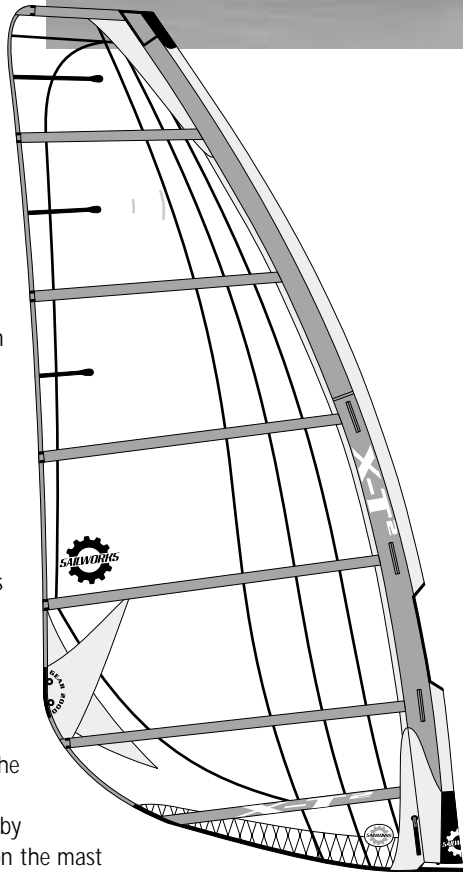


X-T²

SAIL MAINTENANCE

Extend the life of your new X-T² sail by following these simple tips:

- Let your sail dry before de-rigging.
- Shake the sand off before rolling up your sail at the beach, as this will extend your sail's life considerably.
- Most scratches in the monofilm are caused by sand, grit or salt crystals abrading the sail 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.
- If the sail is to be left rigged all day or overnight, release the outhaul and downhaul.
- The sun's ultra violet (UV) rays will degrade the monofilm. Store your rigged sail out of direct sunlight.
- 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 citrus based cleaners or 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.
- Back off some batten tension if you are not going to use the sail for an extended period.



into the millennium

X-T²

- 5.2
- 5.6
- 6.0
- 6.4
- 6.9
- 7.4
- 7.9
- 8.5
- 9.1
- 9.9
- 10.7



Specifications

First Time Rigging

Rig Assembly

Tuning Tips

Settings Chart

Trouble Shooting

Sail Maintenance

Rigging & Tuning Guide

2000

SAILWORKS





JUST WHEN YOU THOUGHT YOU COULDN'T GO ANY FASTER...

It's the edge you've been waiting for. Dream-like top end speed and handling WITHOUT any loss of low-end power. X-T² is an unmistakable development from the original X-T Racing, but the feel is totally different. A much freer leech, improved T-Top system, and refined shaping and tension profiles are key design factors that will put you in a whole new state of speed-balance. In swells and chop that previously may have demanded some trimming movements, X-T² has a balance and forgiveness factor that lets you stay locked and in the zone.

The Sailworks team has sweated over every tiny detail to produce what designer Bruce Peterson describes as his *"fastest, cleanest, easiest Sailworks race sail ever."*

X-T ² DIMENSIONS						I O N S			REQUIRED MAST		
SIZE	LUFF	BOOM	WEIGHT	#	#	IDEAL MAST	MCS CURVE %	IMCS STIFFNESS	XR		
m ²	MEDIAN (cm/ft)	MEDIAN (cm/ft)	(kg/lbs)	CAMS	BTNS				430	460	490
5.2	430 / 14' 1"	172 / 5' 8"	4.1 / 8.8	3	7	XR-430	12	21 - 23	●		
5.6	434 / 14' 3"	178 / 5' 10"	4.2 / 9.2	3	7	XR-430	12	21 - 23	●		
6.0	445 / 14' 7"	185 / 6' 1"	4.3 / 9.5	3	7	XR-430	12	21 - 23	●		
6.4	458 / 15' 0"	192 / 6' 4"	4.5 / 9.9	3	7	XR-430	12	21 - 23	●		
6.9	471 / 15' 6"	201 / 6' 7"	4.7 / 10.3	3	7	XR-460	12	21 - 25	●	●	
7.4	485 / 15' 11"	209 / 6' 10"	4.9 / 10.8	3	7	XR-460	12	24 - 26		●	
7.9	499 / 16' 4"	219 / 7' 2"	5.1 / 11.2	3	7	XR-490	12	24 - 30		●	●
8.5	514 / 16' 10"	228 / 7' 6"	5.3 / 11.7	3	7	XR-490	12	28 - 30		●	●
9.1	529 / 17' 4"	237 / 7' 9"	5.5 / 12.1	3	7	XR-490*	12	29 - 34		●	●
9.9	545 / 17' 11"	249 / 8' 2"	5.8 / 12.8	3	7	XR-490*	12	29 - 34		●	●
10.7	564 / 18' 6"	260 / 8' 6"	6.1 / 13.6	3	7	XR-490*	12	29 - 34		●	●

