



# Combo

Training harness

## User's manual



Please read this manual carefully before your first flight.

**DUDEK**  
paragliders

# Congratulations!

Thank you for choosing the Combo harness. We have done our best to present you with highest quality product, fulfilling all safety requirements and offering maximum functionality.

Please read this manual carefully before using the harness for the first time. This will help you utilize all features provided by Pogo2, while increasing comfort and fun factor of each flight.

We wish you a lot of safe and enjoyable airtime!

## Contents

1. Safety	2
2. Description	2
3. Speedbar	3
4. Rescue chute installation	3
5. Harness/paraglider connection	6
6. Harness/tow connection	6
7. Straps adjustment	6
8. Pockets	8
9. Protector	8
10. Additional equipment	9
11. Before flight	9
12. Using rescue chute	9
13. Landing	9
14. Waterlanding	10
15. Tandem flying	10
16. Cleaning and storage	10
17. Operation and repairs	10
18. Technical data	10

## 1. Safety

Paragliding is a potentially hazardous sport. When flying a paraglider you have to accept risks of injury and/or even death. Incompetent or improper use of the harness may increase those risks. In case of any doubts please ask your dealer or manufacturer.

**Dudek Paragliders do not bear any responsibility for damages or injuries resulting from paragliding activities.**

## 2. Description

The main purpose of light, double-function Combo is training. Nevertheless, it will satisfy more experienced pilots too, who seek a simple and inexpensive harness for short flights.

Its best feature is easy removal of the back part including protector. Thus, the harness becomes even lighter and does not hamper your movements so that basic and ground handling exercises become a dream.

Of course if you are going to fly, the protector must be reassembled to increase safety.

Combo is available as a complete kit with detachable protector, or without it.

On both sides there are small pockets for trifles and a big one on the back.

Optionally you can mount a frontcontainer with rescue chute.

The idea:

Achieving full command of the wing, i.e. always executing correct reactions without a single glance upwards, requires quite a lot of time.

Even experienced pilots are willing to exercise ground-handling whenever flying is not possible, as they fully appreciate its usefulness.

The Combo harness is an answer to long-time pledges of instructors, school owners and pilots themselves, who were forced to use traditional, heavy, expensive and cumbersome harnesses for ground-handling



**DUDEK**  
paragliders

### 3. Speedbar

Speedbar lines must be led through respective pulleys (under the seat front and on the back support). Then put the stops on the lines, so that they stay over the pulleys. Finally, fix the speedsystem hooks. In order to adjust the whole system you have to sit in the harness when hanged by the paraglider's risers. At full speedbar the pulleys on the risers should get together. When necessary, adjust the lines later according to your flight experiences.



**Do not adjust the speedsystem lines while in flight.**



**Combo harness is designed to accommodate a speedsystem, yet the speedbar belongs to optional equipment and is not supplied with the harness.**

### 4. Rescue chute installation

Combo harness is not provided with an integrated rescue system container. In order to mount it, you have to use an external frontcontainer, fixed to the carabiners or the chest strap. The rescue chute is to be installed within frontcontainer, as described in its manual. All what remains is connect the parachute with the harness, using V-strap and two rectangle screw-locks.



The V-strap connection is shown on the pictures.

V-strap/harness connection points



Rectangular screw-locks



Connectors are to be tightened with a wrench, so that they won't

unlock themselves.



V-strap



After connecting the the V-strap of the harness, it is to be hidden under covers as shown on the pictures.



V-strap cover



V-strap/rescue chute connection point

Combo harness can accommodate any external frontcontainer, as long as it is designed for firmly securing it to the carabiners or the chest strap.



Frontcontainer

Connecting strap



Obviously, our Light 90/Light 120 frontcontainers can be used with the Combo too. In this case the connection strap supplied with the container will do the job. The V-strap is to be connected to the carabiners as shown on the pictures.



