



Tips for Laser Sailing

Introduction

Whether you're a novice fresh from the level 2 course, you've been sailing a Laser for a little while, or you're an experienced sailor starting to sail a Laser for the first time, there's something here for you. It's not the total picture, but there's a lot here to get you thinking.

Just a reminder that new members who complete the Club's RYA Level 2 course can borrow a club Laser in their year of training up to 31 December; after that you're expected to buy your own craft. You may wish to lookup the current Wind guru or similar forecast and restrict your sailing to force 4 or below, but you can't beat the exhilaration of a screaming reach in a 5; you just have to gradually build up to higher wind strengths.

Set yourself targets each time you go out (hanging on for grim death is not one) – what challenges are you going to set yourself next time you sail? These could include adopting the correct body, hand, and feet positions on the various points of sailing (incl' the 5 essentials), hand over hand sheeting, or starting to roll tack in light winds – most of the club experts would be happy to advise you (see credits on the final page)

Videos on U-tube make it look easy, and usually demonstrate the most efficient practices – the trick is to hardwire these into your own physical techniques, and avoid bad habits.

Absolute Fundamentals

Rigging

Keep the boat head to wind whilst onshore, or you could face an insurance claim for damage to other boats, as yours goes over; don't cleat the main and remember wind directions can change

When assembling the mast, make sure the pop rivet at midmast is at the rear, and in compression as the mast bends, otherwise an expensive mast failure could result; if it's a club boat you may be expected to pay for it too.

Check the mainsheet traveller is as tight as possible, whilst allowing the block to move across the aft deck; is the hull empty of water? having checked that, is the back bung in? If you fail to tie the Cunningham on properly, the rig (mast, boom and sail) may fall out in a capsize; check the rudder is clipped in, and downhaul works securely.

Finally, check everything again, and set the controls for the prevailing conditions – more on controls later.

Boat handling

Let a little rudder down before you push off, so you have some steerage; as you leave the shore, and before you face the stern to lock the rudder down, make sure you're clear of other boats; it's easy to claim on your policy here.

In very light conditions on a beat, sit reasonably well forward and try and lean the boat to leeward to ensure the sail takes up an aerofoil shape; this means sitting / kneeling in the middle, and here the classic daggergrip on the tiller extension goes out the window – hold the joint between the tiller extension and tiller instead.

In medium and windy conditions, on a beat or a reach, always look upwind for the gusts, and learn to feel the wind on the various parts of your head – the objective being to react to changes in wind strength and direction. As a gust strikes, hike out more, and if necessary

feather up slightly; if on a fast reach, move a long way back and hike hard over the stern quarter, and be prepared to ease the main a little as the pressure becomes too much.

You might think a gybe is the manoeuvre where you'll most often capsize, but not releasing the main quickly in gusts on a reach, or not easing enough when bearing away from a beat to a reach or run, are also common reasons for a capsize.

Racing

Perhaps a little intimidating to start with, but racing will give you the biggest improvement in skill level – how can I beat that Laser in front? It's also safer than sailing casually, as you're always in sight of the race officer and rescue boat personnel. Start off by following the other Laser sailors around the course.

Remember that when beating on Starboard you have right of way – just be prepared to shout at those coming up on port tack, who look as if they're on a collision course with you

Be prepared, look around, and then tack off if those also on starboard and to leeward of you get too close. If tacking off is not possible, and you cannot ease the main without hitting them, you'll have to go nearly head to wind and slow down till they are gone.

As you get more into racing, you'll find every second counts, so capsizing will cost you places. When beating, sailing behind other boats in disturbed air is slow, so to get into their position you'll need a good watch (timepiece) – you need to be on the start-line as the gun goes off. Further up the beat be prepared to tack off to get clear air, and also start researching so you understand wind shifts and bends.

When judging the lay line (when to tack for the final approach to mark at the top of the beat) make sure you give it sufficient room, so you have time to ease the kicker and outhaul before you get to the mark ; then let out oodles of mainsheet as you round the mark. Easing kicker and outhaul is not easy in a club Laser, but with your own boat and some spending on modified kicker and outhaul systems, the adjustments are much easier.

When running in windy conditions, to start with keep on a training run (keep the wind on the aft quarter), or don't let the main out too far otherwise the top of the sail will go forward of the mast and induce a death roll. As you gain more experience, you can sail more tactically and counter the wobbles with some swift body movement – watch others do it first.

When gybing, keep the speed on, and as you go into the gybe, pull the mainsheet in as you push the tiller firmly behind you; it's easy to wrap the mainsheet around the stern; you may need to yank the mainsheet in the turn to get the boom across but make sure it doesn't cleat itself. In the turn, start moving across, and as soon as the boom crosses the centreline, centralise the tiller or pull it slightly to your new side, whilst releasing the main. In desperate conditions you can always ware around, but this is slow.

