

SNIPE TUNING GUIDE





SNIPE

The exhilarating feeling of going fast in a pristine boat that's easy to control is every sailor's dream. Quantum strives to bring you the best experience when it comes to sailing your Snipe by helping you achieve your ideal performance. Our experts put this guide together to provide you with information that will make your Snipe easy to sail and tune while maintaining incredible speed.

Thank you for choosing Quantum, and we hope to see you out enjoying the sport.



QUICK SETUP GUIDE

COMPONENT	SETTING
Spreader length	16 1/2" -16 7/8" (42cm-43cm)
Spreader angle	29"-30 1/2" (73.5cm-77.3cm)
Jib halyard (final rake)	21' 5"-21' 7" (652cm-658 cm) *
Pre-bend/rig tension	1 1/2 -2 1/2" (38mm-63mm) pre-bend, 21 units on the PT-1 Loos gauge
Deck attachment location for shroud	From forestay/jibstay pin to shroud pin: 5' 5 3/4"-5' 6 1/4"
Mast butt	Persson center of transom to pin measurement: 10' 8 7/8" (327.4cm) Jibetech center of indent to pin: 10' 8 1/8" (325.5 cm)
Jib tack	11" (27. cm) aft of stem
Whisker pole	Maximum class rule length: 104" (264.1cm)
Proctor mast	Rake: 21' 6" (655cm) Spreaders length: 16 7/8" Tip to tip: 29 3/4" Tension: 21"-22"
Sidewinder & Cobra II	Rake: 21' 6" (655cm) Spreader length: 16 3/4" -16.5" Tip to Tip: 29.5" Tension: 21"-22"

*The jib halyard measurement here is for McLaughlin, Persson, Eclipse or Jibe Tec boats. If you have a Phoenix, Lillia, or a Mueller boat, add 1" to the given measurements. For a Skipper Snipe, subtract 3/4" (2cm). 1 inch = 2.54cm, 1 foot = 30.48cm



BOAT PREPARATION

Here are some links to information that will help you set up your Snipe from a Snipe Class standpoint. At Quantum, we want to focus on the relationship between the standing rigging and the sails. When setting up your boat for the first time, be sure to spend some time reading these articles.

This covers the basics on how to set the boat up from day one.

 ***SNIPE RIGGING 101***

This is a more technical guide to help you go faster around the course.

 ***PREPARING & SAILING A SNIPE***



RIG SETUP

It is important to get the basic measurement of the rig correct so that you only have to make minor adjustments on the water. To begin, first identify your mast type.

MAST TYPES

The masts that work best are the so-called “bendy masts.” The most popular are the Proctor Miracle and the Sidewinder Gold. The bendy masts are easy to tune and use throughout the wind range, though they are a little tricky in heavy air. When tuning your rig, it is important to understand that each mast is a little different, even those from the same company. The measurements listed in this guide should be used as starting guidelines; it is up to you to find what works best for your particular setup.



PREPARATION FOR RIG TUNING

These are recommended settings for a quick setup:

PROCTOR MAST	SIDEWINDER
Mast length: 21' 6"	Mast length: 21' 6"
Spreaders: 16 7/8" x 29 3/4"	Spreaders: 16 3/4" x 29 1/2"

Because the Sidewinder Junior Mast is so flexible, we recommend using 15 7/8" x 30 1/2" with 1" of pre-bend. If the jib hits the spreader when sailing upwind, pull the aft puller as much as a 1/2" behind neutral to keep the jib just off the spreader.

SPREADER CHOICE

Spreader length and angle are the two areas where you can tune your mast for crew weight and mast stiffness. Before stepping the mast, these two items should be set up within the prescribed range. We encourage the use of adjustable spreaders, as they make things easier.

SPREADER LENGTH

The length of the spreader controls the sideways bend of the mast. Spreaders that are too long will push the middle of the mast to leeward, which in turn clogs the jib slot and hurts pointing. Spreaders that are too short allow the middle of the mast to pop to windward, robbing the main of critical power. Because you want to hold onto as much sail power as possible, try to keep the spreader length and angle at their largest dimension.

With the spreaders in the mast and pulled aft to the stops, the length is measured from the side of the mast to the shroud/spreader intersection. We recommend measuring on the top of the spreader and looking for the shortest distance from the mast to the shroud. The prescribed length between the spreaders is 15 7/8"-16 3/4" (40cm-42.5cm).

