

PARAGLIDE HARNESS INSTRUCTION MANUAL

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1. Concept and Safety

Axel Harness Conception

Axel is a comfortable harness for beginners as well as for advanced pilots. The Axel harness is very comfortable, allowing easy seating for the pilot after take-off. The possibility of loosening the side-straps to a more laid-back position is deliberately limited (see Harness Adjustment, p. 5). Easy moving by walking or by taking off, as well as an easy `getting out of` the paraglide after landing has been achieved by a careful search for the ideal strap harness construction.

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 trigger handle. The harness has a sufficiently large back pocket for carrying a backpack and other equipment. The harness has a separate room for the foam spine-protector to put in with fasteners inside the harness. The side pockets can carry another pair of gloves or a camera.

This harness can be connected to a front water pouch with the equipment `desk`, which is not standard equipment.

Axel Harness Safety

During the development of the Axel 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 Axel 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.

Backup parachute

We took a long time to think about the accessibility of the backup parachute handle, because what good is a backup parachute if it cannot be reached when needed. The location of the backup parachute is related to this issue. After a long series of tests we reached 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 with gloves. The standard location of the trigger is on the right-hand side, but it can be moved to the left-hand side upon request. The container holding the backup parachute should have a tag to connect the trigger to the side.

Spine protector

The harness can accommodate a foam spine protector up to 17 cm wide. Our spine protector is standard equipment; we recommend using our protector as it is designed especially for the Axel harness. Spine protectors from other producers may not be totally compliant with the harness shape and method of fastening, even though it might not be obvious at first glance. An incorrectly shaped protector has a significant affect on the seating position in the harness.

Speed System – Axel

The harness includes pulleys for guiding the speed boom. 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 backup 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.

ABS

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

2. Backup Parachute Mounting

To ensure a reliable function of the backup parachute, we recommend the backup parachute should be packed by the producer or other authorised person according to the following procedure.

- The backup parachute's support straps must be connected to the support straps of the backup parachute, which are sewn onto the harness shoulders
- connection can be done in two ways:

a) support 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 backup parachute. The biner nut must be tightened! Finally, cover the biner with elastic fabric. (see Fig. 1)



Fig. 1

b) support 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 the 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 passing the backup parachute in its container through the loop, Finally cover the knot with elastic fabric.

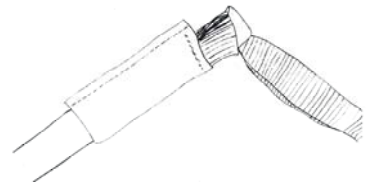


Fig.2

- Connect the trigger 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 will result (see Fig. 3).
- Place the backup parachute's support straps into the guide flaps from the shoulders through the harness sides to the backup parachute cover.

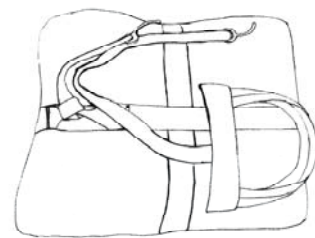


Fig.3

- Place the support straps of the parachute at the bottom of the cover.

- Place the backup parachute into the cover, connecting the trigger so that it is located on top!
- 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).

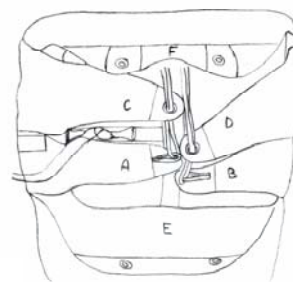
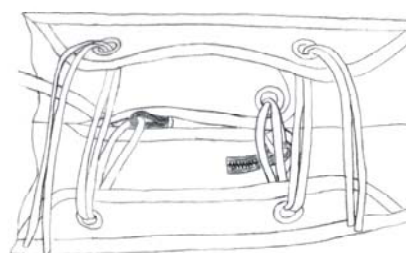


Fig.4

- Gradually (A, C, E, F and B, D, E, F respectively) thread the packing laces through the metal eyes, 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.**

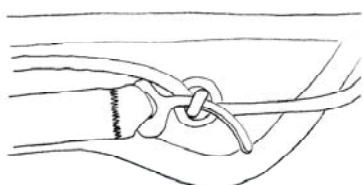
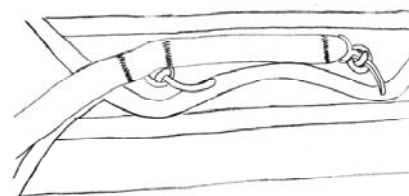


Fig.6 and 7



- 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).

