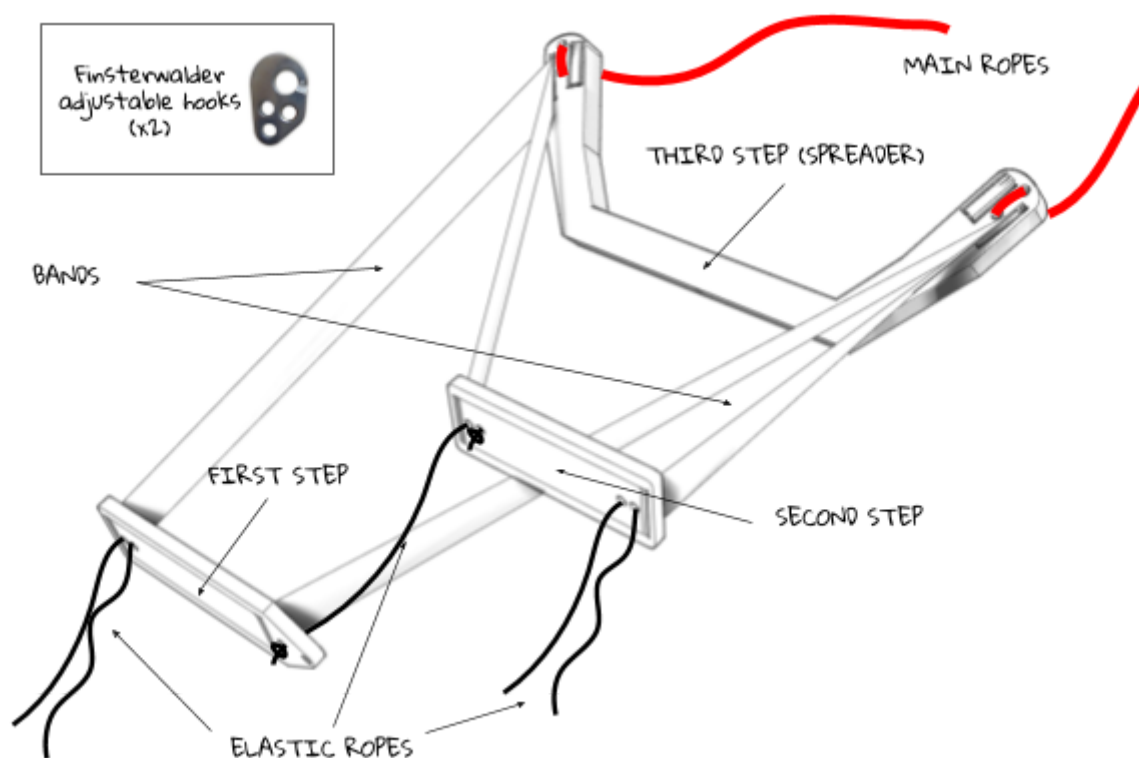




## USER MANUAL

## Speedbar parts



## Settings

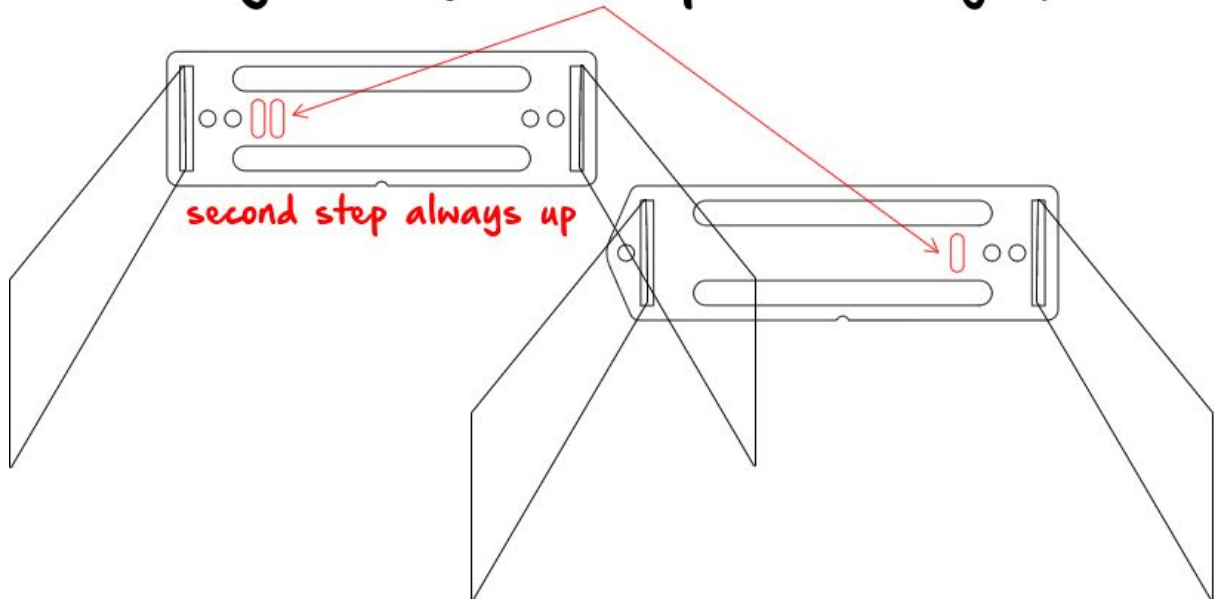
### 1) Layout setting (First step to the right or left)

