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First Time Rigging

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RIGGING +
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X-T RACING

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THE POWER IS ON

X-T RACING





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A NEW LEGEND
 IN THE MAKING

Applying leading edge aerodynamics and the latest in flex wing design technology; our new rotating Turbo Tip introduces more power, a wider wind range and lighter rig weight. The X-T head area is deeper and the leech tighter right from the start, which makes the sail more powerful in its static condition and quicker to accelerate out of a jibe or off the start line. The T-Tip fitting ensures a proper progressive twist profile with the top batten mechanically rotating right from the very tip of the mast. Perfect spiraling progressive twist, without a radically de-tensioned leech.

The increased rig stability derived from the T-Tip drives the X-T upwind unlike any Sailworks race sail has before. The T-Tip shortens luff lengths and reduces both the physical and swing weights of the sail – making it lighter and more responsive. Another proven race winner from Sailworks.

The power is on!

X-T RACING specifications												
SIZE m ²	dimensions							required mast				
	LUFF median (cm / ft)	BOOM median (cm / ft)	WEIGHT (kg / lbs)	# CAMs	# BTNS	MAST TOP	IDEAL MAST	MCS CURVE %	IMCS STIFFNESS	430	XR 460	490
6.0	449 / 14'9"	181 / 5'11"	4.10 / 9.0	3	7	FIXED	XR-430	12.0	21 - 23			
6.4	458 / 15'0"	188 / 6'2"	4.25 / 9.4	3	7	FIXED	XR-430	12.0	21 - 23			
6.9	468 / 15'4"	198 / 6'6"	4.40 / 9.7	3	7	FIXED	XR-430	12.0	21 - 25			
7.4	481 / 15'9"	208 / 6'10"	4.60 / 10.1	3	7	FIXED	XR-460	12.0	24 - 26			
7.9	496 / 16'3"	218 / 7'2"	4.90 / 10.8	3	7	FIXED	XR-460	12.0	24 - 30			
8.5	514 / 16'10"	228 / 7'6"	5.10 / 11.2	3	7	FIXED	XR-490	12.0	28 - 30			
9.1	532 / 17'5"	238 / 7'10"	5.30 / 11.7	3	7	FIXED	XR-490	12.0	28 - 30			

■ Ideal Mast
 ■ Alternate Mast

Note that 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 of the clew. We measure luff length from the top of the mast sleeve, around the front of the mast curve to a point opposite pulleys of the Power Block.

FIRST TIME RIGGING

USE THE RIGHT MAST

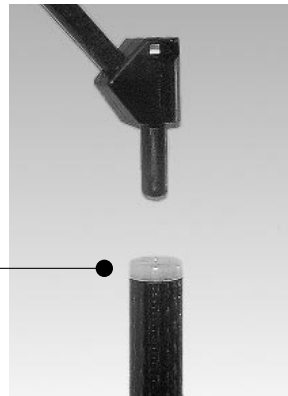
For best performance, use the specific Sailworks XR mast that each size was designed for. Alternatively, choose a mast that closely matches the recommended mast compatibility. Pay particular attention to the mast length, IMCS stiffness and curve type to be compatible with the shaping and tension profile. Your mast **MUST** be within this required range regardless of the brand or model. Note that **NOT** all sail sizes work on the same mast. As a rule, larger sails need longer and stiffer masts while smaller sails require shorter and softer masts.

All of the X-T Racing sails are finished with a closed-head (non-adjustable) mast sleeve due to the design and function of the T-Tip fitting. Do not try to 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 of the clew. We measure luff length from the top of the mast sleeve, around the front of the mast curve to a point opposite the pulleys of the Power Block.

CHANGE THE MAST TOP PLUG

The X-T's rotating T-Tip headcap fitting requires a harder density mast top plug than is typically supplied with most masts. Two sizes of clear hard plugs are supplied with these instructions: choose the one that best fits your mast tip. A tight solid fit between the mast plug and the mast is necessary to give adequate tension and support to the T-Tip fitting and head batten.



SAILBOARDS

ASSEMBLY AND RIGGING

1. INSERT THE MAST

Push back the boom-opening flap between the two diamond shaped cutouts in the mast. Insert the mast up the mast sleeve, out the lower boom opening and back in the upper boom opening. Try to keep the cams on the mast, but do not worry if they come off – keep inserting the mast. (Any cams that do come off the mast 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 luff before pulling the tack of the sail down to the base of the mast. Check that the T-Tip stem fitting is seated completely into the mast tip plug and that the two-piece coupling of the mast is joined completely. Do not downhaul the sail until you are certain the T-Tip fitting is completely seated into the mast.

