



J109 Preliminary Tuning Guide



Intoduction to the J109

The J109 is just a foot longer then the J105. It has a 1.75' taller rig, but most importantly its I dimension is 6' greater and its ISP [spinnaker hoist is 6.9 ft. higher. Thus even though it is 3000 pounds heavier and its SA/DSPL ratio is lower at 21 vs. the J105's 24, it has more sail area vs. wetted surface and thus its light air performance should be better then that of the J105. The extra displacement and 6" wider beam provides greater stability and thus the boat can comfortable carry the 155% genoa for PHRF racing.

Rig Set Up

Tools Required: 2 crescent wrenches; Loos RT 10M gauge [if available]; Lubricant for rigging

Mast step position: The mast step in the center of the step seems to work fine. For heavy air areas one may want o move it 2 cm forward and for light air areas 2 cm aft.

Mast position at the deck. Fixing the mast so that the J measures 4.05 meters gives a fair bend with the mast butt in the center of the step. Mast will be almost straight Butt is in heavy air position and wil have a bit more bend if it is aft in the light air setting

Headstay: The first stay to be attached should be the headstay. The mast rake should be set to 2.5 degrees. The rake can be set by using a plumb line [the main halyard] from the back edge of the top of "p" intersecting the deck at 10.9" behind the back edge of the mast.

Shroud Attachment: Next the shrouds should be attached. First insure the threads are well lubricated. With the diagonals loose, each shroud should be made hand tight such that the separation of the barrels in the turnbuckles is equal on both side. With this done the mast head should be checked to confirm that it is centered. This can be cone by pulling the main halyard till it intersects the deck at the base of each shroud and see if the distance is the same. Adjust each stay until the main halyard pulled with the same tension just touches the intersection of the shrouds and the deck on each side.

Backstay: Once shrouds are hand tight the backstay should be attached and tension. Before attaching the backstay make sure the valve is open and the cylinder fully extended. After attaching the backstay tighten it to 900 PSI.

Tensioning The Shrouds: Once the mast is centered each shroud should be tightened four full turns on each side. If it becomes too difficult to take four full turns on each at the dock, stop at three on both sides.

At this point, the shroud tension should be checked with the Loos Gauge [if available]. A good starting point is to have the gauge read 38. The D1's and D2's should be brought to just one turn beyond hand tight. They should be tightened a couple of turns each side back and forth. When they get close to hand tight, the back side of the mast should be sighted for straightness and from this point forward adjust then to bring the mast to straight sideways.

If it is difficult to get the shrouds to 38 on the Loos gauge and everything is now straight side to side the back stay can be tensioned to 1800 psi. This should make it possible to take additional turns on the shrouds.

Go Sailing:

First with the 105% jib sail on each tack and check the tension of the leeward rigging. If it is loose tighten the leeward shroud one turn and then tack and tighten the new leeward side one turn until the leeward side is just beginning to unload in the puffs. This method is a good way to set the desirable tension for any given wind condition. It tightens the rigging on heavy days and eases it on light days. If the 155% [PHRF} genoa is utilized this same method should be used. This method has the desirable effect of giving you tighter rig tension when the larger headsail is used.

For ideal tune, the D2's may need to be eased one or two turns when using the larger genoa is used and the D1's may want to be tightened one half or one full turn.