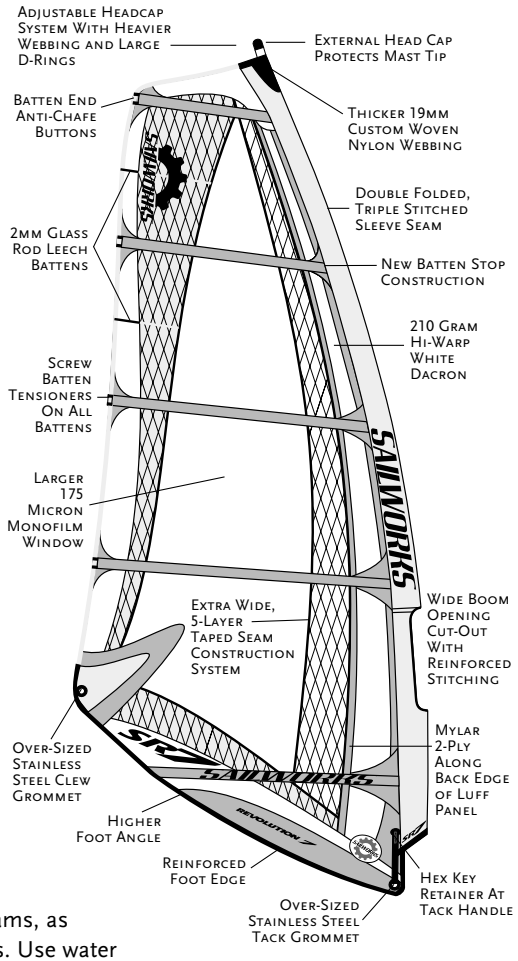
REVOLUTION SR7

SAIL MAINTENANCE

- 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. Most scratches to the monofilm are caused by sand and grit abrading the sail while it's rolled up.a
- 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. To remove tar spots or sticker adhesive residue use a citrus based cleaner
- 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.

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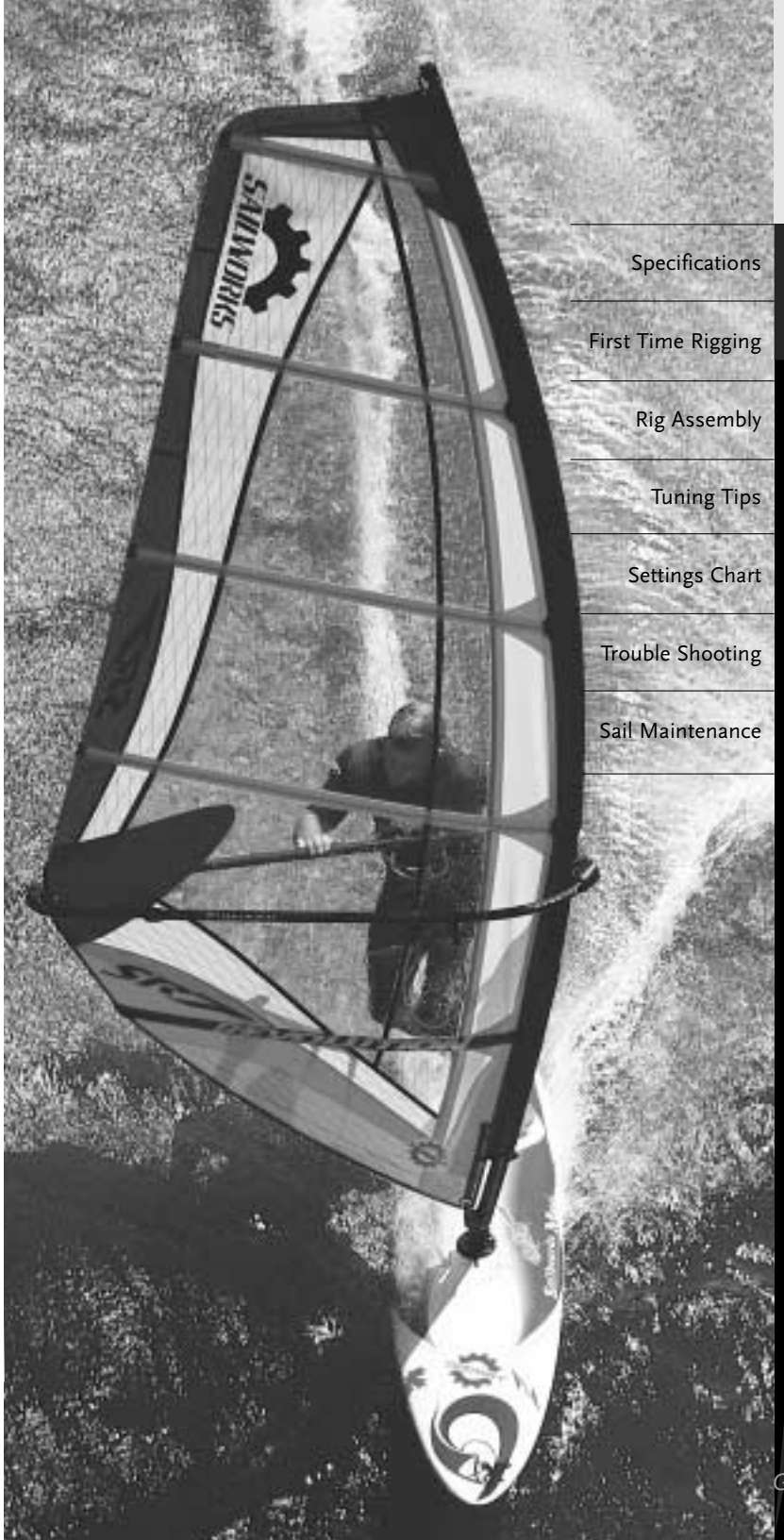
 Design: Bridgeworks Photography: Laura Graetzel Derwin • Bruce Peterson Printed in Canada



