



Shark Performance Tuning
Guide
2003



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Set Up

Before stepping the mast:

- ?? Measure to ensure both spreaders and the jumpers are equal length and meet class rules for length and angle.
- ?? Tape spreaders ends. There is no need to tape the jumper end, no sail can reach the tips. Avoid over taping fittings it just add windage.
- ?? Now's the time to install the masthead fly make sure it on tight and centered.
- ?? Check that there is no horizontal movement in either the spreads or the jumps struts.
- ?? Double check that the mast meets the class rules, (repaint the black bands.)

After Stepping the Mast:

- ?? After the mast is stepped but before the shrouds are tensioned adjust the forestay length so that the rake is 9.14 meters. Hoisting a tape to the top of the mast and measuring to the sheer line at the transom to measure the rake. This measurement is a good all purpose measurement. In heavy air while still sailing with a Genoa it advantages to tip the mast back to around 9.06 meters.
- ?? Ensure that your mast is standing straight in the boat by measuring from the top of the mast to the base of the chain plates on each side of the boat. Before you adjust the shrouds make sure that the mast step is in the center of the boat.
- ?? Set your jumper tension by sighting up the mast. What your looking for is a straight mast with no backstay or the boom hanging from the topping lift.
- ?? The following shroud tensions are a guide only.
 - Upper Shrouds 35 on the "Loos Tension" gauge
 - Lower Shrouds 6 " " " " "

(There is so much variance in the stiffness of mast out there that what works for on boat my not work for you)
- ?? Sight up the shrouds to the Spreader tips. The Spreader tips should be in a straight line and the tips should not poke the shrouds back. We have

- found it necessary on some boats to shim the spreader casting back. This angle will change if you increase or decrease the mast rake so be careful.
- ?? Make a small ball of tape at the top of your forestay turnbuckle so that the bottom Genoa hank cannot pass down over the stud of the turnbuckle and snag when hoisting.



Mainsail:

The footshelf on the sail should always remain closed when sailing upwind in all conditions.

The mainsail is trimmed so that the top batten is parallel to the boom in all but the windiest conditions. The top telltale on the sail should be streaming 80% of the time. If it's stalled ease the sheet. The traveler will have to be pulled to windward and the mainsheet trimmed all the time to achieve proper trim. In heavy air we have simply centered the traveler and pin it in place and play the mainsheet and backstay.

We have never found it fast to sail with a reef in the Shark main. As while we do not install a flattening reef in the Shark main since there is very little shape down by the foot once the outhaul has been pulled out to the black band.

The de-power sequence for the Shark Main is:

- ?? Progressively pull the outhaul on.
- ?? Lower the traveler to the centerline of the boat.
- ?? Reposition the draft forward by tighten the Cunningham.
- ?? Tighten the boomvang.
- ?? Once all the adjustments are maxied out, start thinking about shifting down to the Jib. If you switch to the Jib make sure that you power up the mainsail again. It very common to switch to the Jib and just strap everything in. Big gains can be made by aggressively trimming both sails in a breeze.



Genoa:

Halyard Tension / Genoa Cunningham

Over the years we have found the least complicated method of tensioning the Genoa halyard is a wench on the top of the cabin. In heavy air it's common to have the halyard tight enough so that the forestay is loose. This should be the case if you are using the all-purpose setting in heavy air. The goal is to try to match headstay sag to the sailing conditions. Headstay sag affects the overall depth of the headsail. More sag adds depth and makes the entry of the sail rounder and more powerful. The Genoa halyard tension, and the Genoa Cunningham control headstay sag during racing. Before the race you can adjust your outer shrouds in light air use the all-purpose setting of 35. In heavy air tighten the outers 5 turns to take sag out of the forestay. If you over tension the Genoa Cunningham it will take more headstay sag out then you think. This is one reason why you could ease up on the Genoa Cunningham if you feel like your going slow.

Genoa Car Position:

The car should be positioned so that if you projected the line that the sheet makes from its turning block through the sail it should bisect the clew.

The current generation genoas are cut to be trimmed on the in-board track all the time. If your boat doesn't have in-board tracks call the loft and we can give you details on where they go. If you find the Genoa needs to be sheeted between pinholes on the Genoa track. The Quantum sails has the head lashed to the wire. If you undo the lashing and lower the sail down the wire you can change the clew height and the Genoa car should want to move forward. If for some reason the leech of the sail hits the jumper wire you can also lower the sail the same way. In most cases depending on mast rake the leech of the sail should be just touching the jumper wire.