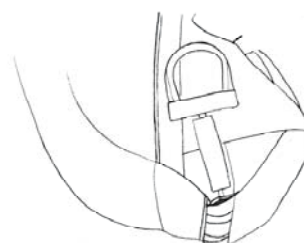


Fig.8

3. Harness Adjustment

Axel provides the pilot with several possibilities of adjusting the best flying position. We recommend adjusting the harness before the very first flight. In adjusting the harness it is advisable to put into the harness the spine protector as well as attach the backup parachute to the harness. You can also make fine adjustments during the flight. You should always carry out the adjustments at a sufficient altitude and in a free flight zone!

Side straps adjustment

On the sides of the harness there are two straps, a wide one (43mm) and a narrow one (24mm), which is threaded by an adjustable buckle. By pulling the side adjustment strap towards the support biner, your position will be more upright, loosening the strap will mean a more laid back position. Adjust both straps according to personal preference, take care to adjust both straps identically. With Axel, the length of the side straps is deliberately limited so that the pilot can not adjust the seat to the horizontal position.

Shoulder Straps Adjustment

We recommend adjusting the shoulder straps only after adjusting the side straps. Shoulder straps should not be too tight, 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 not be too loose so as not to fall off the pilot's shoulders.

Breast strap adjustment

The length of the breast strap is limited to 39 to 52cm. Shortening the breast strap to a minimum length results in greater stiffness of the harness; maximum extension of the strap allows for better active weight transfer from side to side, which is very useful for circling in thermals.

Leg straps adjustment

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 inserted under the strap.

4. Speed Boom Mounting

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 through pulley No. 3 and is tied to a tag located on the strap at the side harness adjustment, see Fig. 9.

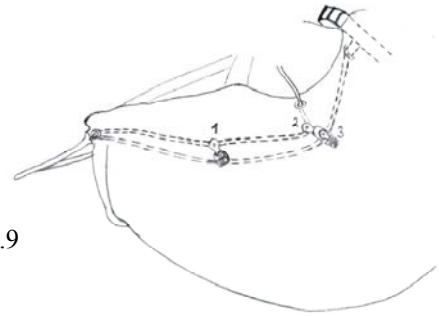


Fig.9

5. Spine 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.
- 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. 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.
- Close the zip of the pocket for the spine protector.
- Try out the seating position in the harness

6. Towing

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

7. Check Prior to Take-off

To connect the paraglider use only the main biners which are part of the harness. These biners are inserted in the support eyes marked **red**. The 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, make sure your leg straps and breast strap are fixed and untangled. Always check for damaged 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 are found, send it to the producer for inspection immediately.

8. Materials

Name of Material	Deliverer	Use
43 mm Strap	Mouka	Main support and leg straps
24 mm Strap	Mouka	Adjustment straps
25 mm Strap	Mouka	Safety strap for the „T“ Buckle
Synton 60 Thread	Amann Sponit	Tissue sewing
Bonder Nylon 20	BARBOUR	Support straps sewing
Metal Pieces		
Click Lock Buckles	SUP Air	Leg and Breast Buckles
Main Binders	SUP Air	
Trimmer	SUP Air	Adjustment Buckles
Pulley	Rellay	Speed System

9. 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

10. Maintenance and Storage

Take care to avoid contact with oils or other chemicals to the harness. Contamination of the harness with fats or oils or other chemicals may lead to serious damage of the support parts of the harness, of the straps and locks structure as well as the fabric, and thereby causing 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!

11. Warranty Conditions

The producer warrants the correct and perfect function of this harness for a period of **24** months. The warranty comes into effect on the date of purchase. The Warranty Certificate must contain the date of purchase and dealer's signature.

A Warranty Certificate that is not filled out will be deemed void.

This warranty does not cover defects caused by the incorrect use, unqualified handling, unauthorised modifications , or inadequate storage of the harness

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

12. Warranty Certificate

Type: _____

Serial number _____

Date of purchase: _____

Dealer _____

Inspection Record:

Date of inspection: _____

Harness condition: _____

Date of inspection: _____

Harness condition: _____

Date of inspection: _____

Harness condition: _____

Date of inspection: _____

Harness condition: _____

Date of inspection: _____

Harness condition: _____