

# independence

## gliders for real pilots

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Owner's manual Revision 1.0, Fassung vom 28.02.2012

Paragliding harness Innovation Pro

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With the Innovation Pro you bought one of the most comfortable and functional allround harness, which is available on the market at present. Thank you for your confidence. Please read this instruction carefully and consider, that Independence is not liable for accidents and damage, which result from disregarding of this operating instructions.

## Technical description:

The Innovation Pro is a harness for the use in a not motorized paraglider. Certification No.: EAPR GZ-7528/12.

technical datas	Small	Medium	Large
max. load	120 daN	120 daN	120 daN
harness weight	3,8 kg	4,1 kg	4,4 kg
hangpoint height	46 cm	49 cm	51 cm
protector system		Mousse Bag	

### Overview:



- a) Rescue system container
- b) Rescue system release handle
- c) Safe T-System with chest belt buckle
- d) Lateral chest belt / adjustment buckle
- e) Main suspension
- f) Eyelet for speed bar line
- g) Pulley for speed bar line
- h) Shoulder belt with adjustment buckle
- i) Suspension for rescue parachute connection bridle (covered)
- j) Protector
- k) Adjustment of seatboard inclination
- l) Attachment ring for stirrup
- m) Fixation for stirrup/speedbar
- n) Rubber band for pulling back speed bar
- p) Storage bag
- q) Innencontainer with release handle



1) Schematic description of how to mount the speedbar (Components partly covered)



## Adjustment possibilities:

Adjustment possibilities are existing at the shoulder belts, the chest belt, the lateral chest belts, two seatboard inclination adjustment belts and the leg straps.

By the versatile adjusting possibilities of the Innovation Pro we recommend in any case that all adjustments are done in a simulator **before** the first flight to guarantee an optimal comfort.

The buckles of the chest and leg straps are secured against unintentional opening. To open these buckles you have to push both buttons of the buckle at the same time.

### Adjust the chest belt:

The chest belt is closed with Click-Lock-buckles. If the chest belt is closed, also the falling out safety device (Safe-T-System) is closed. The Click-Lock buckles must be closed audibly! The length of the chest belt can be adjusted and should not be tightened too much.

### Adjusting the shoulder belts:

Please note that with correct adjusting the shoulder belts are felt with light pressure on the shoulders. With the shoulder belts you adjust the harness on the pilot's height, but also you adjust the seating position between upright and lying.

### Adjusting the lateral chest belts:

Adjusting the lateral chest belts take place as the third step and offers on one side again the variation of the seating position. On the other hand you adjust with the lateral chest belts the most comfortable seating position. During the adjustment pay attention to the fact that the body load is distributed equal on shoulder belt and lateral chest belt. Please take care that the lateral chest belt is attached correctly to the main suspension carabiners.

### Adjusting the seatboard's inclination:

The seatboard's inclination of the Innovation Pro can be adjusted by the adjusting-belt in the rear part of the seatboard and by the circulating rope of the seatboard extension.

### Adjusting of the leg belts:

When you put the harness on, please take care that the Click-Lock-buckles are closed correct and audible. The leg belts should be fastened tight but should leave your legs still enough space to move during take off and landing phase.

### Attaching the speed bar:

You can see in the schematic description how the speedbar rope is running. The rope of the speedbar runs down from the risers to the pulley at the seatboard. Then put it through the D-ring with attached rubber band of the opposite side (pullback function of speedbar), placed inside in middle of the seatboard (see overview n)). Then put the rope through the D-ring placed inside at the front of the seatboard and put it through the grommet of the frontal edge. The rope is guided through the small lateral D-rings to the frontal edge of the seatboard. Here the line gets connected to the speedbar.

The length of the speedbar's line must be adjusted in a simulator before flight!

## 2. Mounting the rescue parachute

The Innovation Pro has got an inner container with integrated release handle. Out of this reason you have to find out the right size of the inner container before mounting the rescue parachute.

Therefore you need to know the volume of the rescue parachute. If it is not shown in the parachute manual, you can alternatively determine the volume of the rescue parachute by checking it's weight.