Default configuration is intended for the right-handed people, so the first pedal was placed to the right to ensure that the third speed was applied with the strongest leg in long and fast cross country flights.

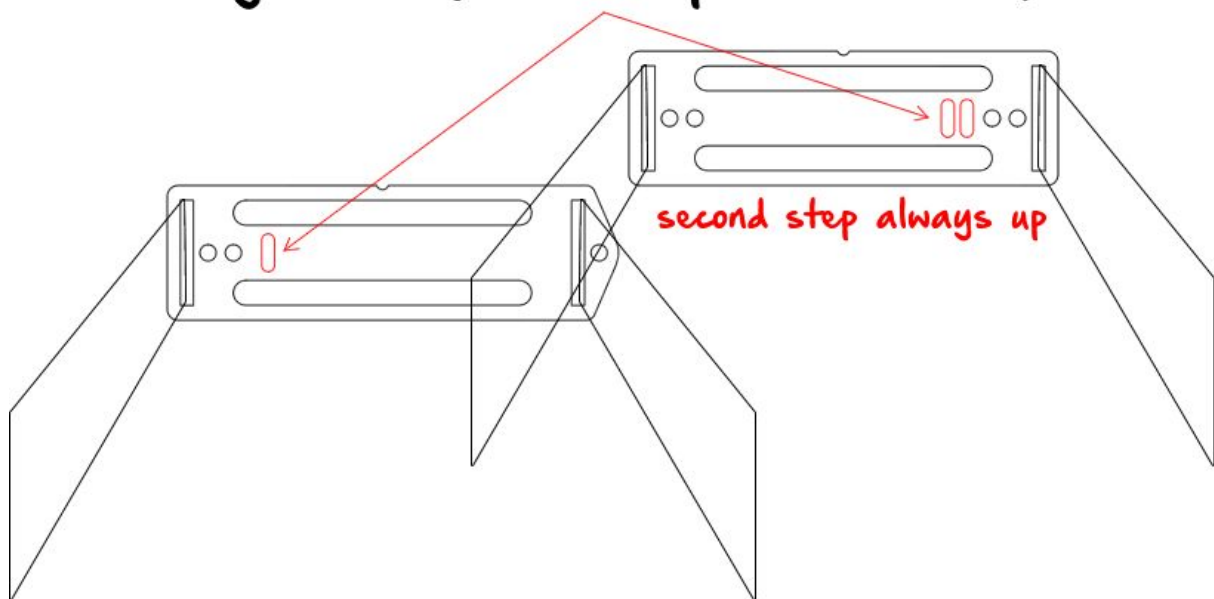
**Jump to “chapter 2” if you like default setting.**

Switch it if left-handed or according to your preferences.

