
→ the CI, CII, CIII-main lines are blue.
→ the main stabilo lines are orange.
→ the main brake lines are orange.

The lines are attached with loops to oval shackles and secured with rubber rings.

The skywalk SPIRIT has 3 risers per side:

→ the A-lines lead to the A-riser
→ the B-lines as well as the stabilo lines lead to the B-riser
→ the C-lines lead to the C-riser

A schematic drawing of the risers can be found at the back of the manual.

5 ACCELERATION SYSTEM

The skywalk SPIRIT can be equipped with a foot-operated acceleration system. The acceleration system affects the A- and B-risers. Exact lengths of the accelerated risers can be found at the end of the instruction.

6 FLIGHT TECHNIQUES AND CHARACTERISTICS

WINCHTOWING

The skywalk SPIRIT is well suited for winch towing. Make sure that you only use certified winches and that you climb from the ground at a flat angle.

The pilot must have had proper towing instruction and must ensure that the winch operator has had proper training that includes paragliders. When launching on a winch, always fly with a lot of feeling and don't brake too much as your glider will already have an increased angle of attack. We recommend the use of a towing adapter.

FLYING WITH A MOTOR

Currently, the SPIRIT has no certification for flying with a motor.
You can find out the current status of motor certification at any dealer or importer, or by asking skywalk directly.

FULL STALL

To initiate a full stall, both brake lines must be pulled down symmetrically on both sides. he glider will slow down steadily until the airflow over the top of the wing is interrupted. he wing then suddenly will tilt backwards. Despite this unpleasant glider reaction, both brake lines must be held down firmly until the glider has stabilized. The skywalk SPIRIT flies backwards in the full stall and usually forms a slight rosette at the front. To recover, guide both brake lines symmetrically upwards (time→ = 1 sec). The glider will open and surge forward to pick up speed. Symmetrical braking prevents excessive forward surging of the wing.
If the pilot does not apply the brakes, the skywalk SPIRIT will surge forward, possibly leading to a frontal collapse.

DUE TO THE HIGH SURFACE LOADING, WE DO NOT RECOMMEND FLYING FULL STALL, SPIN OR PARACHUTAL STALL MANEUVERS WITH A SPIRIT, AS THESE CAN LEAD TO CHALLENGING GLIDER REACTIONS.
IN NO EVENT SHOULD THE BRAKES BE RELEASED WHILE THE STALLED GLIDER IS STILL BEHIND THE PILOT. IF RECOVERY IS INITIATED TOO EARLY, TOO FAST OR INCORRECTLY, THIS MAY, IN THE WORST CASE, AUSE THE GLIDER TO SURGE FORWARD DANGEROUSLY.

You can find further information on practices and characteristics of flying in the enclosed "BASIC GUIDE".

7 DESCENT TECHNIQUES

PULLING BIG EARS

In contrast to the spiral, your forward speed with »big ears« is higher than your rate of descent. This rapid descent aid is used to quickly exit danger zones by flying straight ahead in a desired direction.

The risk of collapses in turbulent air is significantly reduced with big ears. To perform this maneuver, proceed as follows (according to DHV teaching instructions):

- → Step on the speed bar half-way, grab the outer A-lines (AIII) above the line shackle with your palms facing outward and pull the lines down.
- → Now press the speed bar all the way. Keep the brake handles and the outer A-lines in your hands during the maneuver.
- → Check the symmetry of the collapsed glider.
- → To recover, slowly release the A-lines. The glider usually will reinflate by itself.
- → As soon as the glider is fully open, release the speed bar.
- → To speed up reinflation, pull lightly on the brakes. Another proven technique is to first reinflate one side of the glider, then then other. This can reduce the risk of a stall.

Examples:

- → If the pilot is surprised near a summit with little ground clearance by strong wind or a thundercloud, neither a B-stall nor a spiral dive can help.
- → If the pilot is stuck in very strong lift, it is advisable to exit the lift band with the use of big ears and to find sinking air in which to lose altitude.