SAILWORKS

Rigging and Tuning Guide

REVOLUTION SR7

Generation 7

REVOLUTION SR7

Rigging & Tuning Guide

REVOLUTION SR7: seventh generation, built to our core design concept - *progressive evolution*. The REVOLUTION SR7 is highly adjustable, so you can easily tune the rig balance to suit your sailing style and the conditions you sail in. Rock solid handling and an exceptionally balanced center of power. Follow this rigging guide to maximize your windsurfing experience!

The 2001 REVOLUTION SR7 brings subtle geometric refinements over last year's model:

- realigned batten framework with more rake angle
- lower aspect planshape
- slightly increased head roach
- tighter leech with mini battens to stabilize leech flutter

REVO SR7 DIMENSIONS

SIZE m²	LUFF MEDIAN (cm/ft)	BOOM MEDIAN (cm/ft)	BOOM MAX (cm/ft)	WEIGHT (kg/lbs)	# BTNS	MAST SLEEVE	REQUIRED MAST: IDEAL MAST	MCS CURVE %	IMCS STIFFNESS	SAILWORKS MAST: EPX 370	EPX 400	EPX 430	EPX 460	FR 400	FR 430	FR 460
2.9	346 / 11' 4"	130 / 4' 4"	135 / 4' 5"	2.50 / 5.5	4	OPEN	EPX 370	12	15 - 19	●	○			○		
3.2	352 / 11' 7"	133 / 4' 5"	138 / 4' 6"	2.60 / 5.7	5	OPEN	EPX 370	12	15 - 19	●	○			○		
3.5	365 / 12' 0"	137 / 4' 6"	142 / 4' 8"	2.85 / 6.3	5	OPEN	EPX 370	12	15 - 19	●	○			○		
3.8	379 / 12' 5"	140 / 4' 7"	145 / 4' 9"	3.00 / 6.6	5	OPEN	EPX 370	12	15 - 19	●	○			○		
4.0	384 / 12' 7"	144 / 4' 9"	149 / 4' 11"	3.05 / 6.7	5	OPEN	EPX 400	12	15 - 21	○	●	○		●	○	
4.2	391 / 12' 10"	150 / 4' 11"	155 / 5' 1"	3.20 / 7.0	5	OPEN	EPX 400	12	17 - 21		●	○		●	○	
4.4	398 / 13' 1"	154 / 5' 1"	159 / 5' 3"	3.25 / 7.2	5	OPEN	EPX 400	12	17 - 21		●	○		●	○	
4.6	406 / 13' 4"	160 / 5' 3"	165 / 5' 5"	3.40 / 7.5	5	OPEN	EPX 400	12	17 - 21		●	○		●	○	
4.8	413 / 13' 7"	164 / 5' 5"	169 / 5' 7"	3.45 / 7.6	5	OPEN	EPX 430	12	17 - 21		○	●		○	●	
5.0	419 / 13' 9"	167 / 5' 6"	172 / 5' 8"	3.55 / 7.8	5	OPEN	EPX 430	12	21 - 26			●	○		●	○
5.2	427 / 14' 0"	170 / 5' 7"	175 / 5' 9"	3.65 / 8.0	5	OPEN	EPX 430	12	21 - 26			●	○		●	○
5.4	436 / 14' 4"	174 / 5' 8"	179 / 5' 11"	3.75 / 8.3	5	OPEN	EPX 430	12	21 - 26			●	○		●	○
5.8	452 / 14 10"	180 / 5' 11"	185 / 6' 1"	3.90 / 8.6	5	OPEN	EPX 430	12	21 - 26			●	○		●	○
6.3	469 / 15' 5"	185 / 6' 1"	190 / 6' 3"	4.05 / 8.9	5	FIXED	EPX 460	12	24 - 26				●			●