## Layout 1 (first step to the right)

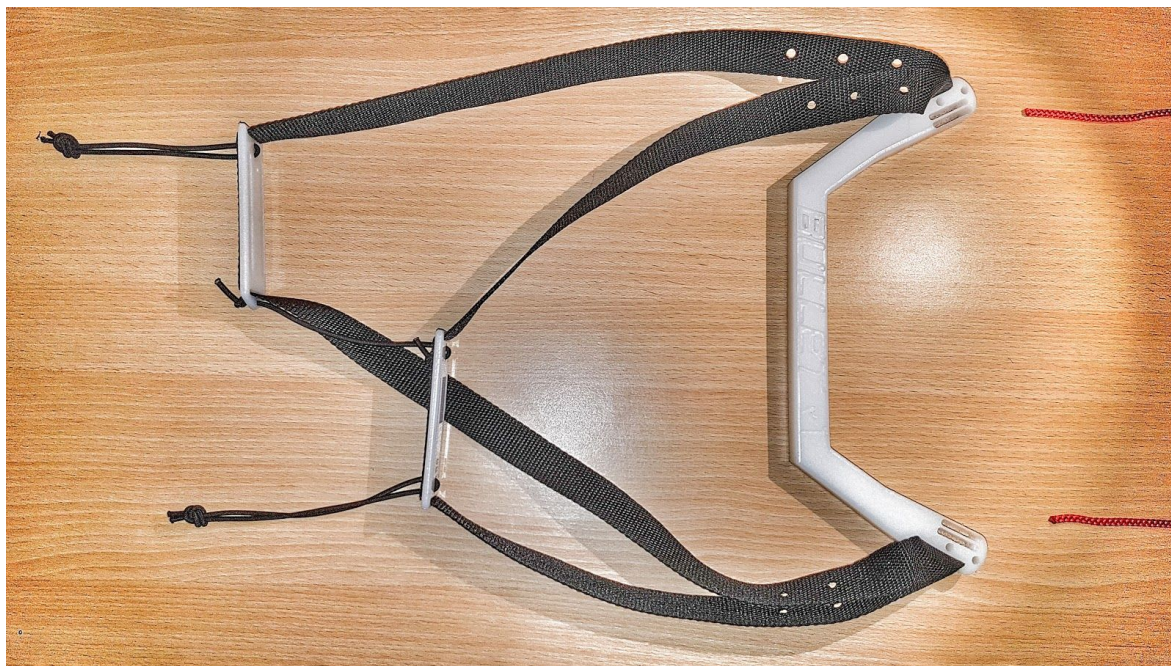


## Layout 2 (first step to the left)

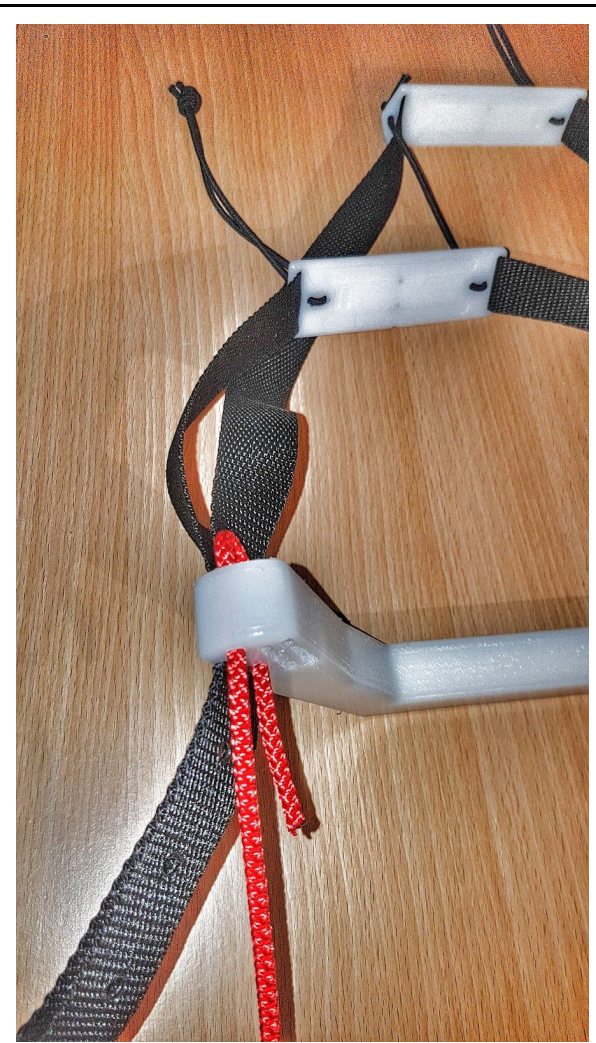
