

# Manual

## FreeX TRAINER

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# **1. Your FREEX Trainer**

**The following is to be strictly considered!**

**The use of the TRAINER runs at your own risk!**

**Fastening the human body through a harness to the TRAINER brings risks! Through the lifting force of the profile and the area of the glider, the pilot could be raised from the ground or pulled away from his/her position and be hurled without control to surrounding obstacles!**

**The TRAINER was specially designed for learning and practicing ground handling. Other applications except the mentioned in this handbook are prohibited! FREEX rejects any responsibilities and adhesions that come of the usage and handling of the TRAINER.**

**This handbook contains important information about the handling and use of your new TRAINER. It was carefully put together. That's why we recommend each owner, before using the TRAINER to thoroughly read it, and if there are open questions, get in contact with us.**

## 1.1 Technical Data

<b>TRAINER</b>			M
flat	Cells		25
	Area	m <sup>2</sup>	11.47
	Span	m	7.47
projected	Aspect ratio		4.86
	Area	m <sup>2</sup>	10.09
	Span	m	6.21
	Aspect ratio		3.82
	Lines (A/B/C/D)		2/3/2/2

## **1.2 About the TRAINER**

### **Materials**

The use of high-tech materials guarantees a long life and a damage-resistant, reliable glider. These are our pre-requisites for quality manufacturing of FreeX gliders. Appropriate care and maintenance of your equipment will guarantee its longevity and years of flying pleasure.

FreeX's canopies use 40 g/m<sup>2</sup> Porcher Marine Rip stop Nylon with Soft finish for the top and under sail, Hard finish for the ribs, and an especially water resistant coated top sail. The cloth has been chosen for its excellent UV resistance and tear strength.

Our DHV approved lines are made of ARAMID-Centres with a polyester sheaths. These materials have been tested rigorously in order to pass DHV certification.

### **Canopy Construction**

The canopy of the TRAINER has 25 cells. The specially cut cell entries on the leading edge guide the Rammed air created through the airflow into the canopy.

Pressure equalizing openings in the cell walls permit a homogenous distribution of pressure throughout the canopy. The basic construction and design of the TRAINER give it its notable stability even in extreme situations.

## **1.3 Quality Control**

Before a TRAINER leaves our company, it is tested and surveyed by FreeX expert technicians. During the standard quality control, materials and line lengths are checked and inspected so that they meet approved norms. Any unauthorized and unapproved modifications to FreeX equipment release FreeX and its staff from any liability and will cancel any warranty provided by the manufacturer.

## 1.4 Pre-Checks

We recommend that all pilots perform routine inspection and maintenance of their Trainer.

In order to insure your Trainers maximum performance, we recommend the following pre-material check: (To avoid forgetting points, it is useful to always use the same system)

1. Is there any damage to the sewing on the harness or risers?
2. Any knots or damage to the brake lines or brake handles?
3. Are the quick-links closed and not twisted?
4. Any damage to the lines?
5. Any loose stitching, tears or damage to the line connection points on the sail?
6. Any tears in the ribs or sail?
7. Any damage or fatigue on the sail sewing?

***In case of any damage, consult the manufacturer or your dealer for advice.***

## 1.5 Brake Lines

The brake lines connect to the trailing edge via a series of subsidiary lines. Because of their positions they are more easily scuffed than other lines on your Trainer, so they should be checked more frequently.

The main brake lines run through pulleys connected to the rear risers. The brake handles are tied to the main lines and conveniently positioned press-studs attach them to the risers when not in use. This should prevent them from twisting and tangling.

The brake lines are tested and adjusted at the plant. They are marked by the inspector and again in our factory prior to shipping. The markings serve as a default setting from which an individualized setting should be made. We recommend that the brake lines be adjusted to the actual pilot at a practice area. The points should be followed:

Ensure both main lines are of equal length.

If brake handles have been removed for any reason, check that the line is still routed through the pulley when it is replaced.

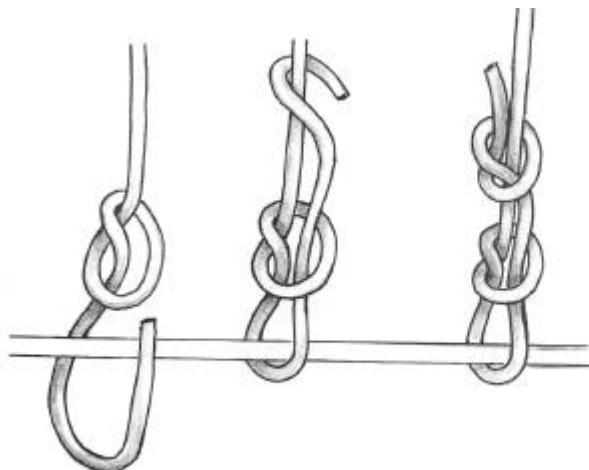
When brake handles are released the brake lines should be slack. There should be substantial “bow” in them and absolutely no deformation of the trailing edge.

