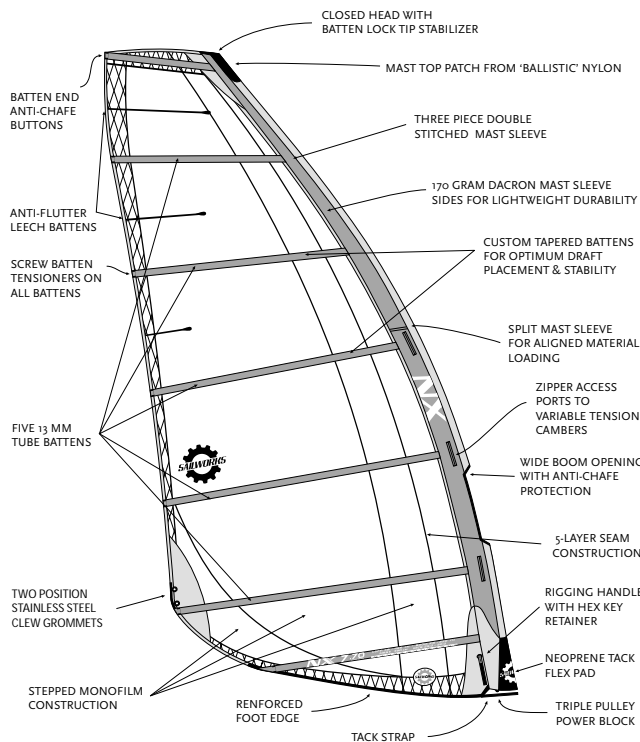


## Sail Maintenance

Extend the life of your new NX sail by following these simple tips:

- Let your sail dry before de-rigging.
- Shake any sand or beach debris off the sail before rolling it up at the beach. This will extend your sail's life considerably.
- Most scratches in the monofilm are caused by sand, grit or salt crystals abrading the panels while it is rolled up and traveling in your car. Rinse the sail with fresh water occasionally, including inside the mast sleeve, to avoid salt and sand buildup.
- Avoid rigging on hard or abrasive surfaces, as abrasion to fabric under high tension can be very damaging.
- If the sail is to be left rigged all-day or overnight, release the outhaul and downhaul slightly to relax the rig tension.
- The sun's ultra violet (UV) rays will degrade the monofilm over time. Store your rigged sail out of direct sunlight.
- To prevent creases in the monofilm, roll your sail on the paper tube it came on, or roll it tightly and store it where it won't get flattened.
- Have tears promptly repaired by a qualified sail repairperson. Make temporary repairs to the monofilm with Mylar packing tape or a sticker on both sides.
- Do not use solvents for cleaning near seams, as this will dissolve the seam tape adhesives. Use citrus based cleaners or water and mild soap.
- When on the beach, secure your rigged sail from blowing away.
- Avoid getting sand or dirt inside the mast sleeve and batten pockets. This reduces sail performance by increasing friction and wear on the mast and battens.
- Back off the batten tension slightly if you are storing the sail for an extended period between sailing seasons.



Specifications

First Time Rigging

Assembly & Rigging

Tuning for Wind Range

Optimum Settings Chart

Troubleshooting

Sail Maintenance



## Rigging & Tuning Guide

Slalom sailing has never been more fun.  
Racing was never easier.

Congratulations on buying this  
Sailworks NX - we're sure you're  
going to enjoy where our  
incremental development has  
lead us - beyond your  
wildest imagination, the  
NX will take you light  
years ahead.

It's no longer speed  
versus balance.  
Speed = balance.

Hook in, hang on  
and take the ride of  
your life!