If you are setting your spreaders for the first time, check the distance between the shrouds at deck level. The standard length between the shrouds is 4' 7 1/2". If the length between your shrouds is different than this, lengthen your spreaders 1/8" (3.1mm) for every 3/4" (1.9cm) farther apart your shrouds are. If your shrouds are closer together, shorten the spreader length by 1/8" (3.1mm).

SPREADER ANGLE

The angle of the spreader affects how much the mast will bend in moderate-to-heavy air. A large angle will stiffen the mast, which is good for a heavy crew or a soft mast. A smaller number will allow the mast to bend more, which is good for a light crew or stiff mast.

The prescribed angle range is 29"-30 1/2" (73.6cm-77.5cm), measured at the spreader tips from one shroud to the other with the spreaders locked aft. If your spreaders need to be longer or shorter than standard, set your tip-to-tip measurement when your spreaders are at the standard length and then change the length of your spreaders evenly. The angle is typically more important than the length between them.

It is imperative that the spreader angle be symmetrical to the centerline of the boat. With the mast up, unhook the mast puller and pull on the jib halyard hard so the spreaders swing back to their locked position (check by lightly pulling the shroud aft), stand about 20' to the side of the boat, and line up the base of the two shrouds with your eye. Follow the shrouds up to the spreader. If the shrouds are parallel and appear as one shroud, your spreaders are set correctly. If you see one shroud going forward and one aft, then adjust the screws until the shrouds look even when viewed from the side of the boat.



PREPARATION FOR RIG TUNING

FORESTAY

The Snipe Class rules state that “the forestay must be all wire (no smaller than 3/32”/2.4 mm) and shall be of such length as to prevent the mast from touching the back of the mast partners.” When the forestay is cut at the maximum allowable length, it is too slack. The forestay length should be such that it barely allows you to attach the shrouds when rigging.

To help keep the forestay from fouling the pole while jibing, tie one end of a short piece of shock cord 1’ (30cm) up the forestay with the other end attached to the tack fitting or to the bow. The shock cord will pull the forestay tight so it does not get in the way of the pole when jibing.

MAST BUTT LOCATION

The mast butt position has been debated throughout the history of the Snipe Class, but here are our recommendations. They are the same as the discontinued 60” rule.

PERSSON

Center of transom to mast butt pin: 10’ 8 7/8”

JIBETECH

Center of transom indent to mast butt pin: 10’ 8 1/8”

A quick way to check your butt position is to look at the amount of space between the mast and the front of the partner when the jib is up with the halyard tensioned. This is typically 3/4”-1” of space in front of the mast. Check your mast butt to see if it is cut off squarely and perpendicular to the mast.

SHROUD ATTACHMENT LOCATION

If your shrouds are 4’ 7 1.2” (141cm) apart, the distance from your shrouds to the forestay should be 5’ 5 3/4” (167cm), from the front hole on a Persson hull. If your shrouds are farther apart, you will need to move them farther aft to help limit headstay sag upwind. If they are 4’ 9” (145cm) apart, they should be about 5’ 7” (170cm) aft. If your shrouds are too far forward, you will get too much headstay sag as the breeze increases. If they are too far aft, you will not get enough sag.

In moderate-to-heavy air (over 15-18 knots), moving the shroud position back 1” to the second or third hole will tighten the rig to help depower the sail plan. This aft placement also encourages lateral bend, which helps depower the sail plan upwind while minimizing the possibility of off-wind mast inversion.

JIB TACK

The jib tack must be fastened at the most forward position allowed by the Class rules to reduce the main and jib slot overlap. This distance is 11” (27.9cm) aft of the stem. Attach the jib wire on the bow fitting to the point closest to this measurement. Class rules do not allow the jib and forestay to share the same pin. Run your forestay under/through the jib shackle to the second pin aft on the bow fitting.

DECK MARKS

With the boat on the trailer, the rig tuned at your rake measurement (jib up), and the mast floating freely in the partners, place one mark at the side of the mast and one on the deck that lines up with the mast mark. This is your pre-bend or neutral mark. Place a mark 3/4” (1.9cm) in front of the pre-bend mark and a mark 1/2” (1.3cm) behind the pre-bend mark. These three marks will aid you when using the puller both upwind and downwind.



TUNING THE RIG

The measurement ranges given here will allow you to tune to the characteristics of your mast for crew weight and wind conditions. Anytime you need power, the mast must be more upright and/or the shrouds looser. When you need to depower, the mast must be farther back and/or the shrouds tighter. Whether you're sailing at a heavy or light crew weight, we'll define an average crew weight as 300 pounds.

Your rig tune will need both a light air set up and heavy air set up. Experimentation is necessary to develop these rig tune steps through the wind range. To begin, let's set up your boat with a good light-to-moderate wind tune.