**When using container of this type the left arm of the V-strap must be disconnected in order to get into harness. Before launch it is absolutely mandatory to check if the V-riser was clipped back into the carabiner.**

**To avoid accidental opening of the rescue system, pins closing the container must be checked before each flight!**

Rescue chute must be periodically aired and repacked, according to its manual. Proven equipment for the Combo is the Globe 120 rescue chute, manufactured by Dudek Paragliders. Installation of other brands rescues is also possible. In such case make sure you are using an appropriate external container.

## 5. Harness/paraglider connection

Combo harness is not supplied with carabiners as standard. Harness can best be connected to the paraglider with dedicated aluminium or steel carabiners, certified for proper strength. Another thing to connect before launch is the speedsystem lines of the harness (when installed) with the speedsystem of the risers. It is recommended to replace main carabiners with new ones after 300 hrs airtime.



**Before launch check if the carabiners are locked and guarded against accidental opening.**

## 6. Harness/tow connection

The only safe way of attaching tow line is via dedicated tow release. Combo does not feature additional points to fix the tow release, therefore it is to be mounted directly on the carabiners or risers.

## 7. Straps adjustment



**Before adjusting the straps please install rescue chute and fill the back pocket as for normal flight. Watch out for the symmetry – left and right side should be adjusted symmetrically. First, test flight should be done in easy weather conditions, with necessary corrections applied afterwards. Do not adjust the harness while flying.**

### 7.1 Shoulder straps

Thanks to adjustable shoulder straps the Combo can accommodate pilots of almost any height. They should stay on your shoulders rather tight, with just a little play. Too short straps will make difficult comfortable seating after launch and can limit your movements in flight. A clip on the shoulder traps will make sure they stay in place during launch and flight. Additionally, there is an alarm whistle fixed to the clip. You can use it to guide help party in case of a tree landing or any other emergency.

### 7.2 Side straps

They determine the seat/backrest angle. Initial adjustment should be done before the first flight, with the harness hanged from a ceiling. All settings are to be verified in first flight and can be further modified at any time. Bear in mind that when the backrest is too much reclined, there is increased risk of getting a twist in case of big deflation.

### 7.3 Leg straps

The most important safeguard against falling out of the harness. Their adjustment must allow for easy launching and later seating into harness. Too short setting can make you uncomfortable and restrain your starting run. Too long setting can make seating into harness without using your hands impossible. In Combo harness the left leg strap is joined with the chest strap, significantly reducing risk of launching without leg straps closed.



**In order to avoid falling out of the harness it is imperative to check before each launch if the chest and legs straps are closed. Not closing the straps is extremely dangerous and is a known reason of fatal accidents !**

### 7.4 Chest strap

Chest strap governs the distance between carabiners in range of 40-48 cm. Increasing that distance makes the harness less stable, improving effectiveness of the weightshifting and relaying more information from the canopy. Reducing it will stabilize everything and makes the paraglider less receptive to weight steering. Too narrow a base can make recovery from extreme situations very hard or even impossible (in case of a spiral). If the manufacturer of the paraglider does not give any special instructions, recommended width is 42-48 cm. In turbulent air you can pull in the strap to feel more comfortable, but always remember that it is more probable to get a twist in emergency then.



## 8. Pockets

Combo has a spacious back pocket (ca. 8 litres volume) and two little side pockets. Side pockets can be reached in flight.



## 9. Protector

The Combo features a 17 cm airfoam protector. The protector is located in the outer part of the harness. In order to take it out it is enough to open the zipper attaching that part to backrest and seat plate.





Combo can be used with removed protector as well, e.g. for groundhandling training. It is not recommended to fly at any time with removed protector, as the pilot has absolutely no protection in case of accident.



## 10. Additional equipment

Combo harness as standard is NOT supplied with:

- speedbar
- carabiners
- V-strap
- rectangle screwlocks (connecting V-strap to the harness)
- rescue chute container

When necessary, these parts are to be purchased separately.

