

ASSEMBLY MANUAL

HZ 12S

INTRODUCTION:

This manual will illustrate how to properly set up and break down the HZ12S wing properly. Please keep in mind that the HZ12S is an inovative design and is extremely different from the norm.

SETUP PHASE :

Before begining, confirm that the working area where the set up will done is clear of objects that could damage the sail. It would be best to use a lawn with low and dry grass.



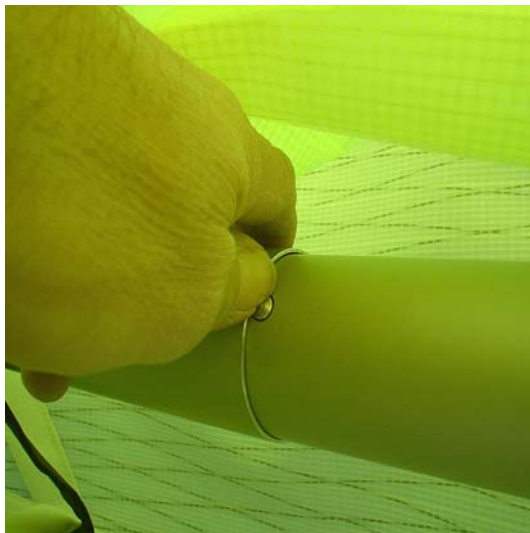
Note the wing bag, partially open, with the components in view that will be assembled in the following steps.



This photo illustrates the tools that are required during the assembly. Two 10mm. and two 13mm. wrenches.



Insert the leading edge spar extension into the spar pocket. Be aware of the markings on the tubes labeled Right (DX) and Left (SX). Be careful not to damage the internal velcro.



Slide the extension tube into the main spar tube, press the lock button until the extension tube slides easily into the main spar. Push the extension tube in until it bottoms out. Gently rotate the extension tube until there is an audible click. Confirm visually that the locking button is visible in its hole in the main spar.



At this point, grasp the extension strut with one hand and the strap on the end cap with the other as shown in photo. Now pull the end cap outboard and slide it into the keeper cup.



In this photo the end cap is in position in the keeper cup. The spherical design of the of the end cap allows for free rotation even under tension.

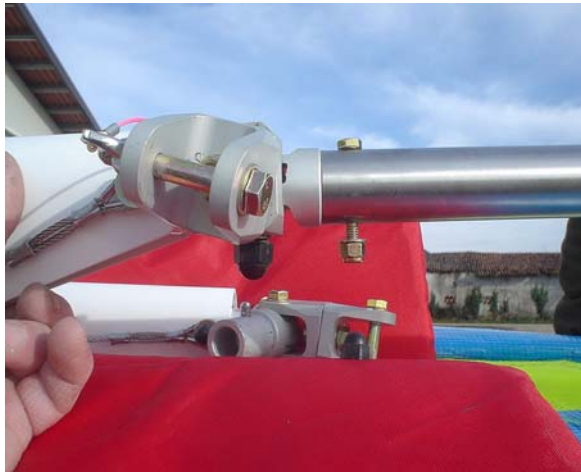
Note:

If the end cap does not rotate freely it could indicate that some foreign object or debris has been trapped in the keeper cup.

At this point both extension tubes should be installed and the wing should be configured as shown in the photo below.



The assembly of the control bar can begin using the two 10mm. wrenches. It is suggested to place the protective sleeves under the components to protect the sail from damage during the procedure. The non push pin side of the control bar should be installed first.



Slide the control bar over the trapezium corner junction and align holes. Install included bolt as shown in photo at left. Note the presence of the washer and self locking nut.



Now tighten the bolt with the two 10mm. wrenches and install the black protector cap over the self locking nut.



The spar /strut bracket should be turned toward the wing tip.



The upper strut bolt should be inserted as shown in photo. Note the washer and self locking nut position.



Tighten bolt with the two 13mm. wrenches until snug and install protective black cap over the self locking nut.