N X D I M E N S I O N S							M A S T S P E C S						
SIZE m <sup>2</sup>	LUFF MED. (cm/ft)	BOOM MED. (cm / ft)	BOOM MAX. (cm / ft)	WEIGHT (kg / lbs)	# CAMS	# BTNS	IDEAL MAST	MCS CURVE %	IMCS STIFFNESS	LENGTH			
	S	L	A	L			O	M		430	460	490	520
5.80	439 / 14' 5"	184 / 6' 0"	189 / 6' 2"	3.90 / 8.6	3	7	430	12.0	21 - 23	●			
6.20	451 / 14' 10"	192 / 6' 4"	197 / 6' 6"	4.10 / 9.0	3	7	430	12.0	21 - 23	●			
6.65	465 / 15' 3"	200 / 6' 7"	205 / 6' 9"	4.30 / 9.5	3	7	460	12.0	21 - 26	●	●		
7.15	479 / 15' 9"	208 / 6' 10"	213 / 7' 0"	4.50 / 9.9	3	7	460	12.0	24 - 26		●		
	F	O	R	M	U	L	A						
7.70	493 / 16' 2"	218 / 7' 2"	223 / 7' 4"	4.70 / 10.3	3	7	490	12.0	24 - 30		●	●	
8.30	507 / 16' 8"	229 / 7' 6"	234 / 7' 8"	4.90 / 10.8	3	7	490	12.0	28 - 30			●	
8.95	525 / 17' 3"	240 / 7' 11"	245 / 8' 1"	5.10 / 11.2	3	7	490	12.0	28 - 35			●	●
9.65	539 / 17' 8"	251 / 8' 3"	256 / 8' 5"	5.30 / 11.7	3	7	520	12.0	29 - 35			●	●
10.40	556 / 18' 3"	261 / 8' 7"	266 / 8' 9"	5.50 / 12.1	3	7	520	12.0	29 - 35			●	●
11.20	571 / 18' 9"	271 / 8' 10"	276 / 9' 0"	5.70 / 12.5	3	7	520	12.0	29 - 35			●	●

The luff and boom lengths listed are intended as a guide to rig assembly and sail trim. Depending on the rig components you choose, these dimensions may not always correspond exactly to the settings that are best for you. We measure boom length from the front of the mast at the middle of the boom opening, to the back corner of the sail between the two clew grommets. The maximum boom length is achieved at full outhaul tension with the boom positioned at the top of the boom opening. We measure luff length on a rigged sail from the underside of the male headcap fitting (top of the mast), around the front of the mast curve to the bottom of the tack pulleys.

## Before You Rig Up

### CHOOSE THE RIGHT MAST

For optimum wind range and performance use the mast length and stiffness specified for the NX size you are rigging. Choose a high-carbon content mast that closely matches the recommended mast compatibility. Pay particular attention to the mast length and IMCS stiffness to ensure compatibility with the sail's shaping and tension profile. Your mast **MUST** be within this required range regardless of the brand or model. Note that **NOT** all sail sizes will perform effectively on the same mast. As a rule, larger sails need longer and stiffer masts while smaller sails require shorter and softer masts.

Heavier sailors (over 100 kg, 220 lbs.) may use masts that are slightly stiffer than specified to increase rig tension and stability.

The following masts have been tested as compatible with the NX sails:

- Sailworks XR
- Fiberspar Reflex 5000 & 6000 series
- Powerex Z-speed

Other masts that conform to the "constant curve" profile (63-64% base & 75-76% tip) and similar IMCS stiffness will also be compatible. See the specification chart for further mast information for specific NX sizes.

All of the NX sails are finished with a closed-head, non-adjustable, mast sleeve. Do not use a mast that is longer than the specified luff length. The luff and boom lengths listed are intended as a guide to rig assembly and sail trim. Depending on the rig components you choose, these dimensions may not always correspond exactly to the settings that are best for you. We measure boom length from the front of the mast at the middle of the boom opening, to the back corner of the sail between the two clew grommets. The maximum boom length is achieved at full outhaul tension with the boom positioned at the top of the boom opening. We measure luff length on a rigged sail from the underside of the male headcap fitting (top of the mast), around the front of the mast curve to the bottom of the tack pulleys.

## Assembly & Rigging

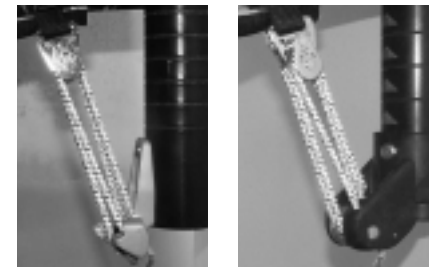
### 1. INSERT THE MAST

Push back the boom-opening flap between the two diamond-shaped cutouts in the mast sleeve. Guide the mast tip up the mast sleeve, coming **OUT** the lower boom cutout and back **IN** the upper boom cutout. Try to keep the cams on the mast, but don't worry if they come off - keep inserting the mast. Do **NOT** try to re-seat the cambers without the boom attached and the sail fully outhauled. Any cams that do come off the mast during mast insertion can easily be re-seated once the boom is attached and the outhaul pulled. Pull the sail down the mast in sections by working the mast tip to the top of the mast sleeve before pulling the tack of the sail down to the base of the mast.

Do not downhaul the sail until you are certain the headcap fitting is completely seated into the mast tip plug. Also check that the two-piece coupling of the mast is joined completely before downhauling.