Place the mast in the boat and attach the shrouds and mast ram. Fasten a tape measure to the main halyard shackle, raise the main halyard completely, and secure it in the halyard lock. All measurements assume that your halyard is the correct length after it has been locked, meaning that the top of your mainsail is even with the bottom of the top band.

STEP 1: SHROUDS

We encourage the use of STA Master shroud adjusters for accuracy, as they allow for very small increments of change. Make note of the shroud size and wire design (3/32" or 1/8", 1 x 19 wire, Dyform or Rod rigging, etc.) on the mast. Stronger wire will require a looser shroud tension setting to achieve the correct rig tension. If the rig has new shrouds, be sure to check the shroud measurement after sailing a couple of times. New shrouds will stretch, so be sure to bring them back to your original setting.



STEP 2: MAST RAKE & DECK CROWN

The wire in the jib luff bears the entire mast load while sailing. By adjusting the jib halyard with the pullers off, changes are made to the mast rake, pre-bend, and rig tension. With the jib up, take the tape measure to the stern and measure the rake. Adjust the jib halyard until you are within a range of 21'6"-21' 7" (653cm-658cm). This will be your upwind halyard setting. Keep in mind that the farther forward you rake your mast, the shorter your spreaders need to be.

Hold a straight edge from one transom corner to the other and mark this line in the middle of the stern. From this line to the top of the deck, the Persson measures 1.75" (4.5cm). If your boat measures less, you will have to add the difference to your rake number. If it measures more, you will have to subtract the difference to get your rake number.

STEP 3: PRE-BEND/RIG TENSION

Assuming that your mast pullers are off, the jib luff wire should be loading against the shrouds and the middle of the mast will bend forward. This is called pre-bend. It is one of the most critical aspects of boat performance. Check that the mast is floating freely in the partners before moving on. After the mast rake is set and the mast is floating and the jib wire is tensioned, hold the main halyard so it is just touching the back side of the spreader bracket. If set correctly, the bottom of the halyard at the top of the black band should be within 1/4" of the front of the mast.

- If there is too much pre-bend (halyard is forward of mast), ease the shrouds and re-measure the rake. It should be 21'6"-21' 7" (653cm-658cm).
- If there is too little pre-bend, tighten the shrouds and re-measure the rake.
- Using a Loos Tension Gauge will allow you to check the pressure on your shrouds and keep them even. The base shroud tension is 20-21 units on the PT-1 Loos gauge.

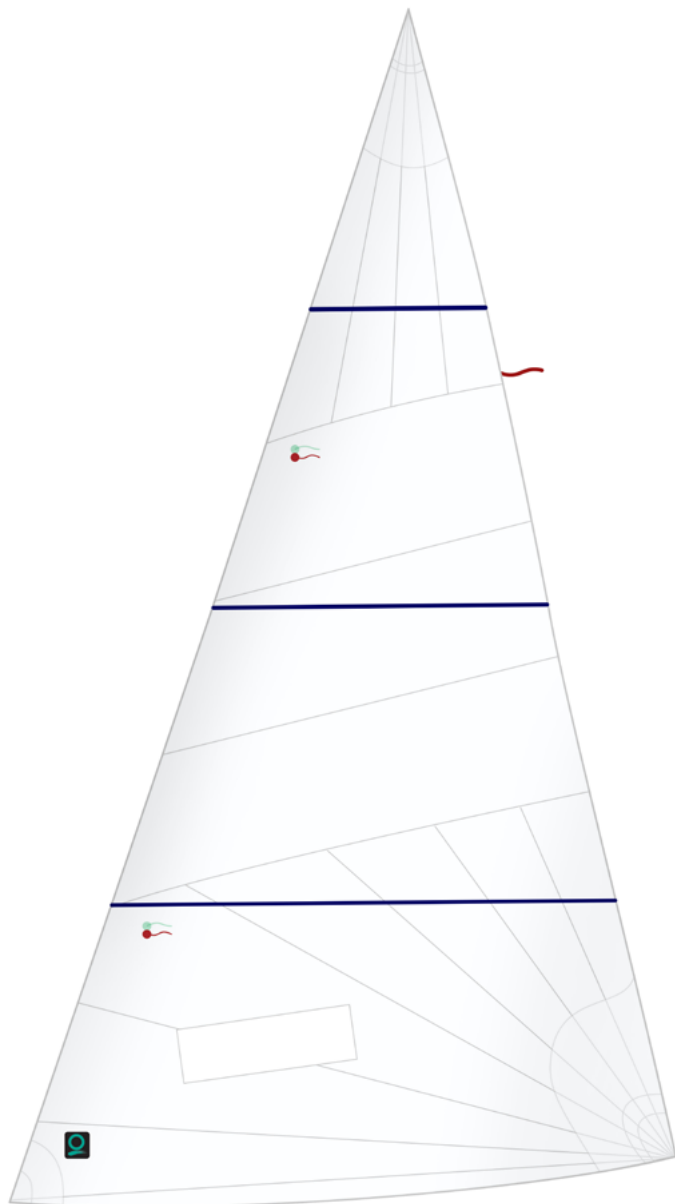
If you get the pre-bend to the right measurement and the shrouds are tight, then your mast may be too stiff. To remedy, set the mast within the prescribed rake range but with less shroud tension; 19 units is perfect for achieving sufficient pre-bend. This will make the mast straighter at the dock. With less pre-bend, more mast fore puller must be used in the light air range.

