

STEIN  **SAILING**
BOOKLET

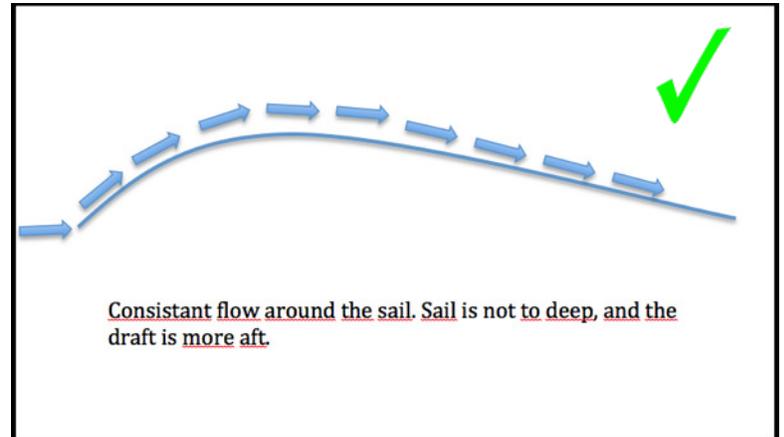
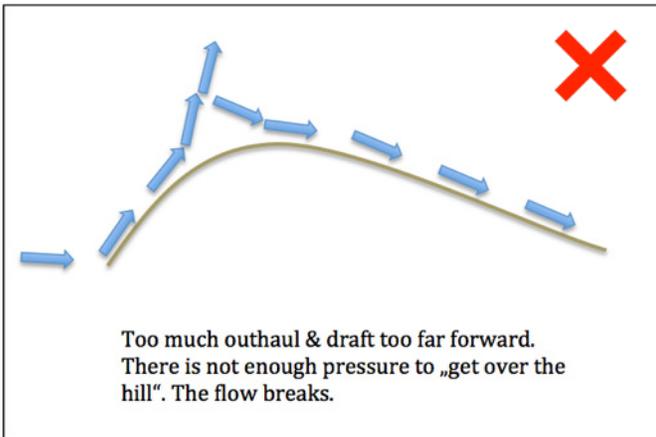
UPWIND

Since the Laser is a strictly one designed class with very few controls, upwind sailing becomes very physical and technical. Big efforts will only result in little gains in your upwind speed. However, the small differences in speed will make it easier to handle certain situations such as the first hundred meters after the start and other boat to boat battles. It is therefore important to keep on focussing on small details and always try to further push the limits!

Light wind: <8 knots

Sail Setting

To make a difference in speed during light conditions is not easy. Firstly, it is important to always have the perfect sail trim. You need to constantly adjust your trim to changes in wind strength. Keeping your control lines close to you help you to react quickly to changes in wind strength. The goal in light wind is to have a sail profile which is powerful enough to maintain speed but at the same time reduce the depth of the sail to allow perfect flow and increase the lift. For example: Often sailors think that they should ease their outhaul all the way, to “make the sail powerful”. In light wind however, this often results in a disturbed flow around the sail. Especially the shape of a Laser radial sail shows a deep profile.



Outhaul	As lose as possible while keeping consistant flow around the sail.
Cunningham	Pull out the big horizontal creases in the luff
Vang	Pull the slack out of your vang. In flat conditions, especially in the Laser Radial, you can pull more vang than usual in order to bend the mast and move the draft of the sail backwards.
Mainsheet	Pull the sail in until it is above the leeward corner of your boat In very light winds, avoid bending the mast with your mainsheet

Body & Boat position

Keep in mind, that every movement in light wind will affect your boat and therefore will influence the flow around your sail. At any costs avoid aggressive or hard movements. If you need to change your position, try to do it as smooth as possible.

Your main goal on any upwind will be to keep the boat as stable as possible to ensure optimal flow around your blades. This will maximize the lift and will help you to point high.

Find a position in your boat where you feel well connected to it. One option is to put the front foot underneath the hiking strap and the back foot above, pushing against the cockpit. It is almost like hiking in light air. The position helps you to transfers your body torqueing directly to the boat.

Be sure to always keep your hip angle bigger than 90° . Your abdominals should be working consistently.



If the wind is very light and the water is relatively flat, there is an alternative way to hold your tiller extension. In those conditions, you barely need to move your rudder, and therefore the goal is to keep it as still as possible. By putting the extension behind your back and locking it down on the deck, your rudder will be absolutely still and the flow around your blades won't be disturbed.



Medium Wind: 9-14 knots

Sail Setting

Depending on your weight, your fitness Level and the actual sailing conditions, the sail setting can be quite different for each sailor.

In general, you want to be able to constantly keep the boat flat, while using a sail which stays powerful and allows you to pass over the chop properly. In medium winds, as in all other conditions, it is very important to have a stable boat which, in the best case, doesn't move to windward or leeward.

Be sure that your sail setting is helping you to accomplish that goal. Easing and sheeting in your mainsheet is also a good tool to balance your boat and is essential to sail fast at all times.