● 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 median boom length from the front of the mast at the middle of the boom opening, to the back of the clew. Maximum boom length is achieved at high levels of downhaul and outhaul with the boom placed at the top of the boom opening. We measure luff length from the top of the mast cap, around the front of the mast curve to a point opposite the pulleys of the tack grommet (using the minimum amount of headcap or mast base extension).

FIRST TIME RIGGING

USE THE RIGHT MAST

One of the most important parts of your rig is the mast, specifically its curve and stiffness and how closely these parameters match the sail. The mast acts quite literally as the backbone of the rig and it governs the sail's performance.

The mast requirements for the REVOLUTION SR7 are printed on the sailbag and at the tack of your sail. Listed on pg. 1 is a broader range of mast specifications (length and IMCS stiffness) necessary for compatibility with the shaping and tension profile of your sail. Your mast should be within this required range, regardless of the brand or model to achieve optimum performance. Note that NOT all sail sizes will work on the same mast. As a rule, larger sails need longer and stiffer masts while smaller sails require shorter and softer masts. Two common mast compatibility problems are:

i) Using too long, or too stiff a mast. This restricts wind range by over-tensioning the sail.

ii) Using too short or too soft a mast. This also restricts wind range, by insufficiently stabilizing the sail.

NOTE: Each REVOLUTION SR7 size is designed and balanced on a specific Sailworks mast to suit conditions typical for the "average" size sailor (140 - 190 lb./ 63 - 86 kg). If you are lighter than this average, or prefer a softer handling feel, consider using the next mast softer or shorter listed in the table. Heavier sailors can use a slightly stiffer mast to increase rig tension and stability. 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 median boom length from the front of the mast at the middle of the boom opening, to the back of the clew. Maximum boom length is achieved at high levels of downhaul and outhaul with the boom placed at the top of the boom opening. We measure luff length from the top of the mast cap, around the front of the mast curve to a point opposite the pulleys of the tack grommet (using the minimum amount of headcap or mast base extension).

USE A MAST DESIGNED FOR SURF SAILING IF YOU WILL BE SAILING IN OR NEAR BREAKING WAVES!

SET THE HEADCAP LENGTH

The REVOLUTION SR7 is fitted with an adjustable headcap system (except the 6.3 size, which is fixed). This allows for masts longer than the sail's luff length. Check the luff length of your sail (printed at the tack and on the sailbag), and compare it to your mast length. If your mast is shorter than the luff length, adjust the headcap extension strap so the headcap is as close to the top of the mast sleeve as you can set it. If your mast is longer than the luff length, estimate the amount of mast that will extend out the top of the sleeve (mast length minus luff length). Adjust the strap so that the top of the headcap is 1-2 cm shorter than this distance away from the top of the mast sleeve to allow for the headcap strap to cinch tight.

