



Tuning Guide

Thank you for selecting us to build your sails. Our sailmakers have been designing, testing, tuning and teaching X-Class sailors for over thirty years. This guide will help you to get great boat speed in all CONDITIONS.

Mast Rake

First hoist the jib, then using a tape measure hoist the main halyard to the locked position. Stretch the tape aft to the intersection of the transom and deck next to the rudder. This rake should measure 20'22" in all conditions. Sidestays: Should be taut in medium (6-14 mph) wind. In light air you should loosen the sidestays enough so there is some give or play in the leeward Sidestay when you are sailing upwind hard. This will make your jib fuller for power in light air and motorboat wake. In winds over 14 mph the sidestays can be further tightened from the normal "taut" medium wind settings. This increased tension will flatten your jib and keep it flat when you have to ease the mainsheet to sail the boat flat upwind. You should write down your Sidestay turn buckle numbers to make changing easy and fast. Board Positions-Upwind in light to medium air the board will always be down. In heavy air you can pull the board up 6" to reduce windward helm. Reaching the board should be up halfway. Running you should raise the board 2/3 to 3/4 up. Boom Vang Tension-Use no vang upwind in light air. Pull slight tension on in medium (6-14 mph) and hard tension in heavy air. Put a mark on the vang rope so you can reproduce that setting. Downwind keep the main leech from excessive twisting and getting slow by progressively tightening the vang. Check to see where you're mark is, half inch can make a big difference.

Outhaul

In light air and motor boat slop ease the outhaul as much as 2" to get slight wrinkles coming into the main and a powerful full shape around the window and bottom batten. Pull tight enough so the foot is just smooth in medium air. If you are overpowered in heavy air and have to ease the main a lot, outhaul hard so the crease is parallel to the boom when sailing upwind.

Cunningham Downhaul

All mains built from 1996 on have a cunningham hole. First set your gooseneck pin so that the main luff is loose and has slight wrinkles perpendicular to the mast while sailing down wind. You should have some wrinkles 6-8" back in the luff going upwind in light and medium air so that the maximum fullness is aft for power and pointing. In heavy air (14-25 mph) tighten the cunningham line at the mast to pull the mainsail draft forward, flatten the leach and remove all the luff wrinkles.

Mainsheet Tension

Trim the mainsheet hard enough to make the last 12" of the top batten parallel to the boom. Have your crew look up from 1/2 way back to see the batten and boom relationship. You should have several marks on your mainsheet so you can note where they are relative to your forward boom block. Once you are accelerated up to speed and you want to point higher, trim harder by 2-6" so the top batten hooks slightly to weather. In flat water and medium winds (6-14) this works great! If the mainsheet is too tight the top batten will really hook to weather and you will slow down. The top batten leach telltale will be 100% stalled. In light air and choppy water the top batten should be parallel or twisted away slightly so ease the mainsheet and observe where your mark is relative to the forward boom block. In heavy air you will want the top batten to angle off to leeward of the boom 5-15 degrees. The leach telltale should stream straight back and your boat will sail flat and fast.

Jib Adjustments

Jib Tack- should be set about 1" up from bow plate. Use two 1" shackles and keep a spare in the boat in case you drop it overboard while putting on the jib. A low tack is fast. Luff Tension- Light to Medium air (0-14) use slight tension (pull out wrinkles). In heavy air (14 & over) pull the tack hard enough to hold the draft forward. The luff will now be very smooth and rounded. Jib Sheet Tension- We recommend that before the race the skipper should sit to leeward in winds of 6-12 mph while the crew hikes. Now look at the jib leach and trim until you see the leeward side of your low jib batten and the windward side of your tope batten. Mark the jib sheet just above the deck block. This will give the correct jib twist and slot between the main and jib. Under 6 mph, after tacks and when you are slowed down by large waves, you should be eased out 1-2" from the key mark. Trim in 1-2" to point higher in the medium and heavy wind but not so far as to cause the main to backwind. Jib Cars: Start in the middle of the track for light and medium air with waves. Move forward 1" for heavy air, move back 1" to 1 1/2" to flatten the foot and open the leach. Do not pull so hard that the foot flaps or creases.

General Comments

Upwind the skipper should be on the high side first, because sitting up improves vision of both boat, wind and race course conditions. Keep crew and skipper weight forward in light and medium air. When the wind builds to heavy and you get big waves, move both of you aft 6-12" to lift the bow over the waves. Upwind the boat should be sailed at 5 - 10 degrees of heel. In very light air you can make an exception and sail at 15 degrees to reduce the wetted surface of the bottom and help shape your sails. Running in winds over 8 mph, you should heel to weather with both skipper and crew on the weather rail. Under 8 mph, sit to leeward to help the main stay full. The crew should jibe the whisker pole last in a jibe. The skipper jibes the main first-try to roll the jib in winds up to 14 mph. Mark jib lines for pole position. Keep your eyes outside the boat so you can see the wind, waves, and other boats. Concentrate and you will go fast with practice. We constantly want to make our sails better. If you find something that is really fast, tell us!! If you have further questions or comments about this tuning guide or Quantum Sails, please call us.