B-LINE STALL

The B-lines are pulled down symmetrically 10-15 cm. Keep the brake handles in the respective hands. The airflow on top of the profile largely detaches and the paraglider descends without flying forward. Pulling hard on the B-risers allows you to decrease the area of the wing and increase your sink rate, but this also increases the risk of the wing forming a rosette to the front. If this happens, recovery from the B-stall immediately!
You can exit the stall by quick and symmetric release of the B-lines. The paraglider will pitch forward and pick up speed. At no time you may use the brakes in this case!

You can find further information about descent techniques in the enclosed "BASIC GUIDE".

8 MATERIALS

The skywalk SPIRIT is manufactured from the highest quality materials. skywalk has selected the best possible combination of materials with regard to resilience, performance and longevity. We are aware that the durability of the glider is a deciding factor in the pilot's satisfaction.

WINGS AND RIBS

Upper sail:	Dominico 10D
Lower sail:	Dominico 10D
Ribs:	Porcher Skytex 27g hard

LINES

A, B, C, S Main lines:	Liros PPSLS 180/125
A, B, C Middle lines:	Edelrid 8000U - 90/70; Liros DC60
A, B, C, D Top lines:	Liros DC 60
Brake lines:	Liros DFLP 200/32, DC60; Edelrid 8000U - 90/70

RISERS

Cousin 7mm webbing

PULLEYS

Sprenger plastic pulley

SHACKLES

Jootech oval

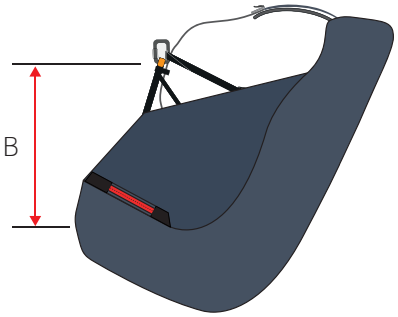
9 HOMOLOGATION

Depending on the size and wing load, the SPIRIT is certified to LTF II 91/09 and EN926-1, EN926-2 in the category A, B or C.
The SPIRIT is defined as a lightweight sport aircraft with an empty weight of less than 120kg in the paraglider category. The many homologation tests are the last hurdle in the development of a skywalk paraglider. The homologation test flights only take place when the test team is completely happy with the glider development.

We remark that the certification results will differ during flight in thermals or turbulent air. The homologation informs solely regarding the paraglider performance during extreme-flight- manoeuvres performed in stable air conditions. These extreme-flight-manoeuvres during the homologation process should thus not be over-valued.
Remember that certification maneuvers were carried out with a harness in the group GH with a carabiner distance (middle to middle) of 40-48 cm. If another harness is used, the glider may display flight characteristics that differ from those in the description.

HARNESS MEASUREMENTS DURING THE TEST FLIGHTS

Width of harness attachment points



Height of harness attachment points

Total weight in flight (kg)	< 80	80-100	> 100
Width (cm-measurement ‚A')	40 ± 2	44 ± 2	48 ± 2
Height (cm-measurement ‚B')	40 ± 1	42 ± 1	44 ± 1

10 CLOSING WORDS

The skywalk SPIRIT is at the pinnacle of paraglider development in the market for ultralight miniwings and shows what is possible regarding performance, safety and innovation. It cost us a lot of time to develop this glider, but it was also a lot of fun. In this development we recognize the challenge of making the right product for every area and individual taste. We are pleased if you notice this during your first flight and if you feel a certain unity with your glider from the very beginning.

The SPIRIT will provide you with plenty of joy over many years if you treat it and care for it properly. Respect for the demands and dangers of our sport are essential for successful and beautiful flights.

Even the safest paraglider can be dangerous due to misjudgments of meteorological conditions or pilot error. Always remember that flying sports are potentially risky and that you are responsible for your own safety. We advise you to fly carefully and to respect laws in the interest of our sport, because every pilot always flies at his or her own risk!