To know how to adjust your sail to certain conditions, it is important to know how each control works and what effect it actually has on our sail.

Cunningham – The Cunningham mainly adjust your luff tension. The more you pull on it, it will also bend the top part of your mast. Pulling the Cunningham results in moving the draft of the sail forward and opening the top part of the leech.

Outhaul – The outhaul mainly adjusts the profile of your sail. Tightening the outhaul will result in a flat profile, while easing it will lead to a deep one. Further it also has minor effects on the draft of your sail.

Vang – The vang mainly influences the bending of your mast. By tightening the vang, the boom gets “pushed” into the bottom section and will bend it. A tight vang with a bend mast will result in flattening the front part of the sail (the draft moves aft) and influencing your leech tension.

Mainsheet tension – Often overlooked by many sailors, the mainsheet is another critical control line. Its effect on leech tension and mast bend, especially in combination with the vang setting, has to always be taken in to consideration.

Body Position

It is often difficult to find a good body position in medium wind. The conditions mostly don't allow you to focus on a single position. You will mostly need to move back and forth sitting and hiking. Therefore it is important to be able to change between the positions as fast as possible while keeping the boat in balance.

Similar to light winds, you always want to keep some tension on your abdominals. It will make you feel connected to your boat and enables you to effectively work the waves and gusts with your upper body. Keep the angle between your legs and your upper body constantly bigger than 90°. If it is not possible to do so in a hiking position, quickly move your bottom in and adopt a new position where you are able to do so.

Keeping a tight hiking strap helps you to feel connected to your boat. Try to find a “compact” position. Keep your feet together and bring the mainsheet and tiller hand in front of your chest.



STEINSAILING Special Tip:

- move your bottom in or out to keep your boat in balance while maintaining the tension in your abdominals
- Use your mainsheet to help to keep your boat in balance. Easing the mainsheet during gusts will give you some extra time to adopt a new position while keeping the boat stable.

Strong Wind: 15+ knots

Laser sailing gets very physical and technical in strong winds. Heavy guys definitely have an advantage over lighter sailors, but being in good shape and having a good technique can compensate for many kilos. Number one objective in strong wind is to keep the boat flat at all time. Additionally the basic concept of having a stable boat also applies in strong winds and will make a big difference especially in wavy conditions.

Another key factor in strong winds is the angle you chose to sail. Going to high or going to low will result in either no speed or too much pressure in the sail.

The concept of “putting the bow down” is often heard when talking about upwind sailing in strong wind. This concept implies sailing a few degrees lower than close hauled, especially when going down the back of the wave, paired with an extra hiking effort and body torque to speed up the boat. This technique is physically demanding but proves highly effective if executed correctly. However, if you are not able to keep the heeling constant and the boat flat, it will not work for you.

In the end, countless hours on the water are necessary to know what will be work best for you. It is also inevitable to be in excellent physical shape. Without having the necessary fitness, you will not be able to execute most of superior techniques.

Sail Setting

In conditions where you are having trouble to keep your boat flat, it is important to depower the sail as good as possible, while keeping a reasonable sail profile.

If you are not able to consistently sail block to block, the vang should be very tight, so that while easing your mainsheet, the boom will go out without moving up. We call this the “maximum vang setting”. To be able to judge if the vang is at the right position, I advice you to mark the before going out on the water.

The Cunningham can be tightened as much as possible, pulling the metal loop hole all the way down to the gooseneck of the boom. Some sailors deliberately rig their Cunningham to one side, to be able to tighten it even more. Be cautious with that rigging, since it will result in your Cunningham being tighter on one tack than the other. Only use this setting, when you know, that the conditions are extreme.

The outhaul can be tightened just until it starts wrinkling up alongside the boom. Avoid an extensive crease parallel to the boom, to at least give the sail a minimal amount of shape.

The mainsheet is a very effective tool to depower. Constant mainsheet work is necessary to keep the boat flat and stable even during gusts and waves.

Body position

HIKE, HIKE, HIKE ! Hiking is the key to sailing fast in strong wind. The longer you are able to hike, the longer you can sail your boat effectively. To create optimal leverage, try to bring as much weight as far out as possible. Hike from your toes and bring mainsheet- and tiller hand in front of your chest.

Excellent core strength as well as strong legs and arms are required for a excellent hiking position. It is a full body work out. To hike effectively and to prevent injury, do not bend your knees, keep your bottom high and your upper body far away from the center of the boat.

In case you ever feel unmotivated to go to the gym, think about the last strong wind session you had in your laser. Being in good shape will make upwind extremely fun and enables you to sail your boat in a completely different manner.



STEINSAILING Special Tips:

- resting your legs becomes one of the main challenges in strong wind. To rest, put one leg behind the other and switch after a couple of seconds.
- Light sailors might not be able to keep the boat all the way flat. Many times it is more effective, to sail with a little bit of **constant** heeling (5°-max.10°) than to alternate between a flat & heeled boat.

