

## USERS MANUAL

### Esc\_Free\_24 Windsurfing Boom

Cafrosbooms are designed and built with unidirectional prepreg carbon fiber to provide the utmost in immediacy of feedback to and from the sail rig.

Please read and come in terms with the instructions of use and the words of caution presented herewith. Thereon, pumping, catapulting, cruising in chop, landing high jumps... ought to pose little threat to the prospect of lifelong joy in the company of your boom.

The three enemies of your boom are:

1. Improper assembly and disassembly of the tail piece
2. Improper storage or handling of the boom before and after sailing
3. Sand

The precautionary action required of you against the three enemies is summarized here:

#### **CAUTION !!**

**STORE and KEEP the boom with the tail piece fitted in and the clips locked at ALL times!**

**NEVER store or carry the boom without the tail piece!**

**NEVER remove the tail in any way other than the one suggested in the following instructions!**

**NEVER sail a boom with grip that is worn in the harness area!**

**NEVER sail with sand on the tail tubes especially around the clip housings!**

**NEVER sail with a loosely fitting boom clamp!**

#### **Brief explanation of the necessity of the above caution message.**

About storing, handling and assembly

Once the tail piece is removed or the clips are released, the boom parts become extremely vulnerable and require care while handling. If the boom arms are spread apart or twisted with the tail removed or the clips unlocked, damage may occur in the carbon structure and possibly lead to breakage in the future without warning.

About sand

Sand will at some point ingress in the critical clamp area, in the housings of the boom clips and under the webbing straps of the harness lines. If sand is left there, it will inevitably start eroding the carbon material. This will weaken the boom and may lead to breakage.

## INSTRUCTIONS of ASSEMBLY for the Esc\_Free\_24 boom

### Removing the tail

1. Hold the boom upright - clamp against the ground and tail-end up.
2. Place your foot on the clamp to pin the boom securely to the ground.
3. Grab the boom tubes at clip height and pop the clip saddles open, one at time.
4. Maintain hold of the boom with just one hand while still pressing down with your foot.
5. Push the tail up with the free hand until you feel that it comes to a halt.
6. Place both your forearms along the outer side of the boom tubes in full contact from elbow to wrist.
7. Spread the boom tubes **lightly** OUTwards with your ring and little fingers to release the friction and start "walking" both tail tubes out with your thumb and index fingers bit by bit.
8. As the tail tubes breaks loose, the boom arms will spring rapidly inwards, so be prepared, have a good hold of the boom and keep pressing with your foot at all times.
9. Now be very careful with the two boom parts as they are very vulnerable at this stage. Do what you have to do and put them back together.

### Fitting the tail

1. Hold the boom body upright, tube ends up.
2. Place your foot on the clamp to pin the boom securely to the ground.
3. Hold the left boom arm with the left hand at clip height and the opposite tube end of the tail with the right hand.
4. With the assistance of you left hand, guide the left tail tube inside the left boom tube end - just barely: 1 or 2 mm.
5. Spread the boom tubes apart just as much as needed to align the right tail tube end with the entrance of the right boom tube and insert it again just barely: 1 to 2 mm.
6. Hold the inserted tail tubes secure with your fingers and place the inside of your forearms on the outer side of each boom tube and the base of your wrists on the outer side of the boom clips housings.
7. Use your thumb and index fingers to 'walk' the tail tubes inside of the boom tubes, bit by bit while spreading the boom tubes **lightly** OUTwards with your little and middle fingers to release the friction and facilitate the entry.
8. After the first few pin holes are in, friction eases and you may push the tail all the way with one swift draw.

### CAUTION !

**NEVER** remove or install the tail of the boom in any other fashion than the one described above, with the boom securely held alone in an upright position and pressed firmly to the ground.

## **INSTRUCTIONS of MAINTENANCE against erosion by SAND**

### **Sand in the clamp**

Your boom comes with the clamp fitting mounted and adjusted extremely tight. It is almost impossible to swivel the clamp with just one hand. If, at some point in the future, the clamp develops a loose fit, take it OFF and RINSE well both the boom and the clamp parts. Then check for WEAR of the carbon material of the boom. Fit the clamp back and tighten until firmness is regained. If the clamp does not achieve the initial tightness, contact the builder – either spacer shims or a clamp area refurbishment will be required.

Mind you, Cafrosbooms are molded with a special SiliconCarbide\_epoxy compound at the clamp area to decrease the chances for the carbon structure to wear.

### **Sand in the boom clips**

To make boom life easy it is best not to perform length adjustments while the tail tubes or pin holes appear to be polluted with sand. Prior to adjusting dip the whole rig or the boom in the water to rid it of sand. Do NOT attempt to remove the tail from the boom while it is rigged on the sail!

If the tail tubes slide with a grinding feel, take the boom off the rig. Extend the tail at its fullest and rinse sand off the clip area, the pin holes and the tail tubes with plenty of water. You do NOT have to take the tail off. You can simply immerse the boom in the sea or use a water hose. Slide the tail back and forth a few times and flush again if necessary.

If the tail is so stuck that it hardly moves use the method described previously under “intructions of assembly” forcing the tubes to move out bit by bit in combination with the sideways movement of the tubes. Employ patience and stick to this technique. By no means pull by car, or over a tree branch or use impact to break it loose as any of these improper methods will damage the carbon structure irreparably. Once the tubes are free, flood the inside of the boom with plenty of water and turn the ends downwards to flush water and sand out in one fast stream. Repeat this step as many times as needed to remove all contamination.

Once finished, remember to return the clips to the locked position. Forgetting the clips open may jeopardize their holding ability in time and may expose the pin saddle to unnecessary risk of breakage.

### **Sand under the straps of the harness lines**

Cafrosbooms are equipped with HD EVA grip material throughout the area intended to mount your harness lines. Despite this, you are advised to take some precautionary action every once in a while. Check the status of the boom grip in the harness line area. Flush with a water hose especially under the velcro straps where most sand is bound to be trapped. Make sure that bare carbon is not exposed. If you see bare carbon make sure that you install protective material such heat shrink tubing (the non-stick type used in electrical installations).

## **GENERAL MAINTENANCE**

### **Clip pin corrosion**

The bronze clip pins eventually develop superficial corrosion which may hinder the opening of the clips. This will be apparent if you store a salty boom into several weeks of inactivity. Hence, if you plan to skip sessions for a few weeks, flush your boom in and out with fresh water thoroughly and let it drain. Remember to tap the tail a few times with the palm of your hand to make sure that all water is out of the pin holes. A tiny blast of silicon spray may be applied on the pins before storing the thoroughly washed and drained boom (just care that you do not spray silicon on the grip!). If you want to be really hysteric about it, remember to go say hi to your boom every-once in a while and pop the clips open and closed for a few times. This is guaranteed to establish proper functionality.

In case that you forgot to care for you boom before season storage and the clips are impossible to pop open by hand, use the white plastic extractor that you received with the boom. Put the tail end of the boom over the edge of a table so that the clips are free to pop downwards. Place the two legs of the extractor on either side of the clip saddle (turquoise part) and press firmly downwards to open the clips. In severe situations, you may use a light mallet (soft hammer) to gently tap the extractor.

DO NOT use WD-40 or other products based on organic solvents to lubricate the pins

DO NOT use sandpaper to remove the corroded material from the pins as this may jeopardize the wobble free operation of the tail piece.

....most of the above are common sense... some are not. Bear in mind that carbon fiber is not really a material for applications of general utility. It merits us with tremendous gains in stiffness and low weight, yet, it is very unforgiving if mishandled or used in any other fashion than the one prescribed by the maker. Pay due respect and receive benefits.