

HOBIE TIGER TUNING GUIDE

by Mitch Booth

This guide is exactly that, only a guide and should be applied to each boat and crew depending on total crew weight, sailing technique and most important, the feeling that only the sailor can judge performance.

BEFORE LEAVING THE BEACH

MAST SET UP :

The mast should have approximately 25 to 35 mm of spreader rake measured from tip to tip to back edge of sail track (as shown on diagram 1).

The diamond should be tensioned to pre bend the mast to approximately 25 mm (refer diagram 2). Once diamonds are tensioned ensure that the spreaders are still square to the mast.

The mast rake can be quite different and it's important to understand what mast rake does so you can adjust accordingly. Firstly mast rake will affect the helm on the boat ; if you have too much helm the mast may need to go forward and if you don't have any helm the mast may need to come back (note : be aware that rudder rake may also affect the helm and this may be the solution). Secondly, as a general rule, more mast rake aft will improve the windward performance and increase pointing ability. Downwind is the direct opposite, more rake forward will help performance and sail deeper. These points should be considered and adjust the mast rake to suit. The best way is to start in the middle of the chain plate adjuster and then experiment.

RUDDER SET-UP :

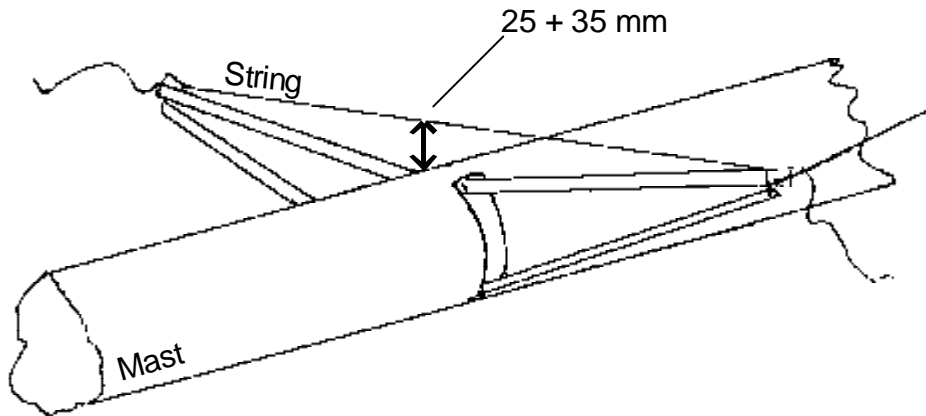
Most common advice is to set the rudders up parallel however this may not be the fastest. Most boats sail with some weather helm on the rudders and subsequently you have to pull on the tiller slightly to keep the boat in a straight line going upwind, this means you could have a few degrees of turn on the leeward rudder that is fully loaded, however the windward rudder that has very little load will only cause drag if it is not in line with the windward centreboard. The best way to assess what amount of toe in you require is to sail upwind double trapeze under maximum load and watch the water flow around the windward rudder.

When toeing in any rudders keep in mind that it should be the bare minimum as excessive toe in will harm downwind performance when both rudders are not loaded and close to parallel is fastest (see diagram 3).

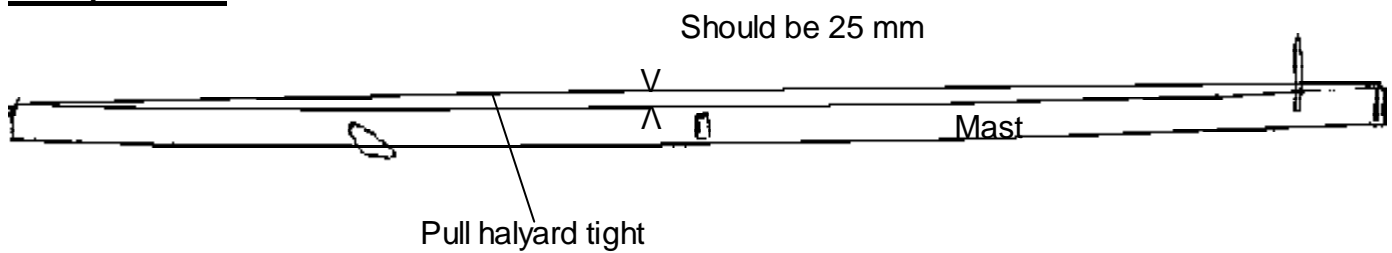
Helm is directly related to rudder rake and if you have too much weather helm (pull on the tiller) then the rudder may have to be kicked under the boat more and if you have neutral helm it may need to be raked aft.