When going down the run, aim to give the bottom mark enough room on the way in, so you can sail close to it on the way out; this will ensure others behind will not sail over the top of you on the next beat; also in the rounding, you need to practice pulling in the mainsheet and steering around the mark at the same time; your front hand should pass successive amounts of mainsheet to your tiller hand in this process – have a look at others doing it.

Start getting to grips with rules of sailing – it's handy to have an illustrated paperback on the rules with examples of typical scenarios; there is content on U-Tube, and you can go to the website of ISAF (The International Sailing Federation) for a copy of the rules via the following link:

<http://www.sailing.org/tools/documents/RRS20092012with2010changes-%5B8222%5D.pdf>

More advanced stuff

The sail controls Cunningham



Think of the Cunningham as a wrinkle remover until it gets windy. When the Laser mast is overbent, wrinkles appear along the luff, and run especially from the mast joint to the clew. This can cause the sail to "hinge" along these wrinkles resulting in a poor aerofoil shape. Pulling Cunningham on smoothes out the front of the sail and pulls the draft back where it belongs. When it gets really windy, more

Cunningham opens the leech at the top, de-powering the sail further. It is not unreasonable to pull the tack grommet down past the top of the gooseneck in big breeze. To do this, the Cunningham must be rigged **on one side** of the boom. Also shown here are typical luff telltale positions.

The Kicker (Vang)

Very light winds

Sheet the mainsheet block to block and take up the slack in the vang control. Vang tension is necessary to keep the leech from hooking too much. Without the vang the boom will sky on release of the main...



(Arm and a leg job illustrated)

Light Winds as long as there is enough wind to ensure good flow (4-5 knots or more), take up the slack in the vang when the mainsheet blocks are about 1' apart.

Medium winds

Until overpowered, the vang is set as for light. Blocks a touch looser than block to block.



Windy

Pulling the vang on bends the mast and flattens the sail, just as the mainsheet does. When the mainsheet is eased without vang tension, the boom goes up and the sail gets fuller. With the vang on hard in windy conditions, easing the mainsheet moves the boom to leeward without letting it up. A very tight vang becomes critical when it is necessary to de-power by easing mainsheet.

Outhaul



Mid boom and turning block at mast / boom illustrated here.

The starting position is to have the mainsail foot four to eight inches from the boom at its deepest point; the heavier you are the deeper it can be – mark the boom end for this position.

Apart from the mainsheet or daggerboard, the outhaul is perhaps the easiest control to

adjust by feel. If there's lots of weather helm upwind, or on tighter reaches, or if the boat is really hard to steer, it's too loose.

If the boat seems to lack power and the Cunningham and vang are correct, especially in choppy conditions, the outhaul is probably too tight.

Downwind it may seem tempting to ease the outhaul right off ; in fact, a full a sail is worse than too flat a sail because the flow has a hard time getting around hooked battens.

The condition for the loosest outhaul would be broad-reaching in 10-14 knots & chop.

If it's really windy pulling the outhaul on too hard is a big mistake; too much outhaul causes the exit of the bottom leech to be too open ; easing just a little (an inch) and the bottom exit is more parallel to the wind when the sail is eased, during vang sheeting.

Tell Tales

Unlike some classes, especially double handers, Laser sailors do not spend too much time watching telltales; they are in the peripheral vision and not much more than that. Luff tell tales (see photo' at the top of the previous page) are normally positioned towards the bottom front corner of the sail, but can also be positioned higher up between four and six inches aft of the seam on the mast sleeve ; the ones higher up are useful in determining wind shear in very light winds.

In medium conditions on a beat, steer so the leeward luff tell tales are always streaming aft horizontally, and with the:-

windward streaming up at 45 degrees = maximum power to get you out of a spot.

windward streaming aft horizontally = normal power – no immediate threat.

windward partly stalled = pinching

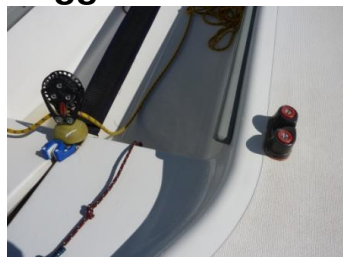
Tell tales on the leach are not fitted by all, but can be useful to determine if the leach is closed or too open; position one near the top batten, and others at the half way, and bottom third points; try and adjust the controls to get the top one streaming in very light stuff.

