

## **1. REVEL HARNESS CONCEPT**

REVEL is a comfortable harness for advanced and demanding pilots. The REVEL harness is very comfortable, allowing easy seating for the pilot after take-off.

A wide range of harness sizes and adjustment enables selection of an almost "tailor-made" harness for any user (see Size Table on page 7). The backup parachute is located under the seating board with a rigid easily accessible releaser. The harness has a sufficiently large back pocket for carrying a backpack and other equipment.

The top section of the back pocket holds a tilting reinforcement which can be folded during packing the harness which makes packing easier. This reinforcement helps maintain the shape of the back pocket. The back pocket has another pocket to accommodate a radio transmitter or two-litre water pouch (Camelbag™). Above this pocket is a steel eye trough which the radio transmitter microphone or Camelbag™ tube is passed. A Camelbag™ is not standard equipment.

The harness has a separate compartment for a foam spine protector with fasteners inside the harness. This harness can be connected to a front water pouch with an equipment "desk", which is not standard equipment.

## **2. REVEL HARNESS SAFETY**

During development of the REVEL harness great emphasis was placed not only on the pilot's comfort, which is also very important, but particularly on protective elements contributing to the pilot's passive safety. The REVEL harness has undergone stringent testing and many tests exceeding all currently valid standards for testing harnesses. The main factors contributing to passive pilot safety are detailed in the following chapters.

## **3. RESCUES**

We took a long think about the accessibility of the rescues parachute handle, because what good is a rescue parachute if it cannot be reached when needed. The location of the rescues parachute is crucial. After numerous tests we came to the conclusion that the best location for normal use is under the seating board.

The trigger handle is well accessible, reinforced and easily manipulated even in gloves. The standard location of the trigger is on the right-hand side, but it can be moved tot the left-hand side upon request. The container holding rescue parachute should have a tag to connect to the trigger on the side.

## **4. BACK PROTECTOR**

The harness can accommodate a foam back protector up to 17cm wide. Our back protector is standard equipment; we recommend using our protector as it is designed especially for the REVEL harness.

Spine protectors form other producers may not be totally compliant to the harness shape and method of fastening.

An incorrectly shaped protector has a significant affect on the seating position in the harness.

## **5. SPEED SYSTEM**

The harness also includes pulleys for guiding the speed bar. The speed cord is routed partly through the harness.

Along the speed cord is routed a rubber cable which prevents deeper sagging of the speed boom under the harness.

This eliminates the risk of catching the boom on obstacles, particularly immediately after take-off. It also prevents

throwing of the rescue parachute into the speed boom when the parachute is being disposed of. The rubber cable in no way limits the functioning of the speed system.

## 6. ABS

This is a system of straps that substantially limits the swaying of the pilot to the sides. The range of harness stiffness is adjusted by the breast strap  
(see chapter Harness Adjustment).

## 7. RESCUES PARACHUTE

To ensure reliable function of the rescue parachute, we recommend packing of the parachute by the producer or other authorised person according to the following procedure.



Fig. 1



Fig. 2

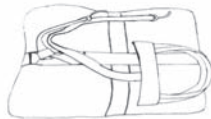


Fig. 3

- The backup parachute's support straps must be connected to the support straps for the backup parachute, which are sewn onto the harness shoulders
  - connection can be done in two ways:
    - a) riser straps from the backup parachute are connected with the support straps for the backup parachute, which are sewn onto the harness, using a biner (minimum strength 2000 kg). This biner must be secured against turning. An elastic fabric sheath, which firmly grips the whole joint, is sewn onto the support straps for the parachute. The biner nut must be tightened! Finally, cover the biner with elastic fabric (see Fig. 1).
    - b) riser straps from the backup parachute are connected with the support straps for the backup parachute by a knot. This connection is made by first threading support straps from the backup parachute through the strap eye, which is located at the end of the support strap for the backup parachute, and then pass the backup parachute in its container through the loop. Finally, cover the knot with elastic fabric.
      - Connect the handle to the container by threading the loop on the trigger through the eye on the container and then pass the handle through the loop – a knot between the trigger and container eye shall result (see Fig. 3).
- Place the backup parachute's support straps into the guide flap from the shoulders through the harness sides to the backup parachute cover.
  - Place the support straps of the parachute at the bottom of the cover.
  - Place the backup parachute into the container, connecting the handle so that it is located in top!

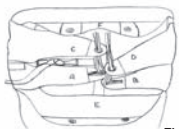


Fig. 4

- To close the backup parachute you will need two packing laces about 40 cm long. Thread the laces through the closing eyes sewed to flap "A" and "B" (see Fig. 4).

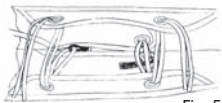


Fig. 5

- Gradually (A, C, E, F and B, D, E, F respectively) thread the packing laces through the metal eyes in so that you pull the closing eye from the final metal ring and secure it with a metal pin (see Fig. 5).
- **Do not forget to pull the packing lace from the closing eye**, best under the pin, thereby extending the durability of the lace.
- Cover the connecting strap between the handle and backup parachute with a small velcro flap. Secure the handle to the side of the harness using a velcro strap (see Fig. 8).