As a rule of thumb multiply the weight by 3. For example: 1500 gr x 3 = 4500 ccm Volumen

You have the choice of two innercontainer's sizes for the Innovation Pro:

**Container size Medium    from 3000 ccm to 6300 ccm**  
**Container size Large     from 5000 ccm to 8500 ccm**

Volumes of the independence rescue-parachutes which are compatible with the Innovation Pro:

Piccolo EVO:	3700 ccm = M	Joker M:	6800 ccm = L
Annular 20 EVO:	4500 ccm = M	Joker L:	7500 ccm = L
Annular 22 EVO:	5000 ccm = M or L	SevenUp M:	7500 ccm = L
Annular 24 EVO:	5500 ccm = M or L	Seven Up L:	7200 ccm = L
Annular 20 "Classic":	5300 ccm = M or L	Evo Cross 100:	4500 ccm = M
Annular 22 "Classic":	6250 ccm = M or L	Evo Cross 120:	5200 ccm = M or L
Annular 24 "Classic":	7150 ccm = L	Evo Cross 160:	5700 ccm = M or L

### 2.1. Placing the rescue parachute into the innercontainer:

After you have chosen the right innercontainer size the rescue parachute is placed into the innercontainer. The steps of packing until you have reached the shown status below, has to be done according the rescue parachute manual!

The following guide shows the assembling of an Annular Evo. Other systems have to be built in the same way analogously. Please check if there are special remarks in your parachute manual!

Steerable systems (example Rogallo systems) can be installed in the Innovation Pro only with explicit approval of the rescue parachute manufacturer!



1. Fold the parachute like a "S" on the width of the container, pull out the Ram-Air-pockets a little bit to the side (if the parachute is equipped with Ram-Air-pockets).

2. Remove the packing cord!



### Placing in container option a)

3a. Fold the canopy in small S-folds and place it in the container. Bundle the lines in 3x3 "8-folds". Do not bundle the last 60 cm of lines.

### Placing in container option b)

3b. Fold the canopy in big, horizontal S-folds (stack pack). Bundle the lines in 3x3 "8-folds". Do not bundle the last 60 cm of lines.



Both options are technically equivalent and can alternatively be used.

**Attention: new rubber bands must be used for line bundles and container with every re-pack!**



4. Close the container with the lines. First the right flap with the upper and lower flap. Depending of the rescue system size the inner or outer grommets can be used to adjust the container volume.

5. Close the left flap. Also here you can adjust the container volume by using the inner or outer grommets. First close the middle, then the outside!

## 2.2. Mouting the inner container into the harness:



1. Connect the rescue bridle with the harness bridle by looping the bridles or with a quick link (strength > 2400 daN) and fix the connection to prevent slipping (for example by a neopren sleeve).

2. Stow the bridle in the harness container and place the innercontainer in the harness container. (Lines of innercontainer are facing to the bottom side)



3. Close the harness container with the help of 3 packing cords (a,b,c). Place the handle/container connection in between b) and c). Put the 3 packing cords through the grommets of the elastic strap (I).



4. Close container flap (II) with packing cords a) and b).



5. Close container flap (III) with packing cords b) and c). Put the pins through the loops.



6. Remove all packing cords! Secure the pin in the middle with a 2 daN seal thread, finally close the pin covers.

## How to secure the release pin:

To avoid an unintentional opening it is obligatory to use a special seal thread to secure the middle pin. This defines a minimum opening force. This special thread must be put through the loop at the harness and the loop at the handle and have to be fixed by a knot. (See picture 6 red arrow)

To secure the pin it is only allowed to use certified material because if the strength of this material is too high the safe operation of the rescue system is not guaranteed.

This thread is supplied by Flymarket GmbH & Co. KG! Do not use other threads which may look the same!

## Attention:

After every installation of a rescue-system in a harness there must be a test if the opening force is between 2 and 7 daN. If harness and rescue parachute are combined the first time a compatibility check have to be performed by an authorized person!

The compatibility must be confirmed in the parachute repack log book.

# Operating notes:

## Operation of the protector:

The Innovation Pro has a type certified back protector made out of a special foam, which is sewn in a nylon fabric cover. Before every take off you have to check that the protector is completely filled up with air. Especially on low temperatures and after long disuse of the protector (if compressed during storage) it may take a little longer to be inflated completely.

During a hard landing the air inside of the protector will be compressed and the air will be deflated through the seams of the nylon fabric cover. The resulting deceleration distributes the impact energy over a longer period and protects the spine from extreme peak loads. The G-forces achieved in the type certification were very good. However, even the best back protection does not guarantee the prevention of back injuries!!!