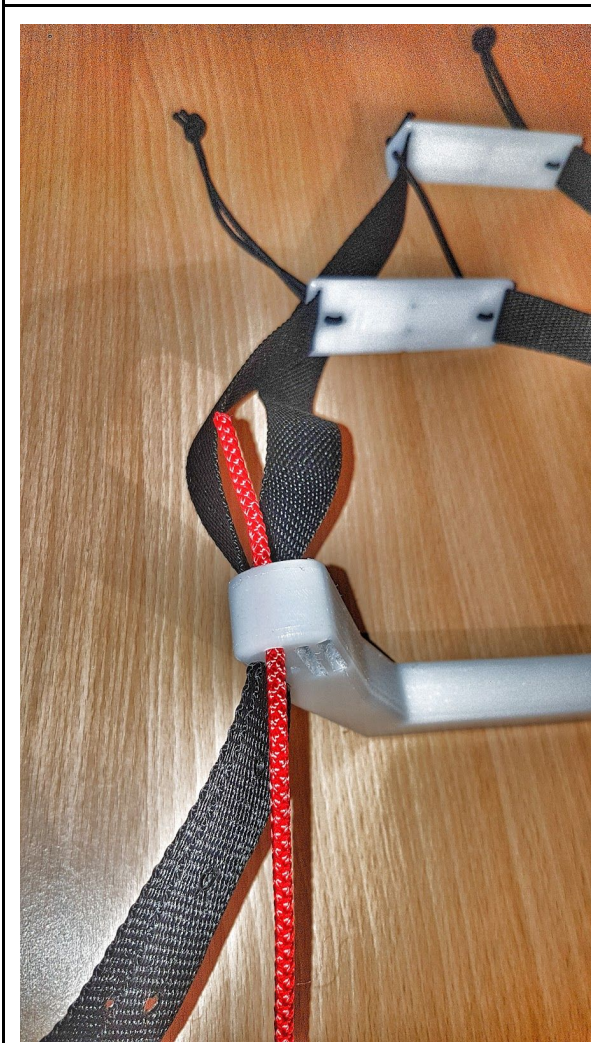
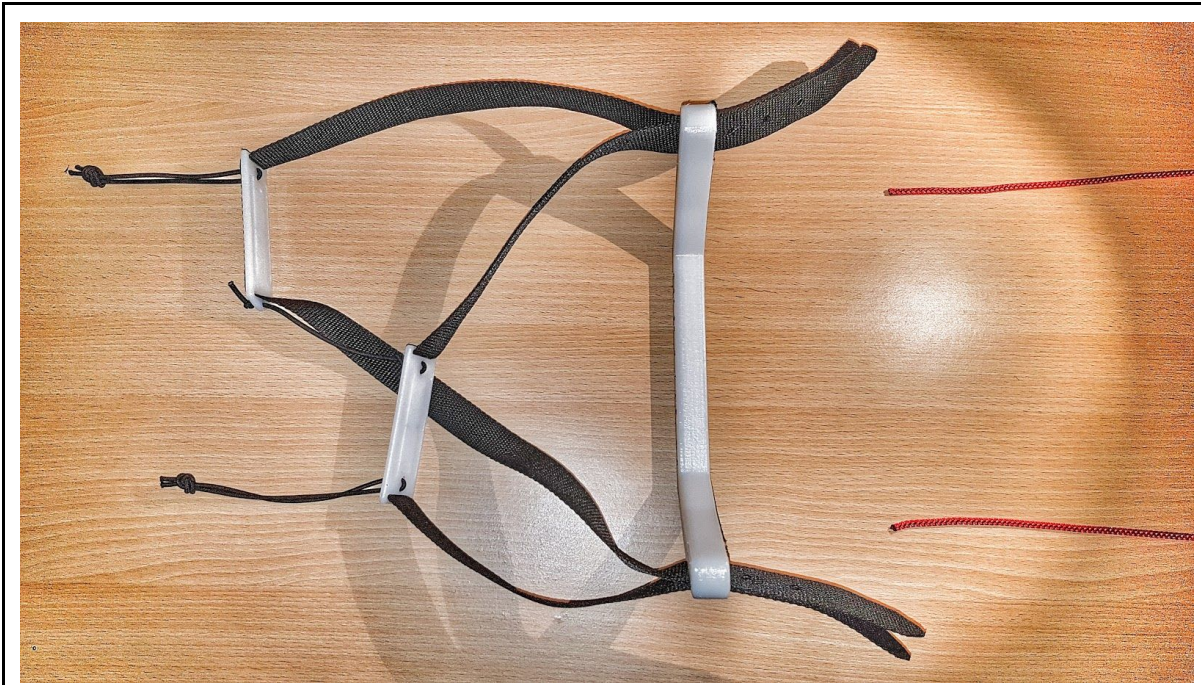




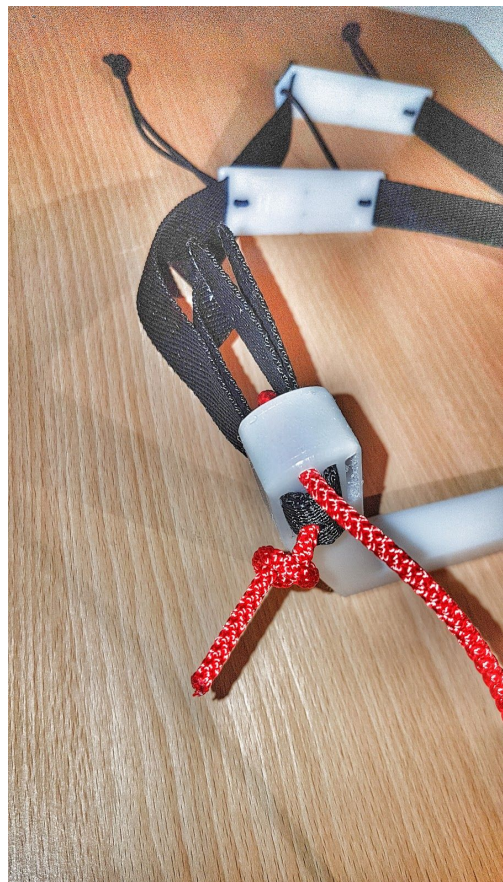
- Bullet assembly (first step to the right):