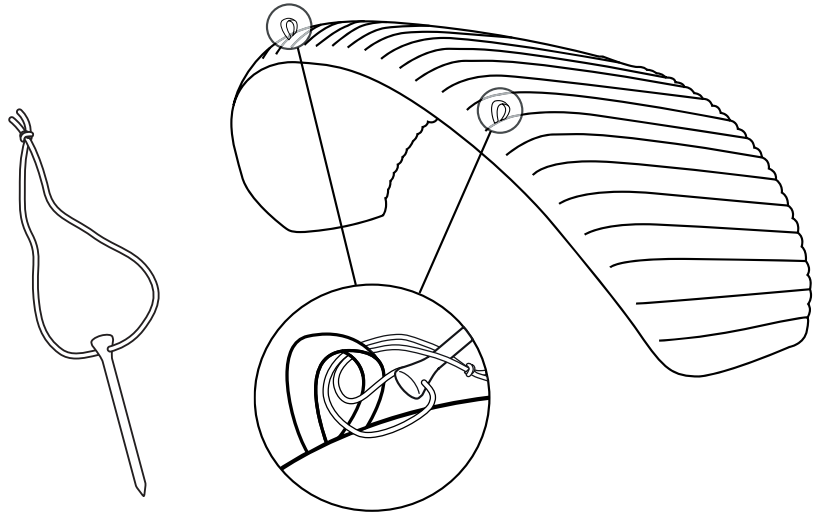
WE WISH YOU A LOT OF FUN WITH YOUR NEW GLIDER AND ALWAYS HAPPY LANDINGS!!

Your skywalk Team

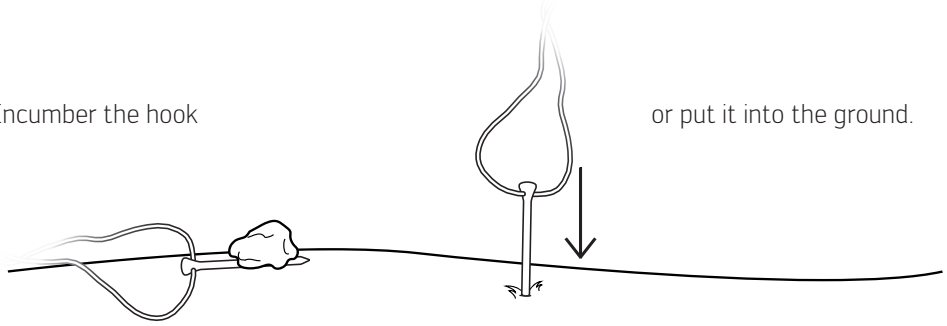
11 LOOPS & HOOKS

The SPIRIT is equipped with "Loops & Hooks".
These are used to secure the canopy in difficult terrain. Proceed as follows:

Connect the line of the hook-pin with the loop on the canopy.
The loop is sewn on the upper sail about 20 cm above the cell opening on rib 6.