Raise the trapezium into a vertical position that will be comfortable to slip the control bar over the aluminum stud that has the push pin attached.

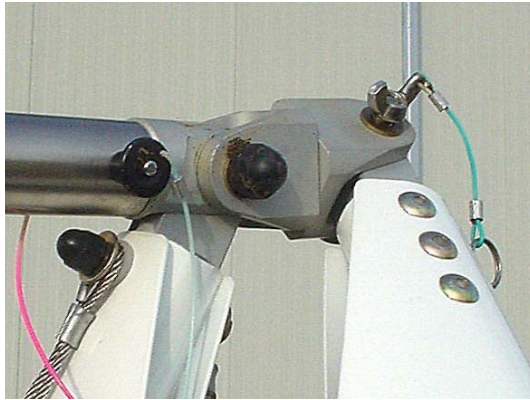
Now align the holes and install the push pin as shown in the photo at right. Hold the trapezium in a position that will facilitate the push pin installation.



Remember to install the attached safety washer on the end of the push pin.



Now attach the strut to the trapezium bracket by turning the the universal joint to a position that will allow the holes to align. It is recommended that the trapezium be held in a vertical position so that he bolt may be inserted easily.



Install the bolt as shown. The washers should be installed on both sides , under the bolt head and the wing nut.



Install the attached safety ring into the pre drilled hole on the end of the bolt.



At this point the wing is in the configuration as in photo at left. The wing must now be rotated to rest on the control bar. Before lifting the wing, secure the left and right sails with the included strap as shown in the next photo.

Always follow the next procedure to avoid undue stress and damage on the strut universal attachments and sail.



The wing, with strap attached should now be carefully rotated to rest on the trapezium downtube.



The wing can now be rotated to the upright position by lifting the node and rotating upwards.



At this point the center batten must be secured. Pull the wire upwards and toward you. Slip the end of the batten over the bolt and slip the keeper wire over the forward part of the keel as shown.



Open the wing as shown. Rest the wing tips on the ground. It would be best to place protective material on the ground under the wing tips.



Prepare the included draw back pulley system so that the small carabiner is in the upper position as shown in photo. Attach the carabiner to the attachment under the nose plate. This procedure will help in the attachment of the forward trapezium wires. Note that the pulley system now has the plastic foot strap in the upper position, as in photo.



Loop included black extension line around the center of control bar and attach small carabiner to the lower part of the drawback pulley system.

The photo at left shows the carabiner open and ready to be attached to the lower pulley.



Now the pulley system is configured and ready to use.

Place foot in ring and apply downward pressure. This procedure allows for both hands to be free to attach the forward cables to channel on underside of the nose plate.



In this position it is easy and convenient to attach the nose wires to the channel. Place lever in position. Rotate upwards and install push pin.



Note detail of attachment. There are several holes that may be used. Changes in tension will affect the center camber of the wing.



Position pulley system as shown. This is used as the haulback to tension the crossbar. The carabiner should be attached to haulback cable. The other end will be attached to rear of keel tube. Loop plastic foot ring forward and attach to the carabiner. This will secure the pulley system for subsequent repositioning of the wing.



Photo at left shows detail of the attachment of pulley system on underside of keel. Loop the string around the bolt head between the aft wires. Note the washer installed to secure the string. **DO NOT TENSION AT THIS TIME.**



With the pulley system attached, **but not tensioned**, position wing onto the nose. This position will now offer convenient access for installation of battens.



Begin installation of battens starting at the keel and working outboard toward the wing tip.
**** IMPORTANT ****
The battens with the **black tips** are for right wing and battens with **white tips** are for the left wing.



The lower battens are now installed, again working from the keel outboard towards the wing tip. Install batten by holding at right angle and inserting into batten pocket. The batten can be inserted normally once a few centimeters of the batten is in the pocket.



Slide lower batten completely into batten pocket until only retrieval string is visible.