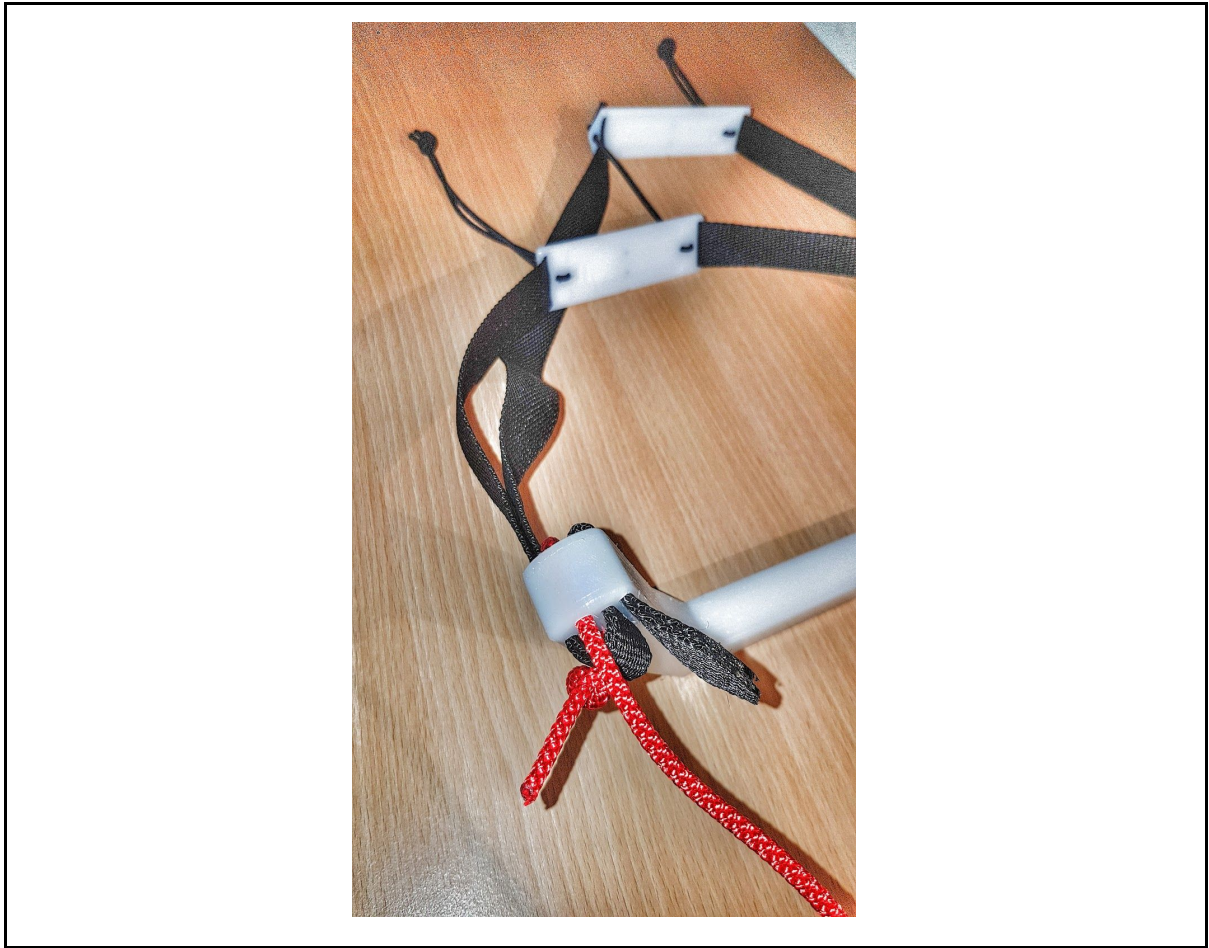




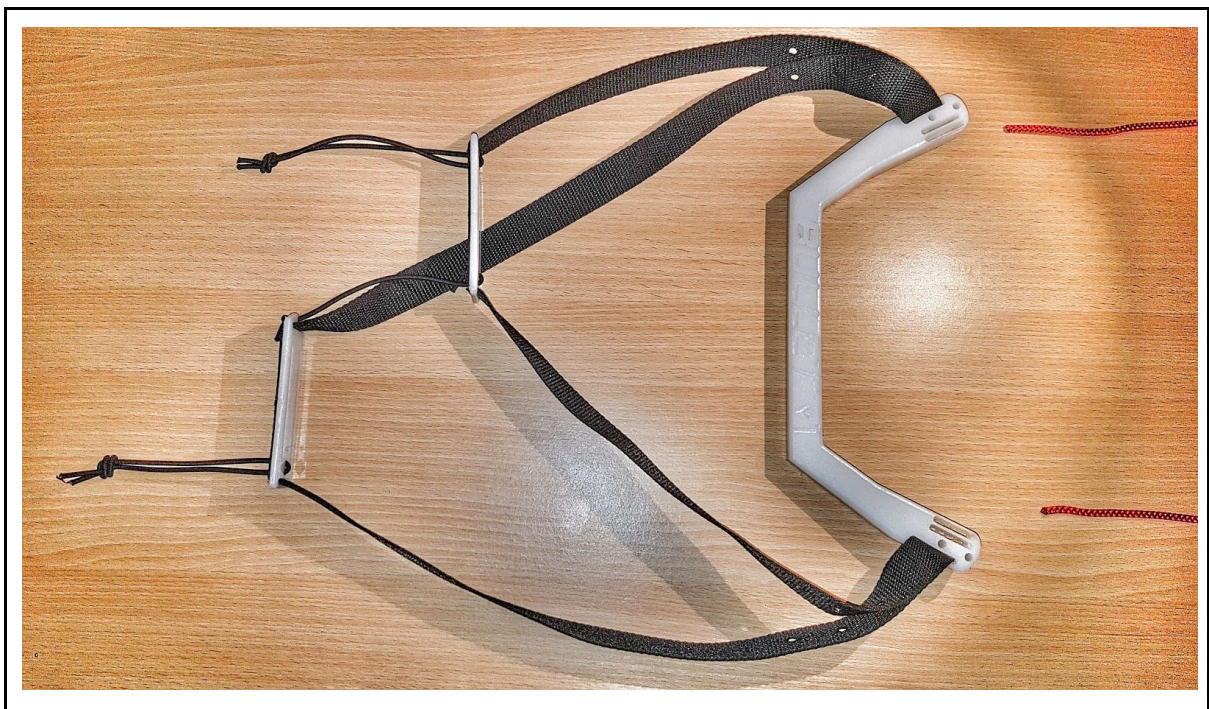








- Bullet assembly images (first step to the left):



**The rest of assembly is the same as shown in the images above (first step to the right)**

To **switch the default layout**:

(Video instructions: <https://goo.gl/photos/vHLag3x5pUZt2WPFA>)

- a) Untie the two simple knots of red main ropes
- b) Pull out the two red main ropes from the third step (spreader)
- c) Pull out the black bands from the third step (spreader)
- d) Turn the bands+steps system 180 degrees around longitudinal axis, keeping second step and middle elastic rope in upper position.
- e) Insert the bands pairs inside the external window of third step (spreader)
