

HARBOR 20 TUNING GUIDE

By Walter Johnson #221

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RIG TUNE

The rigs on Harbor 20s are unique. The jibs are very small and are high aspect. The idea is to find an optimum setting that powers up the jib and provides performance in a wide spectrum of conditions.

Rake

Base number (31.4") when measured with a tape fully hoisted to the back of the transom (29.3 side to side).

Jib Stay

Adjust the turnbuckle to allow for 2-3 inches of jib stay sag.
On my boat, we have the turnbuckle 3/4 of the way extended.

Uppers

Set at 22 on a loose gauge.

Lowers

Set at 10 on the loose gauge.

Setting The Mast

First make sure mast is in the middle of the boat. To do this, first sight up the boat to make sure it is close to being in the center. Then extend the main halyard with firm tension so you can touch the deck. Check each side with the main halyard and adjust the mast back and forth until it is in the center of the boat. When adjusting the turnbuckles and the shrouds to the above tension, make sure you adjust both sides evenly so the mast remains straight in the boat.

When you are done with your rig tune, you will need to secure the turnbuckles so they do not turn. I use ring dings and then for added security, I take a piece of line and tie the turnbuckles together so they do not move.

For the jib stay, make sure your cotter keys are bent around the turnbuckle. This will keep the turnbuckle from moving and will let the roller furler seat over the turnbuckle.

Mainsail Setup

Because the Harbor 20's mainsail is relatively large in comparison to the jib, proper mainsail setup is important.

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Outhaul should be set so there is 4-6 inches of space between the foot of the sail and the boom.

Mainsail

Adjust the luff at the mainsail so it is firm. As the wind builds, the mast will compress providing for more wrinkles. The idea is to keep the luff firm with slight wrinkles. Make sure to adjust the main halyard to keep the sail properly hoisted. As the mast bends, it compresses causing the sail to slide down the mast. I recommend changing the main halyard to a non-stretch line with a spectra core.

Batten Tension

Snug enough for the batten to seat in the cup but not over-tensioned. The battens should pop easy on every tack or gybe. As time goes by, your mainsail will shrink so re-tension your battens every 3-6 months.

Jib Setup

The most important adjustment is the height of the jib on the head foil. Most settings have the jib tack an inch or so above the top of the furler. You want to set the sail as low as you can and still have leech tension when it is windy. If it is too high, the jib will be too full. If it is too low, the top will luff in each puff. The idea is to have the sail adjusted so the outhaul is maxed out in 12-15 knots of wind.

Set your jib using the middle hole. The upper hole can be used when it is windy and you need extra leech tension. You want your jib set so you can have the top leech square to the spreader or parallel to the centerline of the boat with the outhaul max in 12-15 knots of wind.

Hoyt Boom Height

Class rules state that the Hoyt boom when measured from the deck should be 7" - 11". Most sails are made to the class maximum measurement. Make sure your Hoyt boom height is closer to the middle of the measurement, rather than on the high side.

Hoyt Boom Length

Class rules state that the end of the Hoyt boom when measured is 1.5" -2.5" from the front of the mast. It is best to have your boom length closer to the maximum length, rather than on the short side.

There are boom extenders available and the Class Measurer has a boom measurement tool to confirm absolute length and conformity to the rules. I have found that a laser mast top fitting works well as an extender.

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Backstay Tension

Light to Moderate - no tension.

Medium to Heavy - adjust as needed.

Traveler

Centered all times.

Mainsail Sheeting

In heavy air - sheet hard and keep an eye on the top telltale to ensure that it flows and you are not stalling the mainsail.

In heavy air - tighten the boom vang to induce mast bend down low and ease the mainsail in the puffs.

Downwind - always make sure your battens have popped to the proper side when you have completed your gybe. In heavy air, you will need your crew to ease the boom vang an inch or two when sailing downwind.

Jib sheet

Upwind - adjust the jib sheet so the leeward sheet sets square to the boom.

In breeze - sheet in an inch or two tighter to get more leech tension.

It is always good to ease the jib sheet an inch or two when coming out of each tack. It is best to slightly over tack so you tack into the head stay sag. Not fully completing a tack will prevent your boat from accelerating properly.

In light to moderate wind, you will have more head stay sag. As the wind builds and you are sheeting the mainsail harder and harder, the head stay will flatten out. The head stay will flatten more as you increase the back stay.

Harbor 20s were design to perform best in the moderate harbor breezes of Newport Beach. They tend to be underpowered in light wind and become overpowered when the breeze is on.

Heeling

Like most boats, the Harbor 20 is best sailed flat to a slight heel. Over heeling in heavy air is not fast as the boat slides sideways. If you heel too far, you will lose rudder control.