### 2. ATTACH THE MAST BASE

Calculate the length of mast base extension required by subtracting the mast length from your sail's luff length. Your mast base should have a low friction 6:1 purchase pulley system. The triple pulley tack fitting sewn to the sail works best with 4 - 5 mm pre-stretched line. To minimize downhauling friction, replace worn lines with a fresh line as needed. Lace the downhaul line through the triple tack pulley: keep the path of line looping in the same direction each time you feed it through the tack pulley and through your mast base pulley. We recommend lacing the downhaul line in a counter-clockwise direction working from the underside pulley shiv upwards to the topside pulley shiv - see photo. Don't cross the lines, as this increases friction and makes the downhaul harder to pull. Do not fully downhaul the sail yet - stop at just "hand-tight".



● Ideal mast ● Alternate mast

### 3. ATTACH THE BOOM

The NX sails are designed to be used in conjunction with an adjustable outhaul system. If you are not currently using an adjustable outhaul, Sailworks highly recommends that you try the one supplied with this sail.

Before attaching the boom to the mast, follow the instructions enclosed with the adjustable outhaul for setup and use. Adjust your boom to the length specified for the sail.

Attach the boom to the mast at the middle of the boom opening and re-adjust it after the sail is fully rigged. Be careful not to attach it too high in the boom opening - you must account for the sail to be downhauled further. Be careful not to pinch the mast sleeve under the boom clamp.

Lace the outhaul through the clew grommet that matches your height preference. Pull the outhaul completely so the sail is flat, using the recommended boom length. This setting - loose downhaul and tight outhaul - makes it very easy to put the cams back on the mast, and adjust the camber tension, if necessary.

### 4. ADJUST THE CAMBERS



Your new NX sail comes with Sailworks' unique Variable Tension Camber (VTC) system. This VTC system allows you to adjust the camber tension separately from the batten tension, and also adapts the camber inducer to fit a variety of mast diameters.

With the sail assembled as described in steps 1-3 above (i.e. loose downhaul and tight outhaul), open the zipper access port at each camber and re-seat any cams that may have come off the

mast: push down and back on the batten from above, while pushing up and forward on the cam from the underside of the sail. Next, pop open the adjustment buckle by pulling up on the webbing tail. The adjustment buckle "snap-fits" into the side of the cam. To tension the cam, pull the webbing strap forward (toward the mast) while simultaneously pushing the batten down and back from the mast - see photo. As you push down on the batten, work the slack webbing free by pulling the strap forward and back a few times. Rotate the cam from side to side with your hand to equalize the strap tension within the camber. The webbing strap inside the cam is held very snugly so it may take more than one attempt to pull out all the slack.



The correct VTC setting should tension the mast sleeve snugly without impeding rotation. Set the cams tight against the mast for optimal control and upwind drive. Set the cams slightly looser for easier rotation and better handling for slalom reaching.

Snap the adjustment buckle firmly back into the side of the cam. It should sit flush with the side of the cam when closed. If the cams are set very tight, and the zipper is difficult to close, wait until the sail is fully downhauled before trying to close the zippers. If the zipper is still difficult to close, you've set the cams too tight. Release some camber tension by opening the adjustment buckle and rotating the camber once. Once the cam tension is set, you don't need to re-adjust it for each session!



### 5. TUNE THE DOWNHAUL - CONTROLLING THE SHAPE AND TWIST

(Refer also to the tuning chart on the following pages.)

The downhaul controls the sail's shape, twist and wind range performance. Discover its effect by slowly pulling and releasing the downhaul line. If necessary, use an easy-rig or downhauling tool so it is easier to pull hard. Observe the change in depth and tension of the leading edge (front 1/3 of the sail), and the flattening and loosening of the head area (upper leech between batten #2 & #3) as more downhaul is pulled. Specifically notice the change in the angles, or twist, of the battens; the top batten should open to leeward the furthest—called "progressive twist." The twist profile is cut into the sail, but is ultimately controlled by the downhaul tension. More downhaul induces more twist; less downhaul allows less twist. Twist improves sail efficiency and makes the sail easier to control when fully powered. Less twist is more powerful for light winds, but more difficult to control when fully powered.

The ideal downhaul setting gives a tight luff and a lean (not blunt) entry, with the leech area between the ends of the top three battens loose. The static looseness to the leech is normal and will pull tight as the sail twists open under wind load. See the photos on the next page for specific visual references to downhaul tension and leech looseness. Once you're familiar with the correct downhaul setting, re-check the mast base height. If necessary, re-adjust it so that the tack pulley sits very close to the mast base cleat and the sail is rigged as low as possible.