STEP 4: WIND RANGE STEPS – U.S. TUNING

Follow these guidelines to make changing rig tune easy, so that your boat can maintain speed and power through the range of conditions. A single rig tune, though easy, will not suffice for all wind conditions. Depending on your mast, you will find the need for two or three mast tune steps to get from light to heavy air. After you have developed a starting light/moderate air setting, you can develop your medium air (15-18 knots) tuning by tightening your shrouds a half hole for Holt-Allen adjusters or 1.5 turns on the STA Masters and keeping your jib halyard at the same mark. Re-check Steps 2 and 3 to note the changes. This will increase your shroud tension, pre-bend, and mast rake, all good things to have when the wind increases. When the wind is over 15-18 knots, you may want to move your shrouds aft one hole (.75" (2cm). Use the same halyard mark for every rig setting.

A helpful rule to determine when to change your shroud tension is to watch the angle of your leeward STA Masters and the sag between the forestay and jib stay at the bottom jib telltale. If the STA Masters is leaning over more than 20 degrees (the angle your middle and index finger make when making the peace sign) or if you can fit more than three finger widths between your jibstay and forestay at the bottom telltale (forestay shock cord pulled to same pin as jibstay), you should tighten your shrouds.





RIGGING

JIB HALYARD LENGTH

After setting the jib halyard at the correct rake measurement, check to see that you have at least 10" of adjustment/ease. This amount is needed so that you will be able to square your whisker pole aft and be fast on the run. If the rake measurement is too short, then either replace the jib halyard or use a wire pennant to lengthen the jib halyard.

MAST PARTNER

The mast must be shimmed tight in the mast partners. With the boat on the trailer and the rig loaded at its upwind pre-bend setting, remove the shims and measure the thickness that is needed for both sides of the mast. Since the mast partner is rarely in the middle of the boat, the shims will likely vary in thickness. It is critical that the mast be held in the center of the boat, but not too tight to prevent the mast from bending.

When the jib is up and shims installed, pull the mast 1/2" (15mm) aft at the deck to make the mast straight fore, aft, and sideways, and then sight up the backside of the mast to make sure the shims are set right and the mast is straight side to side.



HELPFUL TIPS

LAYOUT

Rigging layout must reflect the job responsibilities of skipper and crew. Adjustment placement must also reflect when adjustments are used. The adjustments near the rail must be the ones only used when hiking; too many will make quick adjustments difficult and potentially confusing. Cunningham and vang are good examples of adjustments near the rail. Use a thin line with a polypropylene cover to minimize friction and weight when wet. Cutting lines to a minimal length will reduce clutter and potential hazards.

DISPLACEMENT MODE

Harken Auto Ratchet blocks make minor but critical adjustments possible and allow the pole to go out faster when launched. Check to see how close your leads are. Measure across the boat from the bearing surface of one jib lead to the other. The lead should fall within the range of 27"-32" (68.5cm-81.3cm). Tracks on newer boats are closer together (2' 5.5" (75 cm), which helps pointing in marginal hiking conditions.

MAINSHEET

This system should have a Harken Auto Ratchet behind the daggerboard and another auto ratchet on the boom. Mainsheet load is greatly reduced with both ratchet blocks turned on, which allows the mainsheet to be hand-held to make quick and critical mainsheet adjustments on even the windiest of days.

REFERENCE MARKS

To support our sail adjustment guidelines, all the adjustment lines should have reference marks and number scales so that they can be set consistently.

If you have any questions, please feel free to contact Quantum representatives. For even more information, check our web pages [here](#).

Good luck, and we'll see you out there!