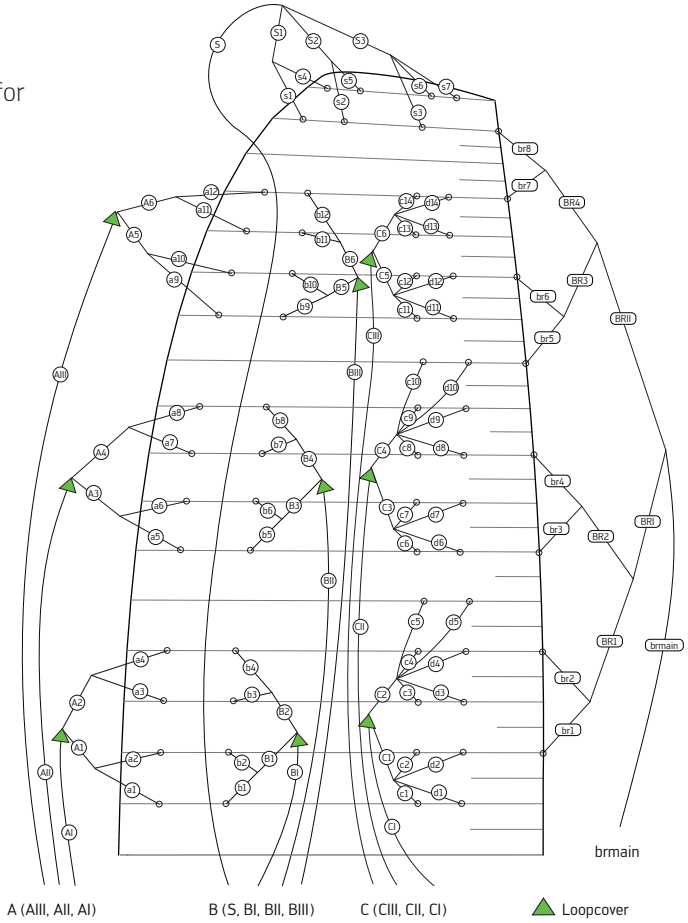


Encumber the hook or put it into the ground.



12 LINE SCHEMATIC

This line schematic is only for illustration purposes.



13 LINE LENGTH

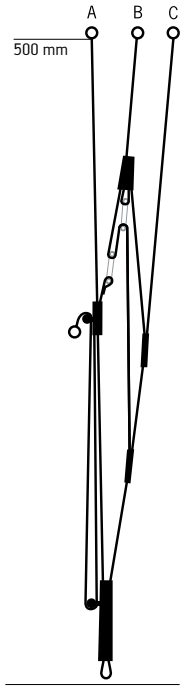
The total line length has to be measured under a tension of 50 N. The difference between the measured length and the original length should not exceed ± 10mm. Compliance of the test sample's suspension lines, brake lines and risers were checked by the testing laboratory after the test flights were completed.

Total line length SPIRIT size: 75+, 85+, 105+ and 120: **www.skywalk.info**

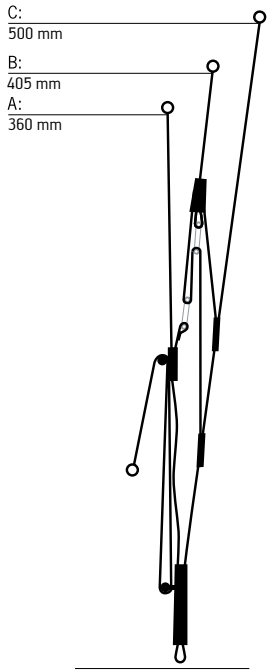
Single line length SPIRIT size: 75+, 85+, 105+ and 120: **www.skywalk.info**

14 RISERS

The difference between the measured riser lengths and the original riser lengths should not exceed ± 5mm.

