

## **Suggestions for rig tuning on a Sweet Sixteen Sailboat**

### **By Don Montgomery**

Proper mast rake is critical to the overall upwind performance of the Sweet Sixteen. These are the steps that I take every spring to tune my standing rig. You should do this mid season and just before nationals. Others will have varied techniques and you should listen to them all and experiment until you find perfection for you and your boat. However you do it, it is critical to your ability to point well to the weather mark.

A good way to check the mast rake is to get the boat as level as possible bow to stern. By using a 4' level and laying it parallel to the centerboard (on top of the centerboard trunk) you can raise and lower the hitch end on the trailer until level is reached. If you can get side to side level that will help, but is not as important. Double check that the side stays are equal length before stepping the mast. The mast will need to be raised and the jib put on, do not put the boom or main sail on. With the jib raised take the main halyard and attach a heavy wrench to it. (do this on a very calm day or the results will not be accurate) Raise the main halyard until the wrench is at eye level while sitting in the boat. (Note: my eyes are about 5'4" from the floor.) You should be able to touch the wrench with your hands. You're basically creating a plumb bob. The wrench should drift no further than 4-5 inches from the mast or about the width of your fist.

If your mast is aft raked too much you will feel tremendous weather helm (having to pull the extension toward you to keep the boat from rounding up to weather) every time a puff of air hits. You want some weather helm, but it should be controllable by weight distribution or hiking.

To get the mast straight you will need to go through some experimenting. If the mast is raked aft to far you'll need to loosen the side stays and take up the jib stay. If you do not have enough adjustment on the jib halyard, you may need to swage some more balls on. My rig does not use the wire and ball system. I use low stretch halyard and have a marking method on the mast for adjustments as well as adjustable StayMasters on the side shrouds. If you have the tool to measure shroud tension then you should set your rig at least 180 psi for moderate pressure conditions and higher for heavy pressure conditions.

The ultimate test will be to keep adjusting the boat and sailing it to find the settings that meet your style of sailing.

On a side note...weight distribution is critical. The skipper should be seated in line with the main sheet cleat and the crew should be no further back than the jib cleat. This is just a general rule of thumb. Dragging the stern in the water by sitting in the back of the boat will inhibit pointing ability and light air down wind speed.