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 on a rigged sail from the top of the mast, around the front of the mast curve to a point opposite the triple pulleys.

*Requires fixed base extension or 520 cm mast. Do not use mast tip extension.

● Ideal mast
● Alternative mast

FIRST TIME RIGGING

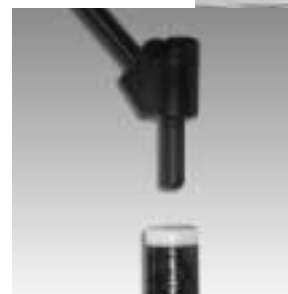
USE THE RIGHT MAST

For best wind range and performance, use the specific Sailworks XR mast that each size was designed, tested and refined for. Alternatively, 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 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-T² sails are finished with a closed-head, non-adjustable, mast sleeve due to the design and function of the T-Top 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 corner of the sail between the two clew grommets. We measure luff length on a rigged sail from the underside of the T-Top fitting (top of the mast), around the front of the mast curve to a point perpendicular to the tack pulleys.

CHANGE THE MAST TOP PLUG

The X-T²'s rotating T-Top headcap fitting requires a harder density mast top plug than is typically supplied with most masts. Two sizes of solid white Delrin mast plugs and two sizes of ribbed clear urethane mast 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-Top fitting and head batten. Use the monofilm shims provided to ensure a snug fit of the mast plug to the mast tip (*see photo*).





ASSEMBLY AND RIGGING

1. INSERT THE MAST

Push back the boom-opening flap between the two diamond-shaped cutouts in the mast sleeve. Guide the mast 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 cams without the boom attached (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.

Open the access flap at the top of the mast sleeve and check that the T-Top stem fitting is seated completely into the mast tip plug – *see photo*. The key to easily fitting the T-Top fitting into the mast is to keep some slack in the mast sleeve just below the tip of the mast. Do not try to seat the T-Top fitting while the luff is under tension. Do not downhaul the sail until you are certain the T-Top fitting is properly seated into the mast. Also check that the two-piece coupling of the mast is joined completely before downhauling.



2. ATTACH THE MAST BASE

Estimate the amount of mast base extension needed by subtracting the mast length from the sail's luff length. Your downhaul system should have a low-friction 6:1 purchase. The triple pulley tack fitting works best with 4.0 or 5.0 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 base pulley. We recommend a counter-clockwise direction working from the underside upwards – *see photos*. 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".

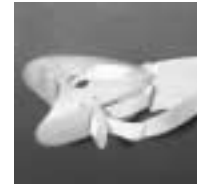


3. ATTACH THE BOOM

If you plan to use the on-the-fly adjustable outhaul system supplied with the sail, 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. 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 on the mast, and to adjust the cam tension, if necessary.

4. ADJUST THE VTC CAMS



Your new X-T² comes with Sailworks' unique VTC system. This cam system allows you to adjust the cam tension separately from the batten tension, and also adapts to fit a variety of mast diameters.