Diagrams Hobie Tiger

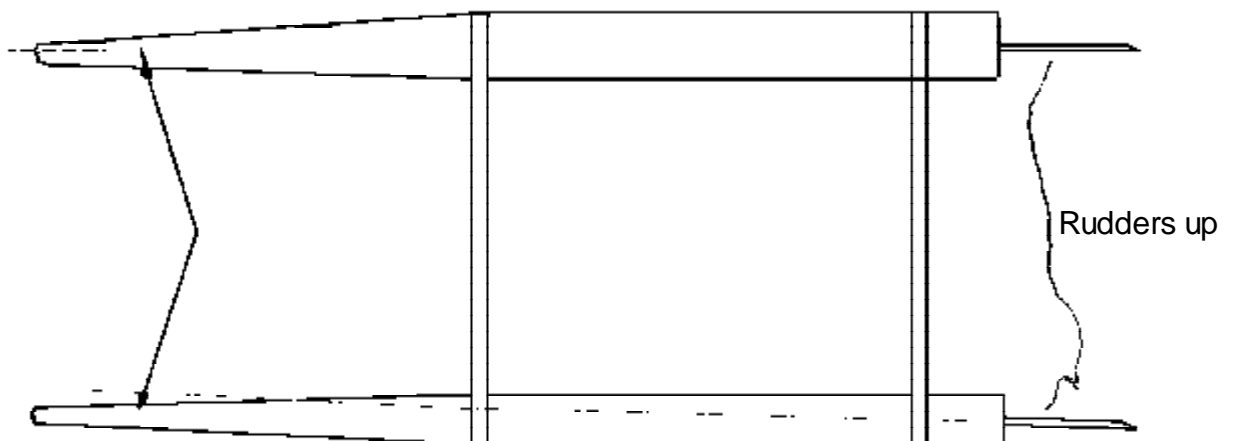
Mast spreader rake



Mast pre-bend



Rudder set up



Sight one rudder straight and the other at the forestay bridle.

BATTENS :

The main battens supplied should be of top racing quality and designed to suit the sail. The most critical battens are the top 2 because of the sail's profile and these you may wish to experiment with if you have an extra heavy or light crew combination.

When rigging, the battens should be tied firmly but not overly tight. The sail cloth is extremely strong and does not stretch like older style cloths therefore the tension should remain constant whilst sailing.

JIB :

After hoisting the jib it is important to adjust the luff tension accurately as you will not be able to while sailing. The luff tension should vary quite a lot depending on wind strength. If the wind is very light then the luff tension should be soft, it doesn't really matter even if you have some small wrinkles in the luff under 10 knots of wind. As the wind increases so should the luff tension.

SPINNAKER :

It's important to check all lines when rigging the spinnaker and ensure that everything is led properly. If the wind is not too strong it's good to hoist the spinnaker on the beach before sailing to double check.

RIG TENSION :

A lot of people set the rig tension the same for all conditions. On a rotating rig it is important to remember that as the mast rotates the leeward shroud is bearing against the leeward side of the mast. This can create problems when you try to over rotate downwind and in particular in light wind when there is no assistance from the sail to push the mast. We all know that the leeward shroud goes slack while going upwind even in moderate wind so all rig tension is doing is holding the mast slightly more vertical. I recommend very loose rig tension in light winds under 8 knots and slowly increasing as the wind does (loose means that the wire is straight not flopping while on the beach).

FINAL PREPARATION :

Ensure all shackles, screws and bolts have been tightened and most important tape the areas of the boat that carry rings and that the spinnaker may pass over either when hoisting or gybing.

Check trapeze gear adjustments, jib and main sheet cleat angles, tie a knot in the traveller line to prevent the car hitting the stopper, put the bungs in and go for it.

ON WATER PREPARATION AND TUNING

It's important to allow yourself enough time before racing to assess the conditions and adjust your boat accordingly. Allow 20 minutes on the water before the race. Following is a short checklist :

Set up and sail upwind. Assess wind strength and direction.

Adjust cunningham to suit conditions. Very little downhaul in light breeze and increasing as wind does. This is the biggest control of the power on the boat and needs constant attention.

Adjust mast rotation. More in light breeze and less in heavy. As a guide the rotation arm should point at the shroud adjuster or in front in light breeze and further aft as the breeze increases.

Jib sheeting angle should be forward and inboard for light breeze, about 300 to 340 mm in and at the front of the track. Strong wind should be 100 to 150 mm in and at the back of the track.

Check trapeze adjustments on both tacks.

Set spinnaker and check all lines. Work out which will be your first set and make sure spinnaker is on the correct side.

Outhaul should be mostly pulled straight along the boom unless the breeze is light and some waves around may require a little power in the main and 30 to 60 mm of shape should be added.

RETURN TO THE START AREA

Allow yourself plenty of time to look at the course flags, starting line angle and get an accurate time when the warning signal goes.

OUT OF THE START

To gain an advantage after the start it is important to keep the traveller in the centre at all times upwind even when the wind is strong. The main sheet tension is a direct equation of tight for height and looser for speed (whilst maintaining full power). Look at the other boats around you and choose if you want height or speed. Make sure the downhaul has been adjusted according to wind strength and remember that this can also have a direct effect of height and speed. More downhaul will flatten and twist the sail giving you speed while less will keep the sail full with more power and more height.

The rest is up to you. The performance of your boat around the course is a matter of feeling when the boat is slow and when the boat is fast then taking note of settings in those conditions. Be sure to focus on the race when racing and tuning while not racing. The biggest trap is to look at the sail all day and miss a shift in the wind or a lay line to the next mark.

Happy sailing.