2. ATTACH THE MAST BASE

Estimate the amount of mast base extension needed by subtracting the sail's luff length from your mast length. Your downhaul system should have a low friction 6:1 purchase. The Power Block works best with 4.0 or 5.0 mm line. Lace the downhaul line through the Power Block tack pulley. Keep the path of line looping in the same direction each time you feed it through the Power Block and through your base pulley (we recommend a counter-clockwise direction working from the underside upwards). Don't cross the lines, as this increases friction and makes the downhaul harder to pull. Do not fully downhaul the sail yet – leave the downhaul just "hand-tight".

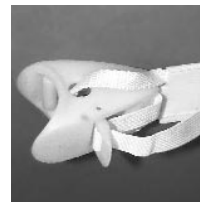
3. ATTACH THE BOOM

If you plan to use the on-the-fly adjustable outhaul system enclosed, set that up now. 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. Also be careful not to pinch the mast sleeve under the boom clamp. Lace the outhaul through the clew grommet, and 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 on the mast, and adjust the camber tension, if necessary.

4. ADJUST THE CAMBERS

Your new X-T-Racing comes with three Variable Tension Cams. Our unique VTC system allows you to adjust your batten tension separately from your cam-to-mast tension, and adapts to fit a variety of mast diameters.

Pull the outhaul and ease the downhaul. Open the cam access zippers and re-seat any cams that have come off the mast during mast insertion (push down on the batten while pushing the cam up onto the mast 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 and does take some force to open and close. This is normal. 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 and recheck the tension.



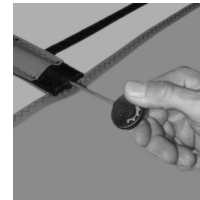
The webbing inside the cams is held very snugly so it may take more than one attempt to pull out the slack. **The correct setting should tension the mast sleeve snugly without impeding rotation.** Set the cams tight against the mast for optimal control and power in light winds; slightly looser for easier rotation in light winds. Snap the 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, don't try to close the zippers until the sail is fully downhauled; if you then cannot close the zippers, you've set the cams too tight. 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 (please refer to the X-T SETTINGS chart on pages 5-6)

The downhaul controls the sail's shape, twist and performance. Discover its effect by slowly pulling and releasing the line. Use an easy-rig or downhauling tool so it is easier to pull hard. Watch 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) 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 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. **The ideal downhaul setting gives a tight luff and a lean (not blunt) entry, and the leech area between the top two battens should become loose.** This looseness is normal and will pull tight as the sail twists open when sailing. 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.

6. TENSION THE STREAMLINED BATTEN TENSIONERS (SBT's)

The battens are tensioned using the hex-key tool found under the strap above 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 tighten. Tension the battens **JUST** until the wrinkles across the batten pockets disappear. Look for a continuous smooth shape to the sailcloth next to the batten pocket (see photos). You should see a smooth reflection, with no wrinkles alongside the battens.



Needs more batten tension



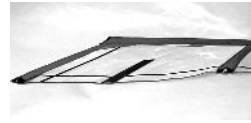
Correct batten tension

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

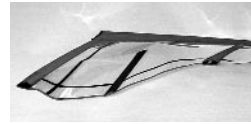
Replace the hex-key tool back in its pocket above the tack handle. The batten tension will need to be re-tightened after one or two uses as the sail sets into its final shape, but then it need not be readjusted for every session!

7. ADJUST THE T-TIP HEAD BATTEN

The top batten on the X-T does NOT require strong batten tension. This batten is designed to function under deflection from the curved batten pocket, not under compression from batten tension. Over-tensioning the head batten will cause the head area to lose all support. If the head and tip of the sail looks dramatically loose, **reduce** the head batten tension to increase support to the head area. See photos.



correct setting



top batten too tight

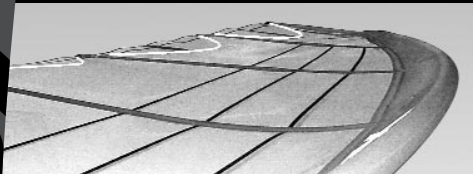


S E T T I N G S

LEECH TWIST PROFILE

CROSS SECTION PROFILE

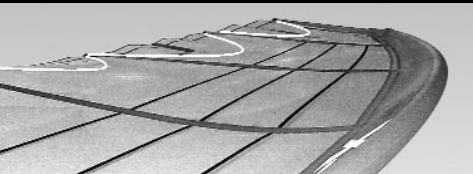
M I N I M U M



Minimum Settings

- Light wind/underpowered
- Flat water
- Downwind sailing
- More power, less control