For this reason, the protector should not be used for unnecessary seat board landings. With every use the protector will be less efficient and the effect of protection less - even if no damage is visible.

If a damage is visible the protector is not to be used anymore as well as after a hard landing!! In this case the protector must be exchanged or repaired from an authorised dealer/workshop.

## Before use of the harness the following points should be checked:

- Outer shell of the protector and the entire belt system intact?
- Protector fully inflated?
- Rescue container and release handle properly closed?
- Acceleration system (if any) properly mounted and adjusted?
- All harness buckles properly closed and adjusted?

## Maintenance / service life of the protector:

The protector is almost maintenance free. Before each use the protector should be checked to be in right position and fully inflated. The protector is, because of to the mounting position between rescue container and seat board, protected from mechanical damage. Visible damage (holes, cracks) must be repaired, otherwise the outer shell can break during an impact with a loss of damping.

After a hard landing with the use of the protector and if a damage is visible the protector must be repaired or exchanged by the manufacturer or an authorised dealer/workshop.

## Tandem flights:

The Innovation Pro is suitable as a passenger harness (without a rescue system built in). It is not suitable as a pilot harness because the rescue container will not fit for a tandem rescue systems.

## Towing:

The Innovation is suitable for towing if the main carabiners are used as attachment points for the towing release. There are no separate attachment points to mount a towing release!

Please check the towing release manual for a correct adaption on the harness.

## Behavior in particular cases

During water and strong wind landings the pilot should disconnect himself as soon as possible from the paraglider / harness after landing.

For tree landings, etc. the pilot should first secure himself against a possible crash and should wait for professional help. Contrary to above recommendations, it is possible that a different behavior as described is required. The variety of possible situations not allows an universal or general advise for the right behavior. The right behavior is a case-to-case decision in full responsibility of the pilot.

## **Lifetime and replacement of parts, repair advice**

The Innovation Pro was designed for high loads and stress. High demands were set in the choice of materials. The lifetime of the harness depends on a high degree of awareness and treatment of the pilot. We recommend to inspect the harness periodically for signs of wear. If necessary damaged components must be replaced.

Especially make sure that defective seams and materials will be replaced immediately by an authorized workshop. Furthermore there is always the possibility to send the harness for an inspection to the manufacturer.

If the harness is dirty, clean it only with water. Avoid mechanical stress as brush and rub. Chemical cleaners will damage fabric and webbing.

Except the rubber bands of the inner container and sealing thread no spare part is necessary at the Innovation Pro. Only approved rubber bands with the size of 30x3x1 mm or 25x3x1 mm should be used. An inexpensive purchase is possible through us.

## **Maintenance, inspection, periodic check:**

The Innovation Pro is almost maintenance free but it requires a regular check for damage. Regular inspection gives you the guarantee of a full function of the harness.

Take particular care that no dirt gets into the mechanic of the buckles and that all moving parts of the buckle are running free and are not damaged. If needed you can oil the buckles a little bit.

The maintenance of the protector is described separate.

The harness must undergo at least after 24 months a complete check. The carabiner must be replaced according the carabiner manufacturer instructions, latest after 1000 hours or 5 years. The periodic check must be documented.

## **Storage and transport:**

In order to prevent unnecessary weakening of the harness we recommend for storage and transport:

- avoid high temperatures (for example: closed car in summer)
- avoid dealing with fire, sharp objects and chemicals close the harness
- avoid unnecessary long exposure to sunlight as ultraviolet radiation destroys the molecular structure of the material
- avoid contact with salt water or acid liquids
- if the harness is not in use for a long time, especially the back protector should not be stored compressed. Store the harness in a cool, dry place.

## **Disposal:**

The materials used in a paragliding harness require proper disposal. Please return the worn-out equipment to us. The equipment will be disposed properly by us.

## **Nature- and environment friendly behaviour:**

Actually it's self evident, but nevertheless mentioned particularly: Please do our nature near sport in a way which do not stress nature and environment!

Please do not walk beside the marked ways, don't leave your litter, don't make unnecessary loud noises and respect the sensitive balance in the mountains.

Especially at the take-off we have to take care for the nature!