### 6. TENSION THE STREAMLINED BATTEN TENSIONERS (SBT'S)



The battens are tensioned using the hex-key tool found under the strap in the tack handle. Insert the hex-key into the cap screw inside the SBT at the leech end of each batten. Turn the hex-key to the right (clockwise) to increase batten tension. Tension the



*Needs more batten tension*

battens JUST until the wrinkles across the batten pockets disappear. Look for a continuous smooth shape to the sailcloth alongside the batten pocket (see photos). You should see a smooth reflection, with no wrinkles alongside the battens. Replace the hex-key tool back in its pocket above the tack handle. The batten tension will need to be re-tightened after one or two uses as the sail sets into its final shape, but then it need not be readjusted for every session!



*Correct batten tension*

**CAUTION: DO NOT OVER-TENSION THE BATTENS - POOR ROTATION, EXCESSIVE FOIL DEPTH AND DAMAGE TO THE SAIL CAN RESULT.**

### 7. BALANCE THE OUTHAUL SETTING

Release any outhaul tension and allow the sail to relax naturally to its fullest depth. Pull just enough outhaul tension to pull the sail up off the boom tube and tighten the clew area. This is a good all-around outhaul setting. If necessary, re-adjust the back end of your boom to just touch the clew of the sail and tie off the outhaul. If you are using the adjustable outhaul system you need to set your boom length slightly longer to allow for the outhaul to be pulled flatter.

From a neutral setting, slightly less outhaul (negative) will make the sail fuller and more powerful for reaching, but it will also be harder to control when over-powered or sailing upwind. For upwind sailing or over-powered conditions, a small amount of outhaul tension (positive 4-5 cm, or 2") will improve performance by making the sail flatter and tighter.

To save time rigging next session, take note or mark off the position of successful downhaul and outhaul settings so they are easy to quickly repeat next session. See the Sailworks website - [www.sailworks.com](http://www.sailworks.com) - for more rigging information and frequently asked questions.

## Tuning for Wind Range

You can expand the NX's wind range significantly by simply adjusting your downhaul. As a general rule, you release a little downhaul tension when sailing in lighter winds. This creates more power by allowing the sail to be fuller, and by increasing leech tension. It will also reduce the twist, which makes pumping more efficient.

In stronger winds or very bumpy water, the downhaul should be pulled more to tighten and flatten the sail and to reduce the excess power. Strong downhaul tension also increases the twist, which improves control and handling by lowering the center of effort. **IMPORTANT:** Whenever you pull or release the downhaul, you'll need to readjust outhaul too, as the two adjustments are inter-related.

The tack strap at the base of the sail can be used to slightly alter the depth and tension in the sail. For very bumpy water conditions, or when you are sailing very over powered, pull the tack strap very tight. This will increase the depth of draft below the boom and increase tension along the foot edge, which lowers the center of effort and allows the upper leech to respond more freely.

## Troubleshooting

**Q: "Why do I keep getting pitched forward? The sail seems to pitch me to the front of my board."**

**A:**

- Move the mast step forward to give more leverage over the rig.
- Pull the downhaul more, or pull a bit on the outhaul to stabilize the sail shape better.
- Check your harness line balance point: When you are hooked in and planing, try lifting your hands off the boom. If the sail moves to the front or the back of the board, move your lines the other direction. Or try increasing your downhaul tension (moving the draft back) and do not touch the outhaul (it automatically gets looser by pulling the downhaul. Increasing only the outhaul would move your draft forward). Note that your harness lines will not balance in the same position on the boom for every size sail – larger sails set up further back, smaller sails set up further forward.

**Q: "Why can't I pull the downhaul far enough?"**

**A:**

- Check the mast requirements printed on the sailbag; your mast may be too stiff or too long for the sail.
- Make sure the downhaul lines are not crossed through the pulley.
- Make sure your line diameter isn't too thick or worn out.
- Try using a tool (easy-rig) to get a better hold on the line.
- Extend the mastbase further.

**Q: "Why don't my cams rotate very easily?"**

**A:**

- Check cam tension; excessive cam tension will restrict proper rotation.
- Check your downhaul; you may not have enough.

**Q: "Why can't I get planing when I know I should be?"**

**A:**

- Ease the downhaul. Too much downhaul flattens the foil and excessively loosens the leech, which gives you more control in heavy wind, but less power in light wind. Releasing some downhaul will move the draft forward and up. This gives more depth and power in lighter wind.
- Ease the outhaul. Too much outhaul will flatten the sail and take power away, which is good for high wind control but not for light wind power.