With the sail assembled as described in steps 1-3 above (hand-tight downhaul, full outhaul), open the zipper access port at each cam and re-seat any cams that may have come off the mast as follows: The correct technique is to push down and back on the batten 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 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 cam. The webbing inside the cams is held very snugly so it may take more than one attempt to pull out all 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 high 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

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

The downhaul controls the sail's shape, twist and performance. Discover its effect by slowly pulling and releasing the 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 it 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 static looseness of the leech is normal and will pull tight as the sail twists open under wind load. Follow the reference marks on the sail for guidelines on downhaul tension (*See the photos on the next page*). 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



X-T²

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



Needs more batten tension



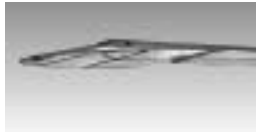
Correct batten tension

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 tighten. 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 to the left). You should see a smooth reflection, with no wrinkles alongside the battens. 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! If you leave the batten tension too loose, the cap screws may fall out.



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

7. ADJUST THE T-TOP HEAD BATTEN



correct setting

The head batten on the X-T² does NOT require strong batten tension. This batten is designed to function under deflective load to pull upwards on the leech. Over-tensioning the head batten will cause the head area to lose all support. If the head and tip of the sail look dramatically loose, reduce the head batten tension to increase support to the head area (See photos to the left).



top batten too tight

adjustable outhaul system you need to set your boom length slightly longer to allow for the outhaul to be pulled further.

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 the

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, or 2") will improve performance by making the sail flatter and tighter.

9. TUNING FOR WIND RANGE

You can expand the X-T²'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.

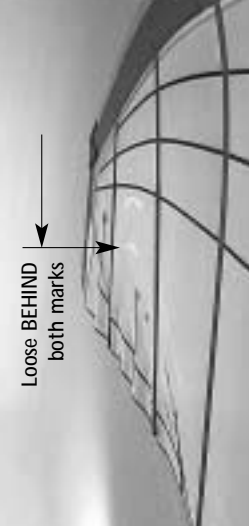
The tack strap at the base of the sail can be used to slightly alter the depth and tension in the sail. For very bumpy water conditions, or when you are sailing very over powered, pull the tack strap very tight. This will increase the depth of draft below the boom and increase tension along the foot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

To save time rigging next session, take note or mark off the position of successful downhaul and outhaul settings so they are easy to repeat. See the Sailworks website – www.sailworks.com – for more rigging information and frequently asked questions.

S E T T I N G S C H A R T

LEECH TWIST PROFILE

LOW END



Loose BEHIND both marks

CROSS SECTION PROFILE

DOWNHAUL SETTINGS

Low End Performance

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

LOW END

Low End Downhaul

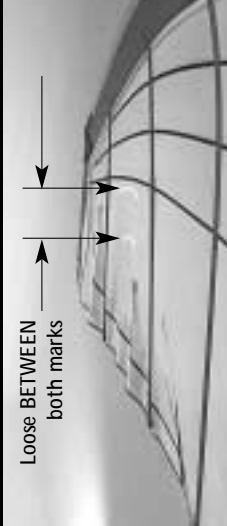
- Leech is loose behind both white arc lines on sail
- Deeper foil
- Less twist

OUTHHAUL SETTINGS

Low End Outhaul

- Boom length becomes shorter
- Pull the outhaul about 1.5 cm from neutral
- Deeper foil

M I D R A N G E



Loose BETWEEN both marks

M I D R A N G E

Mid Range Settings

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

M I D R A N G E

Mid Range Downhaul

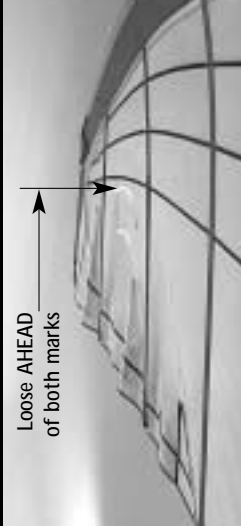
- Leech is loose between both white arc lines on sail
- Lean foil
- Moderate twist

M I D R A N G E

Mid Range Outhaul

- Boom at referenced length on tack
- Pull the outhaul about 3 cm from neutral
- Lean foil

T O P E N D



Loose AHEAD of both marks

T O P E N D

Top End Performance

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

T O P E N D

Top End Downhaul

- Leech is loose ahead of both white arc lines on sail
- Flatter foil
- More twist

T O P E N D

Top End Outhaul

- Boom length becomes longer
- Pull the outhaul about 5 cm from neutral
- Flatter foil