Fig. 6

## 8. HARNESS ADJUSTMENT

REVEL provides the pilot with several possibilities of setting the ideal flying position. We recommend adjusting the harness prior to taking off for the first time. When adjusting the harness it is suitable to place the spine protector into the harness and also connect the backup parachute to the harness. Fine adjustment of the harness can be done during flight. Always make adjustments in a sufficient distance above ground and in a free flight area!

### 8.1 Adjusting side straps.

On the sides of the harness there are two straps, one wider strap (45mm) and a narrower strap (25 mm), which is threaded an adjustable buckle. By pulling the side adjustment strap towards the support biner, the pilot's position shall be more upright and loosening the strap shall mean a more laid back position. Adjust both straps according to personal preference, take care to adjust both straps identically.



Fig. 7

### 8.2 Adjusting shoulder straps.

We recommend setting the shoulder straps only after the side straps have been set. Shoulder straps should not be too tight, or they could limit the pilot's reach to the free ends (support cords), for example, when closing the external parts of the paraglider ("ears"). However, they should also not be too loose so they don't fall off the pilot's shoulders.



Fig. 8

### 8.3 Adjusting breast strap.

The length of the breast strap is limited to 39 to 48 cm. Shortening the breast strap to a minimum length results in greater stiffness of the harness and maximum extension of the strap allows for better active weight transfer from one side to another, which is very useful for circling in a thermal.

#### 8.4 Adjusting leg straps.

When tightened, the leg straps should not be too tight or too loose. The recommended length is when the strap copies the shape of the leg plus one hand palm length inserter under the strap.

#### 8.5 Adjusting the angle of the seating board.

The harness is fitted with a split board. To adjust the board angle use the strap sewn to the sides of the harness and leading through a ring to the adjustment buckle. Pulling on the adjustment strap shall raise your legs upwards and provide for a more crouched position. Loosening the adjustment strap shall provide for a more open position.

#### 8.6 Speed Bar

Pulleys for guiding the speed boom cord are sewn inside the harness, on its sides. A rubber cable which pulls on the speed boom under the board is routed in pulley No. 3 and is tied to a tag located on the strap at the side harness adjustment, see Fig. 9.

#### 8.7 Back Protector Mounting

- Unzip the back pocket and unzip the inside pocket for the spine protector.
- Insert the bottom part of the spine protector into the space under the seating board. Using the velcro straps attach the protector to the harness.
- Now insert the top part of the spine protector under the loose transverse strap, which is sewn between both side seams.
  - Zip closed the pocket for the spine protector.
  - Try out the seating position in the harness.
- Both ends of the protector are fitted with a velcro strap, which attach to the opposite pieces of velcro located inside the harness under the seating board.



Fig. 9

#### 8.8 Towing

When towing use the eyes for attachment of the paraglider loose ends. Observe all instructions given by the towing system producer and tow operator.

### 9. CHECK PRIOR TO TAKE-OFF

To connect the paraglider use only main biner which are part of the harness. These biners are inserted in the support eyes marked **red**.

Biners must be locked against accidental release by a threaded securing nut! Prior to take-off always make sure that the harness is secured to the paraglider in the flight direction! Before taking off always check the secured and untwisted leg straps and breast straps. Furthermore, it is necessary to check for undamaged seams and locks. We also recommend checking the fixing of the backup parachute and trigger. If any damage to the harness' support parts, seams or metal parts is found, send it to the producer for inspection immediately.

## 10. MATERIALS

| Materials         | Producer     |
|-------------------|--------------|
| Support straps    | A. Mouka a.s |
| Cordura by DuPont | Tessitura    |
| Buckles           | Sup Air      |
| Pesh threads      | Euronitě     |

## 11. SIZE TABLE

| weight (kg)/ size (cm) | 140–155 | 156–170 | 171–185 | 186–200 | over 200 |
|------------------------|---------|---------|---------|---------|----------|
| do 50                  | XS      | S       |         |         |          |
| 51–60                  | S       | S       | M       | M       |          |
| 61–70                  | S       | M       | M       | L       |          |
| 71–80                  | M       | M       | M       | L       | XL       |
| 81–90                  | M       | M       | L       | L       | XL       |
| 91–100                 |         | L       | L       | XL      | XL       |
| 101–110                |         | L       | XL      | XL      | XXL      |
| 111–120                |         |         | XL      | XXL     | XXL      |

This harness was tested by LAA ČR according to guideline PL5 up to a maximum pilot weight of 100 kg.

## 12. MAINTENANCE AND STORAGE

Take care to avoid contact of the harness with oils or other chemicals. Contamination of the harness with fats or oils or other chemicals may lead to serious damage of its structure (straps and buckles) as well as fabric, and thereby cause a dramatic reduction in harness strength. Clean the harness only with clean water! Under no circumstances may the harness, particularly the straps, be cleaned using chemicals. Store the harness in areas without chemicals and temperatures of –10 to +40 °C, and do not expose to excessive sunlight.

**The producer strictly forbids any unauthorised modifications to the harness and reserves the right to any and all repairs!**

## 13. GUARANTEE

The producer guarantees the correct and perfect function of this harness for a period of **24** months.

This warranty shall not cover defects caused by the incorrect use, unqualified handling, unauthorised modifications to the harness, or inadequate storage.

We recommend the inspection of the harness by the producer at least once a year!

**POZNÁMKY/NOTES**