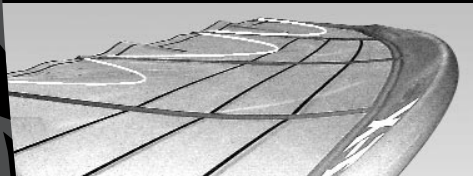
O P T I M U M



Optimum Settings

- Steady/moderate wind
- Choppy water
- All-round sailing
- Power and control

M A X I M U M



Maximum Settings

- High wind/overpowered
- Upwind sailing
- More control, less power

TUNING DOWNHAUL FOR WIND RANGE

You can expand the X-T'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 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.

8. 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 an adjustable outhaul system you need to set your boom length slightly longer to allow for the outhaul to be pulled further. 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 1-2 cm) will improve performance by making the sail flatter and tighter. To save time rigging next session, take note or mark off the downhaul and outhaul settings so they are easy to repeat.

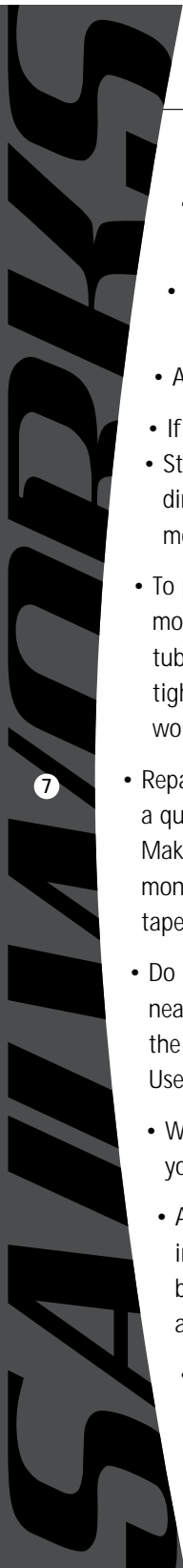
C H A R T

DOWNHAUL SETTINGS	OUTHHAUL SETTINGS
Minimum Downhaul <ul style="list-style-type: none"> • Leech is loose as indicated by white arc lines on photo • Deeper foil • Less twist 	Minimum Outhaul <ul style="list-style-type: none"> • Boom length becomes shorter • Pull the outhaul about 1.5 cm from neutral • Deeper foil
Optimum Downhaul <ul style="list-style-type: none"> • Leech is loose as indicated by white arc lines on photo • Lean foil • Moderate twist 	Optimum Outhaul <ul style="list-style-type: none"> • Boom at referenced length on tack • Pull the outhaul about 3 cm from neutral • Lean foil
Maximum Downhaul <ul style="list-style-type: none"> • Leech is loose as indicated by white arc lines on photo • Flatter foil • More twist 	Maximum Outhaul <ul style="list-style-type: none"> • Boom length becomes longer • Pull the outhaul about 5 cm from neutral • Flatter foil

PERFORMANCE EMPHASIS

6.0 • 6.4 • 6.9	Light to moderate slalom racing 6.0 6.4 6.9 <ul style="list-style-type: none"> • Use in light to moderate slalom conditions • Intended for reaching conditions at high speed • Emphasis on efficiency and speed with maximum lift and minimal drag • 6.9 size has more emphasis on power and acceleration, while 6.0 has emphasis on top speed handling
7.4 • 7.9	Moderate to strong course racing 7.4 7.9 <ul style="list-style-type: none"> • Use for moderate to high wind course racing • Extremely stable in over powered conditions • Less twist and tighter leech for better upwind drive and power
8.5 • 9.1	Light to moderate course racing 8.5 9.1 <ul style="list-style-type: none"> • Use for light to moderate wind course racing • Very powerful in marginal conditions; wide wind range • Soft and forgiving to handle, responsive to changes in pressure • Efficient at gliding through lulls • Less twist and tighter leech give better upwind drive and power





SAIL MAINTENANCE

7

- Let your sail dry before de-rigging.
- Shake the sand off before rolling up your sail at the beach, as this will help keep the monofilm clear.
- 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.
- If left rigged all day or overnight, release the outhaul and downhaul.
- Store your rigged sail out of direct sunlight. UV degrades monofilm.
- To prevent creases in the monofilm, roll your sail on the tube it came on, or roll it tightly and store it where it won't get flattened.
- Repair tears promptly through 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 water and mild soap.
- When on the beach, secure your 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.
- Loosen the batten tension if you are not going to use the sail for an extended period.