Changes made in small steps but still maintain the possibility for full travel from trimmed speed to stall.

We recommend a minimum of 10 cm of free play between the brake release position and the start of deformation on the Trainer.

In the unlikely event of a brake handle becoming detached, or a brake line snapping, the trainer can be stalled with the rear risers (D-risers).

**As you can well imagine, there are several knots that can be used to secure the line to the control handle, however as pictured below is FreeXs recommendation.**



## **2. Application field:**

### **2.1 Licenses:**

The TRAINER may only be used by persons, who are in the possession of necessary licenses. Licensed and entitled persons use the TRAINER at their own risks!

### **2.2 Previous knowledge:**

Training ground handling requires certain previous knowledge. Each user should make sure whether it has the proper knowledge and wealth of experience, and if necessary contact a licensed instructor.

### **Students or persons that are in course of training:**

Students may train only under guidance and permanent supervision of a licensed instructor **and**, providing the Trainer has been given the clearance of use by the Chief Flying Instructor (CFI) of your school.

### **Legislation:**

It is to be considered that the country's dependent legislations are respected and be kept.

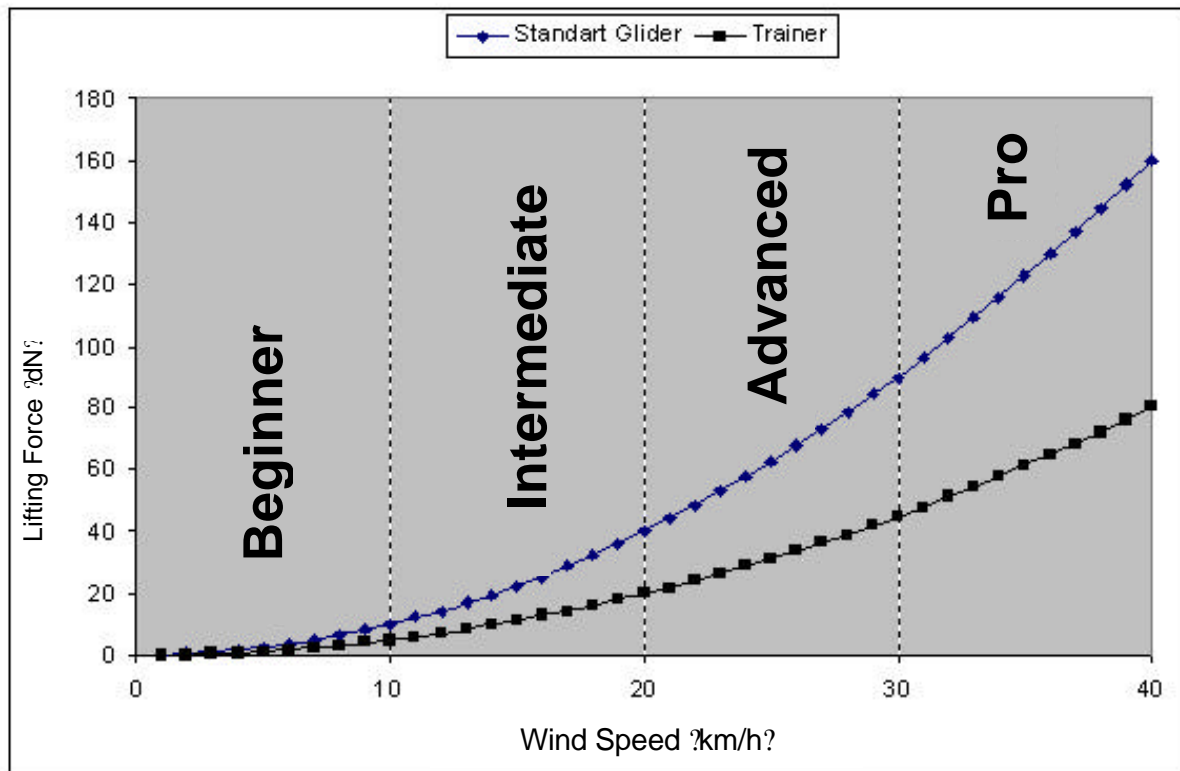
### **2.3 Operational Limits:**

Operational limits concerning hanging up weight, wind speeds and pilots ability should under no circumstances be exceeded.

The technical structure, the profile choice and the small surface were selected in such a way during the development, so that it ensures success in the process of learning, even in strong wind conditions.

Nevertheless this TRAINER can develop high forces and lift the pilot from the ground. That's why we recommend practicing only on flat ground to avoid being lifted up by the wing.

The specified table shows only a reference point in which wind range and under which hanging up weight the TRAINER can be safely used. This range can be subject to strong fluctuations. The air temperature, the height over sea level, the air pressure and stored turbulences can affect the values of the wind range strongly.