REVOLUTION SR7

RIG ASSEMBLY

1. INSERT THE MAST

Pull the sail down the mast in sections using the tack handle and working the mast tip to the top of the sleeve before pulling the tack all the way down to the base of the mast. Try to keep the battens all rotated to the under-side of the mast. Check that the headcap is seated completely onto or into the mast and that the two-piece coupling of the mast is joined completely before applying downhaul tension.

2. INSERT THE MAST BASE

Estimate the amount of mast base extension needed by subtracting your mast length from the luff length of the sail. Your downhaul pulley system should have 6:1 purchase and enough line to make lacing easy. Lace the downhaul line through the tack grommet. Keep the line looping in the same direction each time you feed it through the grommet and through your base pulley. We recommend coming up through the grommet and lacing counter-clockwise through your base pulley. Try not to cross the lines, as this increases friction and will make the downhaul harder to pull. Do not fully downhaul the sail yet – leave the downhaul just "hand-tight".

3. ATTACH THE BOOM

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.

4. TUNE THE DOWNHAUL

The downhaul controls the sail's shape and performance. Discover its effect by pulling and slowly releasing the line. Use an easy-rig or downhauling tool so the line 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. Notice the rotation of the batten tips around the mast. Also notice the change in the angles, or twist, of the battens; the top batten should open to leeward the furthest – called "progressive twist". Twist 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 by lowering the center of effort and making the sail easier to control. The optimum downhaul setting gives a tight luff and a lean (not full) entry, and the leech area between the top two battens should become loose (see REVOLUTION SR7 SETTINGS chart on the next page).

Once you're familiar with the correct downhaul setting, re-check the headcap length vs. mast base height. If necessary, re-adjust these so that the tack grommet sits very close to the mast base cleat, and the amount of mast extending out the top of the mast sleeve is minimized by lowering the mast base.

5. TENSION THE SBT'S

(Streamlined Batten Tensioners)

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 in the sailcloth alongside the battens. 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 once the batten tension is set, it's not necessary to release batten tension after each session.

Needs more batten tension

Correct batten tension

6. BALANCE THE OUTHAUL SETTING

Release any outhaul tension and allow the sail to relax naturally. Now pull the outhaul a minimum of 3.0 cm (1 1/4 inch) from this neutral position. Cleat off the outhaul line. Check the foil depth by pushing on the sail area under your harness lines or standing it up in the wind. Under pressure, the sail will increase in depth as the battens pull back from the mast. When luffing or without pressure, the sail will flatten. Less outhaul makes 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, more outhaul tension will improve performance by making the sail flatter and tighter. Whenever you increase or release downhaul, realize that the outhaul tension is also changed and may need to be adjusted too.

TUNING TIPS FOR CONDITIONS AND RANGE

(please refer to REVOLUTION SR7 Settings Chart on the next page)

WIND RANGE

- Downhaul controls the rig tension and the twist profile. More downhaul tightens the sail and induces more twist, which is good for overpowering conditions; less downhaul softens the sail and allows less twist, which is good in light wind and makes pumping more efficient. Recognize downhaul tension by noticing the rotation of the batten tips around the mast and the looseness of the leech between the top two battens.
- Outhaul controls the depth of the foil. Use less outhaul in lighter winds to allow the sail to be fuller. In stronger winds more outhaul will flatten the sail, reducing power, for more control. For upwind sailing, or over-powered conditions, more outhaul tension will improve performance by making the sail tighter and more stable. This setting also suits the sailor who likes transition tricks and maneuvers by allowing the sail to luff and re-power faster.

CONDITIONS

- In side shore, side-off shore waves or bumpy conditions, where you need a lot of recovery balance, you won't want the most powerful setting. Set the downhaul a little tighter and the sail will feel smoother, softer and more controllable.
- For wave riding and big moves, where you will be sailing at some extreme reaches off the wind, you will want to reduce the chance of getting back-winded. Increase the amount of outhaul to flatten the sail. At this setting, the batten just above the boom clears the mast without touching it.
- On flat water, ease up both the downhaul and outhaul to give the sail more power. At this setting, the batten just above the boom should touch the mast (lean entry), but should not extend forward of it.