- f) Insert the ropes from back part of spreader/upper holes. Continue to front part of spreader inside the lower hole.
- g) Insert the ropes in favorite hole of bands (to set the speed of the first two steps, middle holes are default)
- h) Tie a simple knot on ropes (with equal rope remnant beyond the knot (approx 2 cm/1 inch minimum))
- i) Insert the bands pairs inside the middle and external windows of third step (spreader)

## **2) Steps lengths adjustment**

We suggest to try default bands lengths (steps speed) for at least one flight before to personalize it.

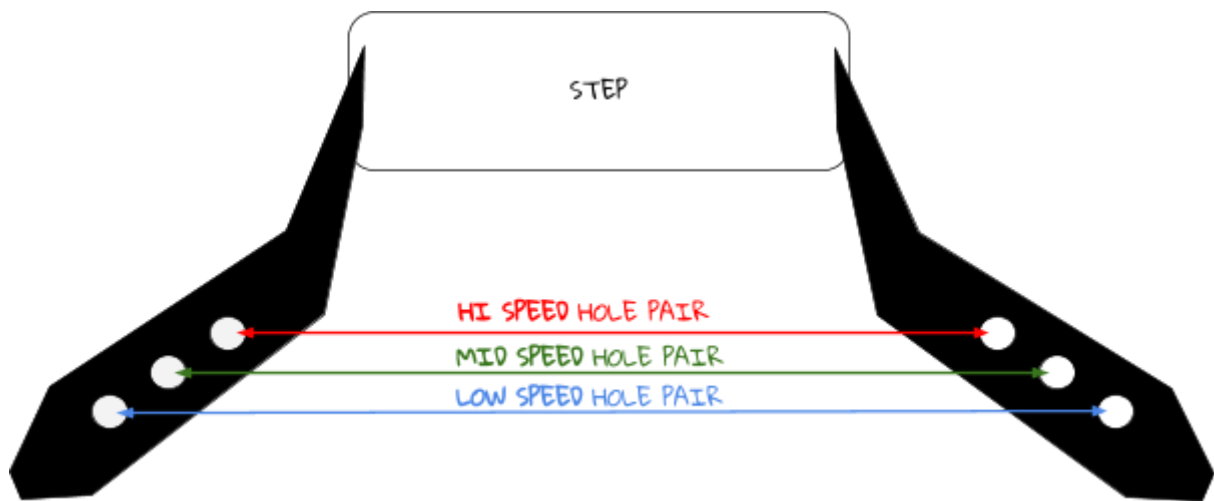
**Jump to “chapter 3” if you want to try default lengths.**

