NORTH SAILS

One Design

For any question you may have on tuning your Star for speed, contact one of our Star experts listed below:

ONE DESIGN WEST
Vince Brun
619 226 1415 F 619 224 7018
vince@od.northsails.com

ONE DESIGN EAST
John MacCausland
856 428 9094 F 856 4270385

Star Tuning Guide

NORTH SAILS

Star Tuning Guide

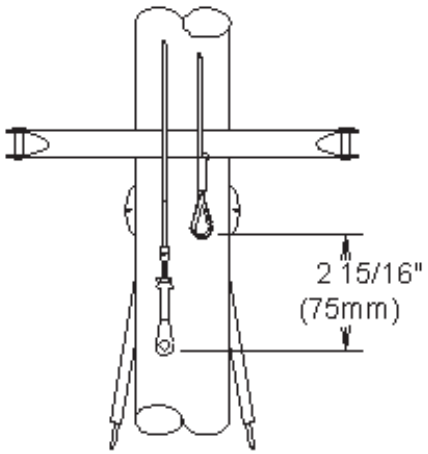
Thank you for choosing North Sails. We have spent many hours on the computer and the water fine-tuning our designs to make them faster and user friendly. Please feel free to contact any of the North Star Team with questions you might have.

In this tuning guide you will find settings to get you comfortable and up to speed with your new sails.

Good Sailing!

Mast Set Up (Rig down)

Before we put the rig up in the boat there are a few things that need to be looked at. First we want to check to see that the mast is straight fore and aft and also sideways. Small bends can be fixed. If you have large bends or kinks you should contact your mast supplier for their advice.



Next check the intermediates and adjust if necessary. To do this pull the upper shroud down the front of the mast and make a mark on the mast at the bearing point of the shroud (this is the inside bottom of the loop on the shroud). This should be done on the opposite shroud also. After both uppers are marked pull the intermediates down the front of the mast and mark as you did for the uppers. Measure the difference between these marks. You should have a measurement of 2 15/16" (7.5 cm).

The last thing you need to do is to set the spreader sweep and square the spreaders to the mast butt. Do this with the mast track down and the spreaders swept back in the up wind position. Take a thin piece of shock cord and tie it to each shroud right below the spreaders. This piece of shock cord should be stretched tight to make a straight line from shroud to shroud. Next, measure from the back of the mast to the shock cord. This should measure 5 ½" (14 cm).

After setting the spreader sweep you need to make sure they are square to the mast butt. To do this leave the shock cord on the shrouds that you used to measure the sweep with. Get a batten and put it on edge on the leading edge of the butt casting. Stand back at the butt of the mast and sight along the batten and this should line up with the shock cord that is stretched between the shrouds. If this does not line up adjust with the Allen screws in the spreaders. Make sure that you adjust each screw the same. You will have to screw one in and screw the other out to keep the sweep at the proper amount.

One quick note about spreader sweep, if you feel your mast is soft you might have to use less sweep and conversely if your mast is stiff you will have to use more spreader sweep.

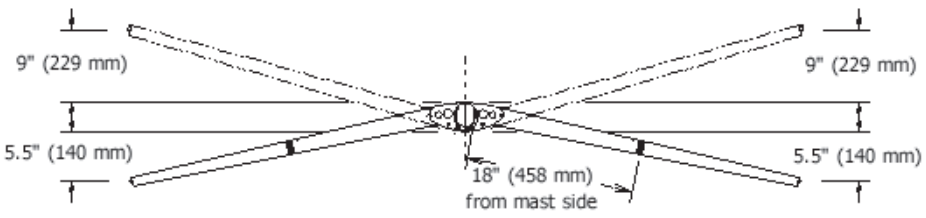
Mast Set Up (Rig up)

Now that you have the mast ready, put the mast up in the boat. After you have all the shrouds and backstays attached put the boat on a level place to finish the set-up of the rig.

Once the mast is stepped in the boat you need to check the butt location. This is done by taking a tape measure from the back of the mast at the base back over the aft edge of the cockpit along the deck to the transom. Using a straight edge along the transom measure the location. For Mader the measurement should be 14' 10" (4520 cm), Folli 14' 9" (4495 cm).

Next with the mast in its upwind sailing position, spreaders back, tension on back stays. The lower shrouds will be in line with the front of the mast and the uppers approximately ½" (1.3cm) in front of the lowers.

The final step is to make sure the mast is upright in the boat. This is done by running a tape measure to the top of the mast using the main halyard. Running the tape measure in front of the spreaders, measure to the top of the shroud track just in front of the shroud car. Do your best to make this measurement the same from side to side.



RIG TUNING

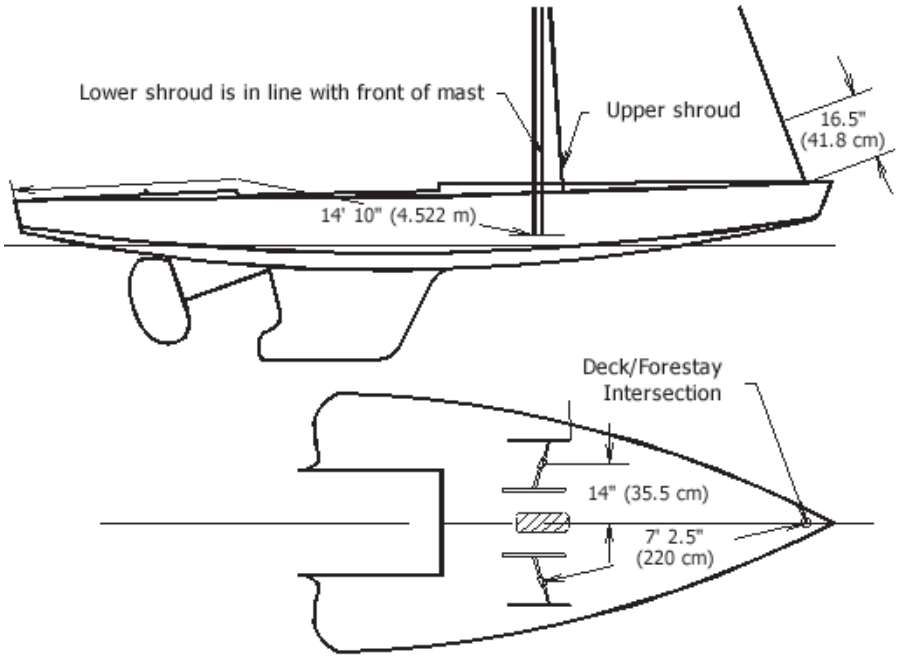
To measure the shroud tension we use the Loos Pro Model Gauge (PT-1).

Using the Loos Gauge, start by putting 5 on each upper backstay. Now check your rake measurement. 16 ½" to 16 ¾" (42 to 43 cm) seems to work well on most boats.

Now using the Loos Gauge measure the tension on your upper shrouds. This should be 22 to 23.

Finally you need to set-up your inner lower shrouds. First measure up from the tip of the black band along the mast 36" (91.5 cm) and make a mark. Now measure across from shroud to shroud. By pulling the shrouds together this measurement should be 28½" to 29 ½" (72.5 to 75 cm).

Now you are set to go sailing. The measurements and settings that we have suggested are a very good starting point. You might have to make some small adjustments to fit your sailing style and crew weight.



Sail Trim on the Water

MAIN

The most important adjustment for the main is the main sheet itself. Small adjustments make very obvious changes in performance and balance of your boat. Trimming harder gives you a tighter leach with more power and helm, which translates in to pointing higher. An eased main gives you a more twisted sail, which translates into less helm and the ability to go fast forward. The difference between being trimmed hard and eased might only be 1" to 2" (2.5 to 5 cm) of trim on the main sheet. If you have a single type main sheet marking it is a good idea so that you can reproduce your settings. If you use a double type main sheet you cannot mark the sheet so you will have to look at the main to judge your main sheet trim. Typically the boom will be 7 – 8" (17.5 to 20.5 cm) off the deck at the transom in moderate conditions, closer in heavy conditions and further off the deck as it gets lighter.

The outhaul controls the depth in the bottom third of the sail. In very light air and flat water the outhaul should be pulled out tight near the band. As the water gets rougher and the wind picks up you can ease the outhaul in but no more than 1 ½" (3.8 cm) from the band. As you start to get over powered pull the outhaul back on until it is at the black band in 14 knots of wind.

In all but the windiest conditions the Cunningham should only be used to just pull the wrinkles out of the luff of the main. As you start to get overpowered you will have to pull harder on the Cunningham to help open the top of the main and depower the boat. But it is very important to ease the Cunningham as soon as the conditions get lighter.

Your backstays are two more adjustments that help you get the most out of your sails. The lower backstay controls the bend in the lower part of the mast. In very light air and flat water there should be no tension on your lower backstays. As the wind increases and the water gets rougher you will need to pull on your lower backstay to give the boat enough power to sail through the waves. As the wind further increases and you start to get overpowered you can start to put some tension on your upper backstays. This bends the mast which helps flatten the sail and twists open the top part of the main. Also this tensions the head stay which makes the

jib a little flatter. All of these things help de-power the boat and make it more manageable in windier conditions. Again as with the Cunningham, it is very important to ease the upper backstay as soon as the conditions get lighter.

The mast bender should be in a neutral position in all conditions. Except in very light wind and flat water you can experiment by pulling some mast forward on.

JIB

Before you leave the dock you should mark your jib lead position. First measure the fore and aft position of your jib lead. Measure from the head stay back to the center of the jib car. To start this measurement you should start out at 7' 2 ½" (220 cm). This is a very good all around position. You can experiment by moving the lead forward ½" (1.3 cm) in rougher water, which will make the lower part of the jib a little fuller and give you a little more power to help you get through the waves. As it gets windier try moving the lead back ½" (1.3 cm). This will make the lower part of the jib a little flatter and give you just a little more twist. This should help you de-power and make the boat more manageable.

Next you need to mark the athwartship position of your jib lead. Measure from the centerline of the boat out 14" (36.5 cm) to the center of your jib car and make a mark on the deck. Your jib car should stay at this location in all but the windiest conditions. And then only let it out 1" (2.5 cm). This will help open the slot.

Once you are on the water set your jib halyard so the jib tack is 1" (2.5 cm) off the deck. Your jib Cunningham should only be pulled hard enough just to pull out the wrinkles in all conditions.

Now you have your jib leads set and your halyard in the proper position. You will want to trim your jib to the 18" (45.7 cm) mark on the spreader. This works well in most conditions. Watch trimming inside of this mark.

On the Water Quick Guide

HELM AND SPEED

The goal in sailing upwind is to get the sails and mast working most efficiently for the conditions. When racing against other boats, you will have a very good measure of how your boat speed is . . . otherwise you will have to "feel" how your boat is going. The helm should be almost balanced with just a slight weather helm. If the boat is overpowered, you will have too much weather helm and will need to de-power the main. When the boat feels sluggish and underpowered, or if you do not have any punch through the waves, you need to power up the sails. As a general rule, lean towards de-powering because the Star is almost always overpowered.

Controls	Light (0-6)	Medium (6-12)	Heavy (12+)
Mast Rake	16 ½" (42 cm)	16" (40.5 cm)	17 ½" (44.5 cm)
Upper Shroud Tension	22	22	23
Outhaul	¾" (2 cm)	½" (1.25 cm)	Maximum out
Cunningham	None	Snug	Increase tension To bleed power
Jib Cloth Tension	Enough to remove wrinkles at all times		
Jib Car (Fore & Aft)	7' ½" (217 cm)	7' 2" (218.5 cm)	7' 2 ½" (220 cm)
Jib Car Athwartship	14" (35.5 cm)	14" (35.5 cm)	14 1/2" to 15" (38-7.0 to 38.5 cm)
Upper Backstay	Slack	Snug	Hard
Lower Backstay	Slack	Tight for maximum power	Ease as necessary to bleed power

Sail Care

Your North Sails are constructed out of the best materials on the market today. We make sure of this by testing every roll of cloth we use. Through proper care and maintenance your sails will give you the performance you have come to expect from a North Sail.

The most important factor for a long life for your sails is to watch them for signs of wear and tear in high load and chafe areas. Be sure to wash the sails off with fresh water and dry the sails thoroughly before storing. A dry, mild climate is best. Excessive heat can cause problems with the sails due to the possibility of shrinkage. It is best to roll the mainsail and jib.

MAINSAIL

When hoisting and lowering the sail try to minimize the amount of creasing or wrinkling of the sail. Every time the sail gains a crease the cloth breaks down that much faster. Always have someone contain the leech and luff during these procedures.

The battens can be left in the sail without any problems. Be sure to roll the sail down the leech so that the battens will jot twist. This could cause damage to the battens.

JIB

When rolling the jib keep the battens perpendicular to the leech. Pay special attention to the batten pockets for wear and tear. Since this sail is manufactured from yarn tempered Dacron, problems can arise due to mishandling.

Star Boat Clinics

This tuning guide only begins to cover all there is to know about racing the Star. The Star team at North One Design has prepared a professional, in depth Star boat racing clinic that you and your fleet will be interested in learning more about. In the course of an evening or weekend you will learn more about racing you Star than you could possibly learn in a season of racing on your own.

Please call your nearest North One Design loft for complete details!

At North Sails we are constantly striving to make our products better. If you have any comments on this tuning guide and how it could be improved for your purposes we'd love to hear from you.

Please give us a call or drop us a line.

Good Racing!

Contact Us

For tuning information and complete details on how to setup your Star sails do not hesitate to contact the North Star Team listed on the cover of this guide.

TENSION GAUGE CONVERSION CHART

Over the past few year Loos Co. has introduced it's new style PT-1, 2 and 3 professional tension gauges to the market. Since many of us are replacing our older model A and B gauges with these new models we are posting the following conversion chart for your convenience.

MODEL A	MODEL PT-1		
	3/32	1/8	5/32
5	6		
10	9		
15	12	14	
20	16	16	
25	20	19	
28	23	21	
30		22	
35		27	25
38		30	28
40		33	30
42			33
44			36
45			38
46			39
47			40

Model B	Model PT-2			PT-3
	3/16	7/32	1/4	9/32
10	11			
15	13			
18	15			
20	16	18		
22	18	20		
24	19	22		
26	21	24		
28	23	25		
30	25	27	25	
32	27	29	27	
34	29	31	29	
		33	31	
		36	33	6
		37	36	7
			37	9
				10
				11
				12
				14
				16
				18
				20
				25

NORTH SAILS ONE DESIGN QUALITY CONTROL CHECK

MAINSAIL		JIB	
Corners		Corners	
Cunningham		Battens	
Tack and Clew slugs		Zipper	
Leech Line		Telltales	
Royalty		Leech telltales	
Numbers		Royalty	
Country Code		North Logo	
Battens		Bag	
2 Batten Loaders			
Leech Telltales			
Insignia			
North Logo			
Bag			

Checked by: _____

Date: _____ / _____ / _____