**Q: "How does the downhaul affect the outhaul; why do I need to adjust both?"**

**A:** When you downhaul a sail, you are essentially bending the mast into the curve of the sail's mast sleeve. As you pull more downhaul, the clew moves away from the mast, increasing the boom length. As you ease off the downhaul, the clew moves toward the mast, decreasing boom length.

**Q: "Why does my back arm get tired? I'm having a hard time sheeting in."**

**A:**

- You may need to move your harness lines back.
- Pull some more outhaul to move the draft forward.
- Check your settings. An extreme downhaul setting and very little outhaul moves the draft back causing you to use your back arm more to compensate.
- You're over powered. Try a smaller sail.

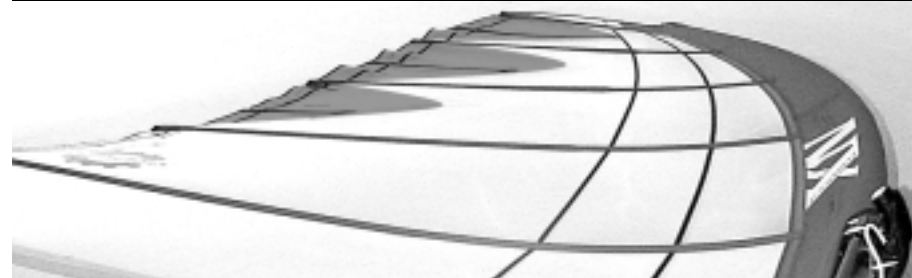
## NX SETTINGS

### MINIMUM



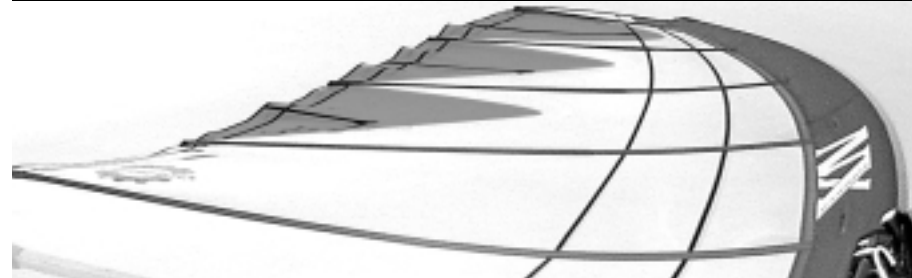
CONDITIONS	DOWNHAUL SETTINGS	OUTHHAUL SETTINGS
<b>Minimum Settings</b> <ul style="list-style-type: none"> <li>• Light wind/underpowered</li> <li>• Flat water</li> <li>• Downwind sailing</li> <li>• More power, less control</li> </ul>	<b>Minimum Downhaul</b> <ul style="list-style-type: none"> <li>• Deeper foil</li> <li>• Less twist</li> <li>• Tighter leech</li> </ul>	<b>Minimum Outhaul</b> <ul style="list-style-type: none"> <li>• Boom length becomes shorter</li> <li>• Pull the outhaul about 1.5 cm from neutral</li> <li>• Deeper foil</li> </ul>

### OPTIMUM



CONDITIONS	DOWNHAUL SETTINGS	OUTHHAUL SETTINGS
<b>Optimum Settings</b> <ul style="list-style-type: none"> <li>• Steady/moderate wind</li> <li>• Choppy water</li> <li>• All-round sailing</li> <li>• Power and control</li> </ul>	<b>Optimum Downhaul</b> <ul style="list-style-type: none"> <li>• Lean foil</li> <li>• Moderate twist</li> </ul>	<b>Optimum Outhaul</b> <ul style="list-style-type: none"> <li>• Boom at referenced length on tack</li> <li>• Pull the outhaul about 3 cm from neutral</li> <li>• Lean foil</li> </ul>

### MAXIMUM



CONDITIONS	DOWNHAUL SETTINGS	OUTHHAUL SETTINGS
<b>Maximum Settings</b> <ul style="list-style-type: none"> <li>• High wind/overpowered</li> <li>• Upwind sailing</li> <li>• More control, less power</li> </ul>	<b>Maximum Downhaul</b> <ul style="list-style-type: none"> <li>• Flatter foil</li> <li>• More twist</li> <li>• Loose leech</li> </ul>	<b>Maximum Outhaul</b> <ul style="list-style-type: none"> <li>• Boom length becomes longer</li> <li>• Pull the outhaul about 5 cm from neutral</li> <li>• Flatter foil</li> </ul>