To **adjust the steps lengths**:

- a) Pull out the black bands pairs from the last two windows of third step (spreader), keeping the bands inside the external one.
- b) Untie the two simple knots of red main ropes
- c) Pull out the two red main ropes from the default band holes
- d) Set the steps speed choosing which hole to pass the ropes, considering that the closer the hole at the band tip is, the less the speed of relative step.

**NOTICE:** Hole selection must be paired in each step bands like shown in following figure. Otherwise symmetry of speedbar will be seriously compromised!





- e) Tie a simple knot on ropes (with equal rope remnant beyond the knot (approx 2 cm/1 inch minimum))
- f) Insert the bands pairs inside the middle and external windows of third step (spreader)

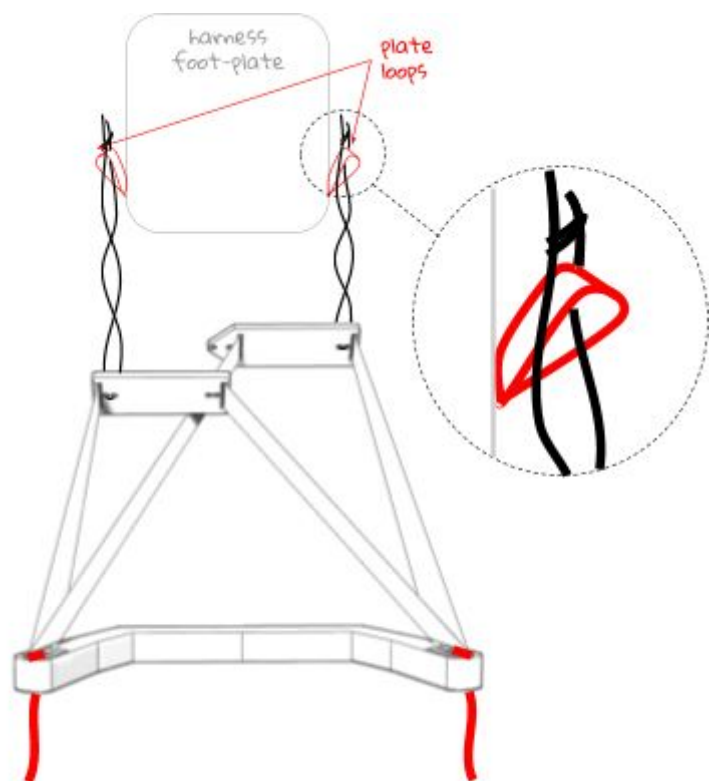
### 3) Harness mounting

- a) **Tie the elastic ropes:** Like for any cocoon harness speedbar, begin knotting elastic ropes to the two loops of foot-plate of your harness.

The elastic ropes must be tied **double, slightly twisted** as shown in this figure:

**NOTICE:**

- Elastic ropes lengths are trimmed for best highlighting of steps. **Please don't modify it.**



- b) **Ropes passing**

Proceed like shown in your harness user manual (pass the red ropes trough guiding rings/loops and pulleys)

**NOTICE:** avoid to pass the main red ropes through the under-seat guiding rings/loops **if** these are **close sewed** to the frontal edge of seat plate without elastic link system.