## 11. Before flight

Before each flight a thorough check of the harness is necessary. For your own safety make sure that:

- the harness is not damaged in any way
- rescue chute container is correctly closed and locked with pins
- rescue chute release handle is correctly set up and has the right shape (quite often it happens to be deformed in transport, so it's important to check if it's not flattened and easy to grab)
- all leg and chest straps are closed
- shoulder and side straps remain correctly adjusted
- all pockets are closed
- main carabiners are closed and locked, without any damage
- the speedbar is clipped to the paraglider.

## 12. Using rescue chute

Rescue chute should be used in case of emergency, when you can't recover the paraglider from abnormal flight state in any other way. Throwing the chute while in a fast spin is risky. If there is still some altitude to spare, first you should try to slow down or stop the spin altogether.

To use the chute grab the release handle, with fast and resolute move rip it from its velcro and throw it together with the canopy bag as far as possible, to the outside of the spiral (if present). After opening deflate your paraglider with its rear risers. Prepare for landing in parachute style, keeping your legs together with slightly bent knees

## 13. Landing

While on final approach, assume upright position and prepare your legs. Touchdown when still sitting is unacceptable and very dangerous, as even despite the protector there is high risk of spine injury. Land always on your feet, with a few steps to bleed off the speed if necessary. Protector is not a landing aid and was not designed as such.

## 14. Water landing

Water landing is potentially very dangerous, with imminent risk of drowning. If it is unavoidable, prepare yourself by releasing all buckles and straps beforehand. In the last moment get out of the harness to avoid getting tangled in the lines or other gear. The harness does not sink, so you can later grab it and use as a lifebuoy.



**Water landing while still in harness is extremely dangerous. Protector does not sink and will always float, forcing your head under water, rendering breathing very hard or impossible. There is very high risk of getting tangled in lines and drowning.**

## 15. Tandem flying

Combo harness was not designed for tandem flying. It is acceptable to use it for the passenger.

## 16. Cleaning and storage

All materials for the harness were carefully selected according to their quality and durability. Augmented with your care they will keep the harness in good condition for a long time. The harness is best cleaned with a wet sponge, possibly a bit of soap. Do not use detergents or solvents. If there is a lot of mud, use the brush first before wet cleaning.

In case of completely soaked harness (e.g. after water landing) dry it in a well aired place, away from direct sun operation.

Soaked back protector must be taken out of the harness and dried with opened zip. If this will be not enough, remove the airfoam and dry it separately.

Soaked rescue chute always has to be completely removed from the harness, dried and packed again by a licensed person.

In case of a long-time storage keep it either in the backpack or loose, in a well ventilated room, away from sun rays. Unfortunately some discoloration of the harness parts is unavoidable over time and this is yet another reason for not exposing it to the sun more than necessary.

## 17. Operation and repairs

Periodic control of the harness will keep it in safe operation for a long time. After each hard landing check the back protector too, as the seams or zip quite often get ripped after absorbing impact and damaged protector will be ineffective. If you notice damage to its cover, send it back to the producer for a repair or buy a new one.

Correspondingly, after each use of rescue chute thoroughly check entire harness for damages, paying particular attention to straps and seams.

Aluminium carabiners should be replaced after each 5 years or 300 hours airtime. Scratched or damaged carabiners are not serviceable anymore and have to be replaced at once.

Using damaged harness is out of the question. In case of any doubts please contact your dealer or manufacturer and/or send it to an authorised workshop for closer inspection.

## 18. Technical data

Size	Suspension height *	Seat width *	Pilot height *	Max. pilot weight	Harness weight **
M	44	35	155-175	100 kg	3,45
L	45	37	170-190	100 kg	3,95

\* Dimesions in centimeters.

\*\* Weight (kg) including protector.

Since Dudek Paragliders products are subject to constant improvements, some minor differences are possible between manual and actual product. Dudek Paragliders withhold rights to introduce such changes without individual notice.



Dudek Paragliders s.j.  
ul. Centralna 2 U  
86- 031 Osielsko  
Poland  
phone: +48 52 3241740  
fax: 52 381 33 58  
export@dudek.eu  
www.dudek.eu