

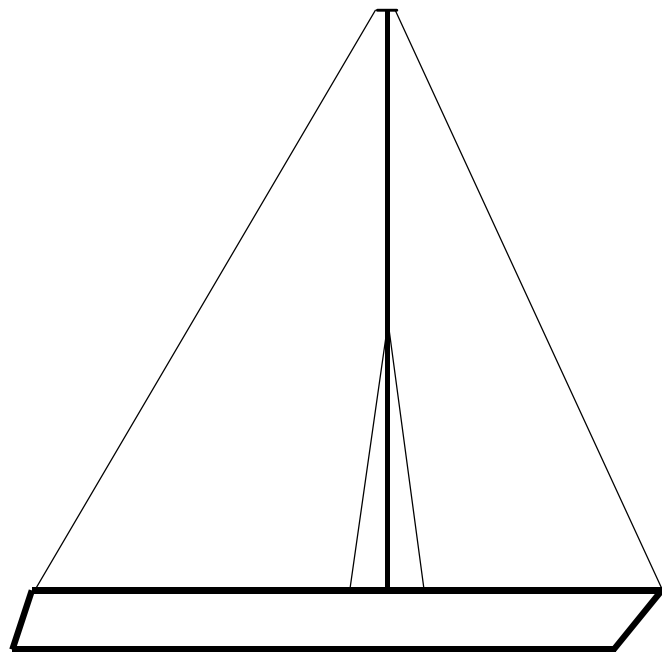
Tuning your harp

Kerry Poe

Why does it seem that tuning a sailboat rig is such a mysterious and magical art? Sometimes you see sailors twanging their shrouds to see if they make the right pitch. Other times you see sailors comparing as many tension gauges as they can scavenge from other sailors in an effort to determine where their tension gauge sits in the bell curve of tension gauge accuracy. Often, sailors memorize their tuning guides so they know the precise rig adjustment that needs to be made for that ½ knot of wind velocity increase. But what does all of this tuning stuff mean? What are sailors actually looking for with all of these adjustments?

Common Mast Head Rig

The majority of cruising boats carry this common masthead rig. Four wires basically hold up the mast: forestay, backstay, starboard shroud and port shroud. These four wires control where the mast tip sits in relation to the boat. The forward and aft lower shrouds control how the middle of the mast bends.



Rake

The forestay and backstay control fore and aft mast rake. How do you decide what the right amount of rake is? On a keelboat it is accomplished with a little bit of trial and error. The proper amount of rake is a balance of how much helm you have when sailing upwind in light air versus heavy air. In light air you want to feel a little bit of helm. If you let go of the tiller or wheel you want the boat to turn into the wind slowly. In heavy air the boat loads up more, increasing the helm, so you want to be sure you don't have so much excessive helm that you need Popeye and a can of spinach to steer the boat.

If when you're sailing you feel like you have too much helm, adjust your forestay and backstay so that the mast step moves forward. Conversely, if you find you have no helm in light air, move the mast tip back a little. When adjusting the rake, be sure to adjust the forestay turnbuckle to get the proper rake first, and then adjust the backstay to get the proper amount of tension on the forestay. This is probably one of the most important adjustments that will change how the boat sails. More backstay will make the forestay straighter when sailing. A straighter forestay translates to a flatter headsail. Less backstay

(sagging forestay) translates to a fuller headsail. Be careful of over tightening the backstay. Your boat can only handle so much tension and at some point the boat starts bending turning your 30' boat into a 29' boat.

Mast Lean and Bend

The main shrouds control the side lean of your mast. If the mast leans excessively your boat will develop too much weather helm. You can tell if you have the right amount of shroud tension while sailing upwind with about 20 degrees of heel. You will want the leeward shrouds to not have any tension, but you don't want any slack in them or signs of them dangling. If you tighten your shrouds too much you will create unneeded stresses in the boat.

The lower shrouds control mast bend. Usually the best set up is a straight mast fore and aft and side to side. While sailing upwind in 8-12 knots of wind you will want to sight up your mast to see if it is bending. Put your eyeball as close to the gooseneck as possible and sight up the back of the mast on the weather side. You will want to look at the middle of the mast at the spreaders and see if it is straight side to side. If the mast is sagging to leeward at the spreaders then tighten the weather lower. If it is pulled to weather at the spreader, then loosen the weather lower. If you have forward and aft lowers, than you will have to adjust both and make sure you keep the mast straight fore and aft at the same time.

By paying attention to the feel of the helm in your hand and following these simple guidelines, you should be able to tune your boat properly and keep it sailing well.



**North
Winds
Canvas**

Kerry Poe, Owner
www.nwcanvas.com
www.northsailsoregon.com
503-282-4282