Sheet Tension

Sheet tension affects every characteristic of the sail. More than any other sail control on the boat., the Genoa sheet should be played all the time. As a rule you always want to have speed before pointing. The golden rule always applies to the Shark “when in doubt, let it out.”



The Jib

The design concept for the in-board sheeting Jib was for a sail to be fast if wind dies, and when the breeze is really up to have a sail that easy to handle.

Sailing with the in-board sheeting Jib is very straightforward. It should be set up just like the Genoa. A simple rule of thumb is to have the two battens parallel to the centerline of the boat. The leech of the Jib will hit the inner shroud when sheeted in light air. When the sail twists open in a breeze the leech will clear the shroud.

There is such a small sheeting distance between the sail and the Jib car you have to be very careful not to over sheet this sail. If your crew is struggling pulling in this sail it possible to rig a 2:1 purchase system. If your Sheets are small enough you can simple pass them though the Sails clew ring and tie the bitter end back to the Jib car. You'll need to have longer sheets if you decide to go the route.

The biggest question is when should you switch to the Jib. In 1:1 sail testing we have found that in some wave conditions that the Jib can be faster then a Genoa in wind as low as 14 Knots. The Quantum Jib was specifically designed to be used at the lower wind speed then old designed sails don't be afraid to be the first to switch.

A side benefit of having the sail sheet inboard is that you can tack with the Spinnaker pole up.

If you have not installed inboard track for the Jib give the loft a call we can give you measurements.



Spinnaker:

There's nothing magic about trimming the Shark spinnaker. A smooth hand and gentle movement on the boat is essential to maintain speed downwind. The Quantum Shark spinnaker is primarily designed for Windward Leeward racing. An aggressive trim may be required if you use this sail in windy close reaching. When broad reaching and running, always work to square the pole as far back as possible. Ease the sheet to maintain a curl, but make sure the bottom of the sail is underneath the top. The luff should run straight from tack to the point of curl. If the head can be eased to weather of the straight line, the pole is under squared. All the basics apply to Shark sailing down wind. Lower the pole in light wind and level the pole in Medium and Heavy wind. An effective and well-practiced system of hoisting and retrieving the spinnaker is key to making gains downwind in large Shark Fleet of today.

Off the wind tips:

- ?? Keep the crew weight forward in the boat.
- ?? Keep you air clean at all times.
- ?? Check for weeds or plastic bags on the rudder if you feel slow.
- ?? Heel the boat to windward in heavy air.
- ?? Don't try complicated maneuvers. Simple is always safer and faster.



Summary

This guide is just a guide and you may find what works on one boat doesn't necessarily mean it works for you. It should be used as a common starting point. If you keep records of your settings and results. You should be able to find the ideal sail trim for your type of sailing and your boat.

The Shark is a great little boat that is inexpensive and doesn't cost you an arm and a leg to sail. If you have a boat that is well maintained and crewed well you should be right up there with the pack, of course a little luck doesn't hurt. The biggest gain in performance is always achieved by people who practice and participate in the class on a regular basis. Hope to see you out on the water.

Ken Mitchell of Quantum Toronto produced this performance-tuning guide. Please do not hesitate to call anytime. We enjoy hearing from fellow shark sails.



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Shark Price List

Mainsail PC1

\$1058

- ☐ Tube Bag
- ☐ Crosscut Construction
- ☐ Visibility Window
- ☐ Custom Tapered Battens
- ☐ Telltales
- ☐ Sail Numbers
- ☐ Royal Tag

180 Genoa WR2

\$1047

- ☐ Tube Bag
- ☐ Crosscut Construction w/Radial Clew
- ☐ Radial Reinforcing
- ☐ Leech and Foot Lines
- ☐ Visibility Window
- ☐ Telltales
- ☐ Sail Numbers
- ☐ Royalty Tag

Race Spinnaker OLE 2

\$969

- ☐ Radial Head Construction
- ☐ Red, Blue or White Horizontal Panel
- ☐ Radial Reinforcing
- ☐ Sail Numbers
- ☐ Royalty Tag

Short Jib

\$945

- ☐ The Only Jib Designed for Inside Sheeting
- ☐ Crosscut Construction
- ☐ Radial Reinforcing
- ☐ Leech and Foot Lines
- ☐ Telltales
- ☐ Royalty Tag

Accessories

- ☐ Extra Set of Battens @ \$45.00
- ☐ Spinnaker Drop Bag @ \$105.00

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Prices are in Canadian dollars. Effective 02/01/2003 to 11/ 2003. Shipping and taxes extra.
Please contact Ken Mitchell [416.503.1931 and/or ken@quantumsails.com] with any questions or inquiries.