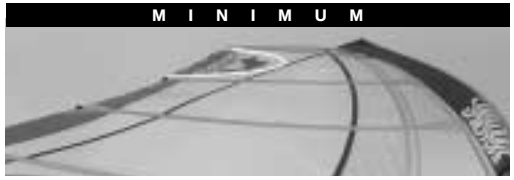
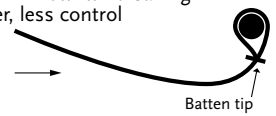
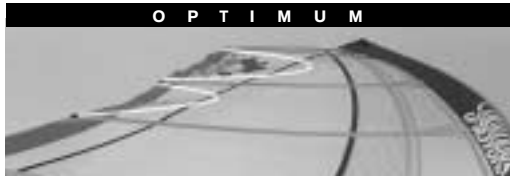
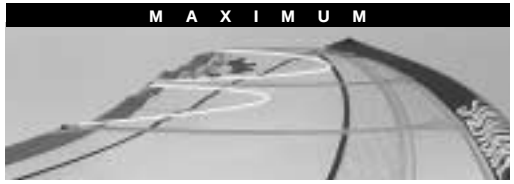
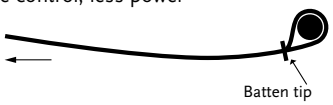
REVOLUTION SR7

You can expand the REVOLUTION SR7's wind range significantly by adjusting the downhaul and outhaul. **IMPORTANT: Downhaul and outhaul tensions are closely interrelated. Whenever you pull or ease the downhaul, you inversely affect the outhaul tension, so readjustment of the outhaul may be required.**

GETTING THE MOST FROM YOUR GEAR

- If it doesn't feel right, it probably isn't. A well-tuned rig should be effortless to sail. Don't be afraid to make changes and explore different settings.
- When you have found settings (boom length, mast base length, boom height, mast step position, downhaul and outhaul position, harness line position) that feel balanced, record the position of each adjustment so that they are easy to repeat next session. Mark the settings with a waterproof marker right on your equipment.

SETTINGS CHART 2001

LEECH TWIST PROFILE	CROSS SECTION PROFILE	DOWNHAUL SETTINGS	OUTHAUL SETTINGS
MINIMUM 	**Minimum Settings** — **Full Entry** • Light wind/underpowered • Flat water • Downwind sailing • More power, less control 	**Minimum Downhaul** • Leech is loose as indicated by white arc lines on photo • Deeper foil • Less twist • **Full entry** - batten tip above boom sits beside mast, but doesn't extend past it	**Minimum Outhaul** • Boom length becomes shorter • Pull the outhaul about 1.5 cm from neutral • Deeper foil
OPTIMUM 	**Optimum Settings** — **Lean Entry** • Steady/moderate wind • Choppy water • All-round sailing • Power and control 	**Optimum Downhaul** • Leech is loose as indicated by white arc lines on photo • Lean foil • Moderate twist • **Lean entry** - batten tip above boom sits at center of mast	**Optimum Outhaul** • Boom at referenced length on tack • Pull the outhaul about 3 cm from neutral • Lean foil
MAXIMUM 	**Maximum Settings** — **Flat Entry** • High wind/overpowered • Upwind sailing • More control, less power 	**Maximum Downhaul** • Leech is loose as indicated by white arc lines on photo • Flatter foil • More twist • **Flat entry** - batten tip above boom sits behind mast	**Maximum Outhaul** • Boom length becomes longer • Pull the outhaul about 5 cm from neutral • Flatter foil

TROUBLESHOOTING

Q. "How do I know how much downhaul to give the sail in light-wind wave sailing?"
A. *The ideal light wind setting should have a little tension in the leech with a little bit of looseness near the top of the sail, with only a little bit of outhaul. This will give the sail more foil and more power for lighter wind.*

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. "How do I rig my sail for bump & jump conditions?"
A. *Set your sail up to get the maximum power and twist for control in gusts and chop. Pull the downhaul to the optimum setting noted in the chart above, and pull the outhaul just enough to give the sail tension without reducing foil depth.*

Q. "What do I do If I keep getting backwinded when wave sailing?"
A. *Flatten the sail more by pulling the outhaul and downhaul so the batten above the boom clears the mast. If the foil is too deep it will backwind as you change direction on a wave. A flatter sail will be more controllable in wave riding, but less powerful to get up on a plane.*

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 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.