Remove plastic foot ring from previous position and prepare for tensioning the cross bar. Slip foot into ring and prepare to apply pressure downwards.



Tension lanyard and slip slotted plate over the keeper bolt.



**** IMPORTANT****
Install safety pin into the keeper bolt. This must be done immediately so as not to be forgotten..



Remove pulley system and replace in it's bag.



Begin attachment of batten ties



Use included lever tool to properly slip batten ties over batten tips.



Detailed photo of properly attached batten tie.



Detailed photo of properly positioned battens that are located outboard and service the split double surface of the wing. Note the positioning of the batten ties as well as the bungee cord that connects the upper and lower surface.



Insert the tip batten and attach one end against the post located on the aft side of the wing spar.



On the other end of the tip batten, slip the batten tie over the end after crossing as shown. This is for the lower side of the double surface.



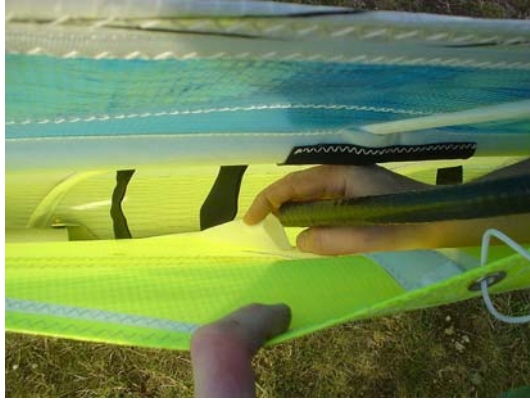
Attach wing tie with included lever tool.



Repeat steps for upper sail but without crossing tie over tip.



Detailed photo of properly installed tip batten.



Proceed now with the installation of the carbon tape wrapped tube also known as the “sprog”. This tube substitutes the action of the traditional anti-dive wires.



Insert sprog into it’s pocket making sure the bungee stays clear of the velcro pieces.



Insert the end of the sprog tube over the post located at the junction of the cross bar and wing spar.



Sprog tube attached.



Grasp bungeed wire and slip slotted end over the nut on the keeper.



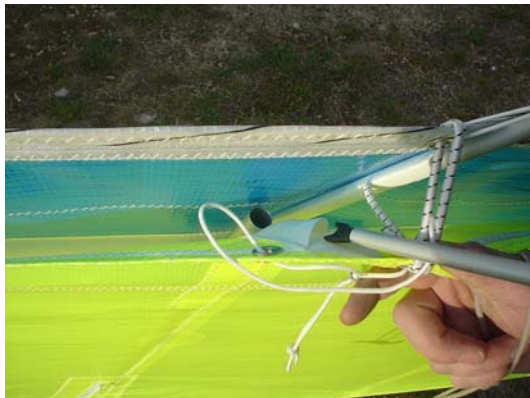
To help slip the slotted end over the keeper, push the trailing part of the sprog tube as shown with one hand. The other hand will position the slotted end over and under the keeper nut. Now release pressure on the sprog end and the slotted end should lock into place under the nut.



Visually verify that the small part of the slot is positioned and locked under the keeper. The bungee serves the purpose of keeping the slot under the keeper if the cable should lose tension.



Close zipper at inspection area.



The operation is now completed by inserting sprog batten into the sprog tube. The following photos will illustrate the procedure.



Insert the sprog batten into the pocket then into the sprog tube.



Attach batten tie with included lever tool.



Note position of bungee cord attached to the sprog batten.



Position the hang block in between the plastic collars. The hang block has a total of four hang points by turning the angled side either forward or aft.



Complete the assembly of the hang block.
****IMPORTANT****
Push safety pin through both bolts and over the wing nuts.





Loop the center batten cable over the nose wire lever. This will lock the center batten in place while in flight.



Now place nose cover in place by using velcro attachments.

****IMPORTANT****

This wing must be flown with nose cover in place.



Preflight!
Preflight!
Preflight!

Fly

Safe