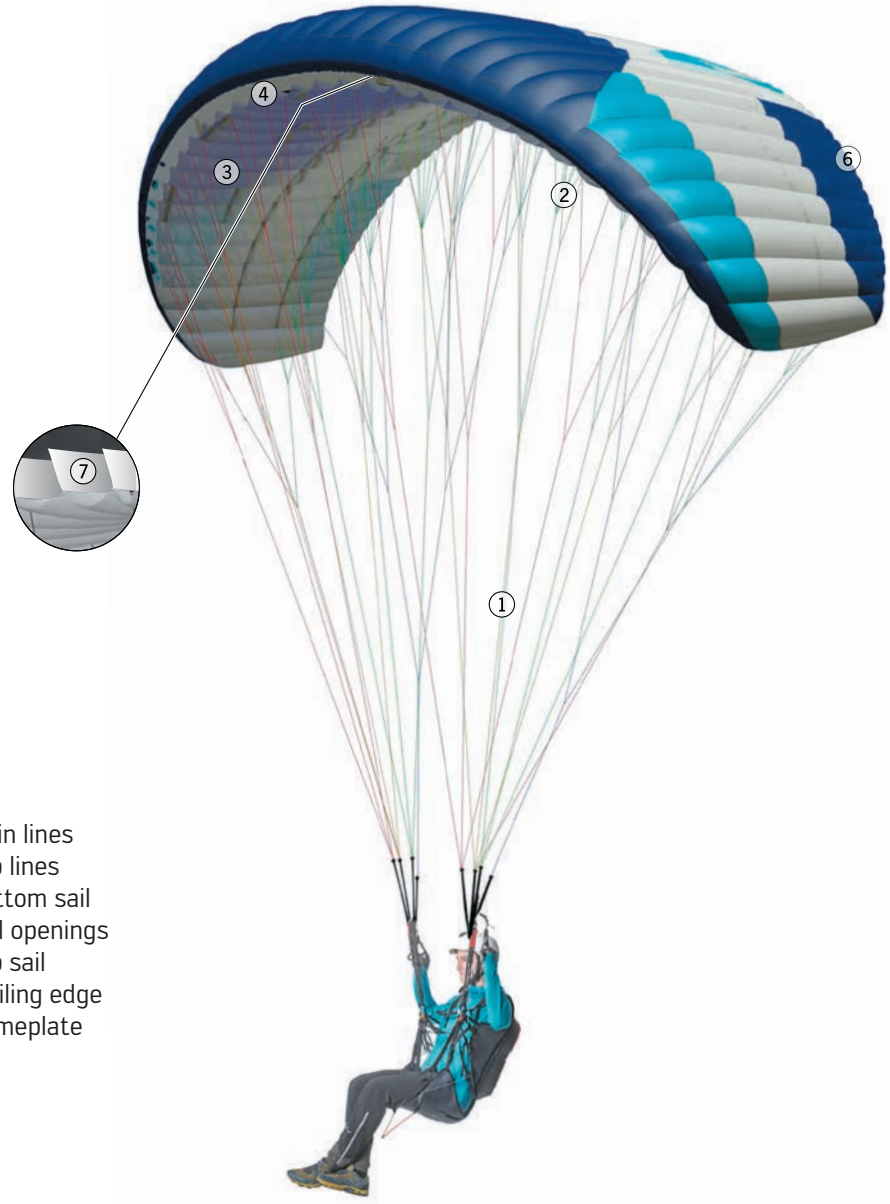


Trimspeed



Accelerated flight

15 OVERVIEW GLIDER



1 Main lines
2 Top lines
3 Bottom sail
4 Cell openings
5 Top sail
6 Trailing edge
7 Nameplate

16 TEST PROTOCOL

Date:			
Customer, Name:			
Adress:			Phone:
Glider:	Size:	Serial number:	
Type certificate number:		Date of last check:	
Date of first flight:	Year of construction:		

Accomplished checking:	Results [+/–]:	Description of failure:	Suggested repairs:
Identification:	+ -		
Visual check of canopy:			
Upper surface:	+ -		
Lower surface:	+ -		
Profiles:	+ -		
Line flares:	+ -		
Leading edge:	+ -		
Trailing edge:	+ -		
Crossports:	+ -		
Visual check of lines:			
Seams:	+ -		
Abrasion spots:	+ -		
Core withdrawals:	+ -		
Visual check of connectionparts:			
Suspension line screw locks:	+ -		
Risers:	+ -		
Length measurement:			
Risers:	+ -		
Lines:	+ -		
Examinations of the canopy:			
Firmness of canopy:	+ -		
Porosity:	+ -		

Examinations of the lines:			
Firmness of main lines:			daN
	Results [+/–]:	Description of failure:	Suggested repairs:
Visual check of trimming:	+ -		
Checkflight necessary?	+ -		
Type certificate patch?	+ -		
Identification plate?	+ -		

Condition:

- ☐ New
- ☐ Very good condition
- ☐ Good condition
- ☐ Well used
- ☐ Heavily used, but within homologation standards, frequent checks required
- ☐ No longer airworthy, outside of the limit values.

Repairs made?:

Signature of tester:	Date:
Name of tester:	Firm stamp:

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