c) **HOOKS setup**

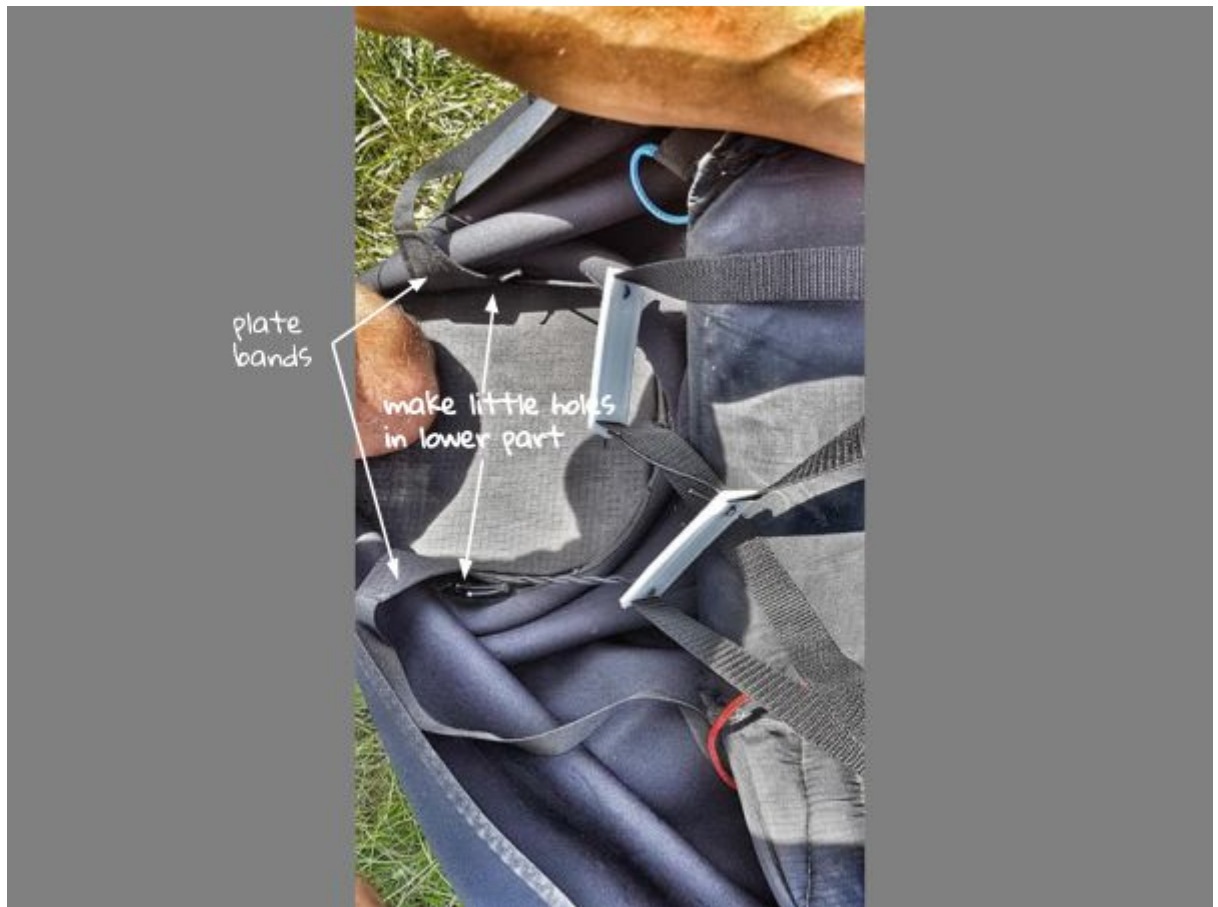
This is how to setup Finsterwalder SPEED SYSTEM HOOKS:



## Troubleshooting

- **My wing turns during action on speedbar.**  
Bullet speedbar dynamics are intentionally studied to avoid asymmetry problems during use. To find a solution, try the following:
  - a) Always push the steps in line with your legs, down to the bottom on the foot plate.
  - b) Check main ropes adjustments (spreader simple knots and hook ropes ropes remnant symmetry)
  - c) Check symmetry of: wing lines, riser's speed system, risers lengths, harness adjustments and bands symmetry.
- **The spreader pushes too much against my legs.**  
Solution: Avoid to pass the main ropes inside the under-seat guiding rings, specially if the rings are close/hardly sewed to seat board (like on some SUPAIR harnesses)
- **I cannot find any loop where to tie elastic ropes of speedbar**  
The side loops on lower part of foot-plate are absolutely necessary for operation of almost all speedbars types. These loops should be present in any harness on market.  
Solutions:
  - a) Make two little holes (diameter 3-4 mm, one on each side) on lower part of central bands (like on Ozone Exoceat harness)





**b)** Modify the plate making two little holes (diameter 3-4 mm, one on each side) on harness footplate on  $\frac{1}{3}$  lower part. (Supair Skypper fr harness)

**Known harnesses incompatibilities (solvable with minor modifications):**

Ozone Exoceat, Supair Skypper fr

- **The second step flips during use**  
Solution: Just shorten the elastic cord between first and second step by making a new knot
- **The Bullet's steps bend after use.**  
This is not a real problem. This behavior does not affect Bullet correct operation.
- **The middle elastic rope (between 1st and 2nd step) got out from the hole on 1st step.**  
Solution: try following knot instead of fabric simple knot:

