



# Yngling Tuning Guide

## INTRODUCTION

Congratulations on your purchase of North Yngling sails. Thank you for choosing North One Design as your personal sailmaker. We have been working hard to design and build the fastest, easiest and most durable Yngling sails available.

Please use this guide as a reference and starting point. While we have found these numbers to be accurate and beneficial for most sailors, others may find different settings to be even more comfortable. We urge you to experiment.

While we cannot guarantee immediate victory by following this guide, we can assure you will be taking a major step in the right direction!

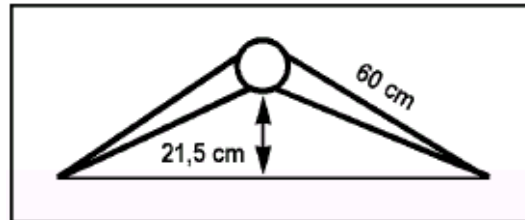
*Please call on any of your North One Design Yngling experts if you have any questions. **Good luck and good sailing!***

## Prior to stepping your mast

1. Check the length and cant of your spreaders, as they are important in shaping the mainsail. When set properly the spreaders help maintain control of the mast bend and indirectly, the tension/sag of the forestay.

The length of the spreader is measured from the side of the mast to where the shroud passes through the spreader tip. The length of the spreader should be very close to 60Cm (23 9/16"). The cant of the spreaders is measured by

checking the distance of a taut line (bungee cord hooked at the tips works well) from the back of the mast. We have found this distance should range between 21.5-22.0 Cm ( 8 ½- 8 ¾”). The greater this distance, the bendier the mast. For the Abbot Boats/ Proctor Spar combination set up closer to 21.6-21.8. For the DeWolf Boats/ Hall Spars Combination set up the spreaders closer to 21.5 Cm.



2. The butt of the mast is set so that the distance between the center of the forestay pin to the front edge of the mast is 1.925 m (6' 3 ¾”).

*Note: it is important to check that your mast does **not** sit squarely on the step (or casting). Ideally there should be a gap of nearly ¼ “ between the front of the mast extrusion and the casting or step. This gap will allow the mast to “rock” fore and aft easier and therefore bend easier, making for smoother gear shifting from light to heavy winds.*

3. Hoist a tape measure on your main halyard and lock in your standard full hoist position. The mast rake is set so that the distance from the top of the mast ( main halyard in its locked position) to the top of the deck at the transom is 26' 3”- 26' 5”.

4. Using the tape on your main halyard, check that the mast is centered in the boat side to side.

7. Start with a tension gauge to measure your rig-tension. We suggest the Loos Model PT-1 gauge as it appears to be most consistent. These are good rough tune starting points for the upper shrouds at the dock: Light winds (below 6 mph) your gauge should read close to 6. In medium winds, and for your “base” setting your gauge should be close to 9 and in heavy breeze the gauge should be at 18. HOWEVER.....

*Note: As a final check **in all conditions** for your upper shroud tension, ideally the leeward upper shroud will just barely start to go slack...not sloppy.*

8. The lower shrouds are best adjusted and fine tuned while under sail. They are tensioned so that the mast has a slight (3/8”) sag to leeward at the spreaders in light to medium winds. Only in heavier winds or when overpowered, will the lowers be tightened to straighten the mast laterally in the boat.

## **MAINSAIL**

**1.** Trim the **MAINSHEET** hard enough to make the top batten parallel to the boom. You can check this by sighting from underneath the boom on a vertical plane. Once you have accelerated and you want to point higher, trim harder to cock the top batten slightly to windward. Generally, we recommend sailing with the top leech telltale stalling 70% of the time. In flat water, you can trim harder, but in light air and choppy water, you will need to ease to twist off the top of the main.

In light to moderate air, trim the **TRAVELLER CAR** to windward no more than 4-5" above centerline so the boom is on centerline. When you have the traveler to weather be sure to ease the mainsheet to maintain the upper batten parallel to the boom position. In light, sloppy conditions, or when trying to accelerate, ease the sheet so the upper batten is angled outboard from parallel 15-20 degrees.

As the breeze increases, gradually drop the traveler back to centerline to reduce helm, while at the same time trim the mainsheet. In very windy conditions, the traveler car may be dropped up to 2-3" below centerline. In these conditions the vang is tensioned hard to control leech tension and help bend the lower sections of the mast.

**2. OUTHAUL.** The outhaul controls the draft in the bottom of the mainsail. In nearly all conditions the outhaul is pulled tight enough to close the shelf foot so that the shelf seam is along the side of the boom. In heavier winds, the outhaul is pulled very tight, and to the band, so that the bottom of the main is very flat. Actually, the difference between standard "all around" trim and heavy wind trim on the outhaul is very slight. The outhaul, again, is pulled quite hard in most conditions.

**3. CUNNINGHAM.** Is used to position the draft of the sail. Your goal should be to keep the maximum draft point 50% back in the sail (sighting from luff to leech). We use no cunningham up to 10 knots, just enough to remove many of the wrinkles in 11-12 knots, and progressively tighter in higher winds to remove most of the wrinkles and position the draft forward in the top of the sail.

**4. BACKSTAY.** The backstay affects several different areas of sail trim and should never be overlooked as a power control. Pulling on the backstay does two things to the sail plan. First, it bends the mast by pulling on the tip, which opens the main leech and flattens the upper two-thirds of the sail. Secondly, it makes the headstay tighter, which flattens the upper entry of the jib and eases its leech; thus increasing pointing ability and reducing heel. Since pulling on the backstay has a large effect on main leech tension, whenever you adjust the backstay, you should check your mainsheet trim and vang tension.

## JIB

**1. JIB LEAD:** As a basic starting point, set the jib lead at a distance of 2 m from the forestay pin to the center of the block. The jib should luff nearly even along the luff of the sail. In heavy winds move the lead aft a hole ( no more than one inch). *Note: Many sailors are raising the tack of their jib off the deck nearly 2-3" ( the skirt is still lying on the deck) to help make the bottom of the jib more powerfull.*

**2. HALYARD TENSION:** Be careful to avoid over tightening the halyard, as this will move the draft too far forward. Pull just barely enough to barely leave a hint of wrinkle off of each snap, but not more in all conditions. In heavy winds pull the halyard a slight bit tighter so as to make the luff smooth and position the draft properly.

## SPINNAKER

The general rule of trim is to allow 8-10" of curl in the luff of the sail.

The outboard end of the pole should be even with the free floating clew and the pole should remain perpendicular to the apparent wind.

Pole height is important and has a big effect on the spinnaker. The luff break should appear approximately one-third of the way down from the head. If the break is lower, the pole is too high and it should be lowered, higher than this, the pole is too low and should be raised. Another effective guide is to position your pole so that the centerseam of the spinnaker (the vertical seam running from the head to the middle of the foot) is parallel to the mast.

### Light Air

The most important area in light air is to concentrate on good communication between helmsman and spinnaker trimmer. The goal is to sail as low as possible while still maintaining good pressure on the spinnaker. An easy way to measure this is knowing the tension on the sheet. The important thing is not to sail too high with translates into longer distances, consequently do not sail too low thus sacrificing boat speed. If the spinnaker sheet starts to drag in the water, head up slightly!

Be careful not to pull the pole too far aft, which over flattens the spinnaker.

### Heavy Air Reaching

Never allow the pole to rest on the headstay. Always maintain at least 2-3" of distance between the pole and headstay. When big puffs hit and the spinnaker is full, ease the sheet 2-3' to help the boat accelerate. Trim as the puff subsides. Have the foredeck person keep a hand on the vang at all times and be ready to release if the boat begins to spin out. As soon as the rudder starts to have weather helm, the vang should be out of the cleat and eased until the boat is under control again. Hike hard on the reaches.

## **Mainsail**

Ease the sheet until a luff appears then trim slightly to create more apparent wind. Dead downwind the boom will be out to the shrouds. Set the vang in light to moderate air so the top batten is eased out past parallel to the boom ( since the shrouds are set aft on the Yngling more twist in the main dead downwind is necessary to help the boat sail low enough.) The Cunningham, backstay and outhaul should all be eased for maximum downwind power.

## **Twings**

It is critical to utilize the twings properly sailing both on the reaches and dead downwind. The windward twing should always be all the way down. It is critical to make sure the leeward twing is off during the set. If it is not, the spinnaker will fill prematurely, causing the boat to create weather helm and round up.

When sailing downwind in light air, the leeward twing is completely released. In very heavy air, pull the leeward twing as well, on about halfway or 2' away from the deck to help keep the spinnaker under control.

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## **APPENDIX A - SAIL CARE**

Your North Sails are constructed out of the best materials on the market today. Before we made your sails we tested many different fabrics from the best suppliers in the world.

### **Mainsail**

It is not necessary to remove the battens from the main when storing it. Be sure to roll the sail up parallel to the battens to avoid putting a permanent twist in the battens.

Be sure to wash the sail off with fresh water when it gets salty and dry thoroughly before storing.

### **Jib**

When rolling the jib keep the battens perpendicular to the leech. Pay special attention to the battens and batten pockets for wear and tear. Since this sail is manufactured from yarn tempered Dacron, problems can arise due to mishandling. Like the main, wash the sail off with fresh water when it gets wet with sail water

### **Spinnaker**

The best thing you can do to prolong the life of your spinnaker is to always store it clean and dry. When the sail gets wet in salt water (and it will!) wash the sail off and dry it thoroughly. Fold your spinnaker to store it if possible.

For more information on sail care contact North One Design.

## **APPENDIX B - NORTH ONE DESIGN YNGLING CLINICS**

This tuning guide only begins to cover all there is to know about racing the Yngling. Your Yngling team at North One Design has prepared a professional, in depth racing clinic that you and your fleet will be interested in learning more about. Please call you nearest North Sails 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.



## 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. Please give us a call or drop us a line if you have any questions. Good Racing!

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			Model 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

## Yngling

MAINSAIL		JIB		SPINNAKER	
Corners		Corners		Corners	
Cunningham		Battens		Numbers	
Leech Line		Luff Tabs		Country Code	
Royalty		Telltails		Royalty	
Measurement stamp at tack		Leech telltails		Measurement stamp at royalty	
Numbers		Royalty		North Logo	
Country Code		Measurement stamp at tack		Bag	
Battens		North Logo			
Leech Telltails		Bag			
Insignia					
North Logo					
Bag					

Checked by: \_\_\_\_\_

Date: \_\_\_\_ / \_\_\_\_ / \_\_\_\_