## 2.4 Taking off with the TRAINER:

Flying with a paraglider depends on the specially prepared legislation and is dependent of the country. The TRAINER was specially designed for learning and practicing ground handling. During training, care has to be taken that the pilot doesn't lose contact with the ground, and not be lifted by the wing. Flights with this wing are strictly forbidden.

## 2.5 Further Applications:

The TRAINER may not be used for towing or moving of gliding supports as for example used in Kite- or Windsurf sports. Each other application except the mentioned in this handbook should be avoided.

## 2.6 Training ground:

The training ground should be selected in such a way that it is free of obstacles, leaving enough space to surrounding buildings, trees, lines or terrain unevenness.

## **2.7 Wind conditions:**

It should be made sure that the wind conditions at the training ground flow in a laminar way. If the conditions are incalculable (changes of wind direction and intensity), training should be aborted.

## **2.8 Further equipment:**

The TRAINER should be used only together with a certified harness. We recommend even with training, always to wear a helmet, firm footwear, protection clothes (an overall) and good gloves.

## **2.9 Ground handling Techniques:**

There are diverse ground handling techniques, and they do even vary from country to country, from school to school and are subject to personal preferences. Therefore we do consciously avoid describing each possibility of ground handling. Making so, would blow up the framework of this manual.

We recommend taking support of an instructor, which is familiarized with the techniques and makes the learning process easier.

## 3. TRAINER Care, Repairs

### 3.1 Care

The life of your paraglider depends in large on how you treat it. Your TRAINER was a major investment and should be worth looking after. Do not forget that your life may depend on the good condition of your wing!

### 3.2 UV Damage

It is commonly known that UV rays degrade paraglider cloth. Do not leave the wing lying out in the sun for a moment longer than necessary.

### 3.3 Ground Handling

Careless ground handling normally damages paragliders.

Do not drag your wing along the ground to another. This damages the sailcloth.

Do not try to open your wing in strong winds without untangling the lines first. This puts unnecessary strain on the lines.

Do not walk on the lines or wing.

Do not inflate the TRAINER and allow it to crash back down to the ground leading edge first! This will put great strain on the wing and stitching and can even explode cells. Almost all claims of "faulty stitching" or "weak sailcloth" originate from leading edge slams.

### 3.4 Packing Your Glider



In order to guarantee your TRAINER a long life, it is necessary pack it correctly.

Lay the TRAINER out on its top surface, check the lines are not tangled, then lay them on the wing, free from kinks. The risers should be laid together at the centre of the trailing edge.

Fold the wing from each wing tip to the centre cell, making sure that the leading edge is in one straight line, until it is on or two cells wide.

Push any remaining air out by flattening the folded wing from the trailing edge to the leading edge.

Make four or five folds from the trailing edge up to the leading edge so that the bundle is approximately the size and shape of the FreeX paraglider rucksack.

Making sure not to pack the TRAINER too tightly and taking care that the leading edge is folded carefully will increase its life. Always pack as loosely as you can, while still being able to fit it in the rucksack – every fold weakens the cloth on any paraglider. It is best not to keep folding the TRAINER along the same lines- Do not worry if it isn't tidy every time!

### **3.5 Storage**

Moisture is the enemy of a glider. Always store all equipment in a dry room, and do not store it wet. A damp paraglider can be dried by hanging it over a washing line preferably out of the sun. Allow it to dry naturally, never use a hair dryer, etc. Even when the TRAINER is dry, leave the rucksack zipper open when possible to allow residual moisture to evaporate. Do not store the TRAINER in the company of chemicals such as dyes, paints or gasoline. Important: Wet gliders will extremely change their flying characteristics.

### **3.6 Cleaning**

Any abrasion or water will age the cloth of your glider, even if only slightly. Therefore we recommend that stains or marks which have dried into the cloth should be left unclean. The TRAINER may not be cosmetically as nice but it will certainly last longer. If you still feel that the wing must be cleaned, then use only a soft cloth moistened with water on small areas and remember that the most sensitive area of the wing is the leading edge and the top surface which should on no account be cleaned. Never put the TRAINER into a washing machine or have it dry cleaned.

### **3.7 Insects**

Take care that no insects get packed away with your glider. Some insects decay into an acidic substance, which can burn holes into the sailcloth.

### **3.8 Wing Repairs**

Amateur repairs can do more harm than good. Always let a registered dealer or manufacturer carry out TRAINER repairs.

Very small holes in the wing can be repaired using sticky-back sail cloth as long as the tear is not on the stitching of the wing and a large over-lap is used. Stick repair tape on the inside and outside of any area your are repairing. Make the patches rounded with the inside patch larger than the outside one- this reduces the chance of weakening the material between them. If in doubt, consult your dealer.

### **3.10 Line Repairs**

Any damage to the lines (even if it is only the outer sheath) means a new line should be ordered immediately. Ideally a dealer should replace the line. Before fitting a replacement line, check it for length against its counterpart on the other side of the wing. When a line has been replaced, always inflate the TRAINER on a flat ground to check that everything is in order.