Hiking



The foot strap is also an important fitting; it is by no means "set it and forget it". The most common error is too loose; far better to have a strap tight enough so that true straight legging is possible; the goal is to get the shoulders as far from the rail as possible and down to horizontal. A loose strap makes this difficult, and has the added drawback of reducing your ability to be at one with the boat. On hiking reaches, a bone-tight strap is essential.

Daggerboard



Front and rear of slot illustrated - note the blue brake fitting at the back of the case – it'll help the board staying in its set position. See also the velcro at the front of the case to make movement easier and prevent gelcoat damage. You'll still need bungee from the top of the board to the bow.

On a beat, the board should be all the way down upwind, except for small sailors who are very overpowered, or Radial sailors when it is very windy. On a reach experiment with the

board three-quarters of the way up, and on a run remember that a board three quarters of the way up is fast, but can lead to instability – half way is usually best. Mark it.

More on Controls

In flat water - the advice is more vang and less Cunningham. In these conditions, steering is very effective in preventing the boat heeling; feathering up to windward de-powers the sail, and the boat keeps moving through the water.

Having a tight vang and not too much Cunningham keeps the sail entry flat, and means the front of the sail breaks evenly from bottom to top. With good mainsheet trim and good steering, efficiency is preserved.

In choppy water Aim for more Cunningham, and less vang; it's not advisable to control power in the rig by feathering in a chop, because the boat stops dead in the water. Also, as the boat pitches up and down, a sail with even twist will either be trimmed perfectly, or it will be all wrong at once. It is better to have some twist, and for the top of the sail to open as the boat is hiked down over the top of waves. This means lots of Cunningham.

To have enough power in the lulls and troughs, the vang then needs to be a little looser.

Onshore View

With the Laser rigged on the trolley, some wind in the sail, and someone holding the boat flat, look at both of these settings. Which shape goes with which condition? In flat water a constant angle of attack from tack to head is good, because the whole sail is "looking at" the same breeze.

In a chop, some twist induced by more Cunningham is desirable, so that at least part of the sail is always working properly.

Finally, when the boat is always overpowered, the Cunningham is maxed and the vang is max, so the mainsheet can be eased at the top of the waves to keep speed up.

When it's super windy, the sheet is let out 2-12", and the sheeting in and out done from that position.

Tuning troubles - Heavy helm?

Good pointing but no speed - try more outhaul, then more vang

Good speed, but poor pointing - try less Cunningham, then less vang

Neither mode - if sail is already full and it's not super windy try hiking harder; if it's windy and the sail is already completely de-powered with max vang, try easing mainsheet a few inches and sailing lower (point less high) but much faster.

Lighter helms

Though counter-intuitive, when it's choppy, footing is often the best move for lighter sailors, since pinching to de-power, stops the boat and it slips sideways, meaning no speed or height; however, this requires a very tight vang.

DOWNWIND

Cunningham

Except on overpowered reaches, the Cunningham should be all the way off downwind.

Half Cunningham can be left on for very windy runs to de-power, but some must be eased. Having the Cunningham on all the way on makes the top so open that the sail is pushing sideways and will induce a death-roll.

Kicker (Vang)

Most Laser sailors go downwind with too much vang. In other classes with stayed rigs, a snug vang means the leech doesn't spill too much wind. On the Laser, the vang should be eased until the mast is straight or nearly so. This gives the fullest sail, with the added and important benefit of making the leach "lively". As the boat goes through chop it opens and fans on its own from the mast bending. This activity is fast on reaches and especially on runs.

The vang is too loose when the sail opens in a puff or chop and "never comes back" A tight vang has other drawbacks. On windy reaches, it makes the boom hit the water sooner and makes the mainsheet trim hyper-critical. The one time a tighter than normal vang can be good is very windy runs, when it is undesirable to have the top of the sail more open than the bottom, as this will cause a heeling moment to windward and promote the death roll.

Daggerboard

The board is set highest on windy, hiking, planing, reaches, and light air runs. Having the board high on these points of sailing reduces helm and makes the goal of a constant angle of heel more achievable.

For best control and speed on the run, the board should be about half way down. Learn to feel the board - too high, and the boat wants to "dish-out" instead of tracking. Too low and the boat trips and gets sticky. Inexperienced sailors tend to leave the board down for windy runs; this makes things much harder than pulling it up half way!!

More Tips

Capsize

Righting a capsize with the mast to windward – especially in stronger winds; the boat will want to blow back over. The quickest way to recover is either to climb in and leap to high side, as soon as rig catches wind, or as boat comes up take a deep breath and hang onto board and roll under the hull as rig blows over, then get onboard from the new windward side. In double hander classes, scooping the crew is more effective.

In Irons

To get out of irons: pull boom way to windward and push tiller to leeward. This works well before the start if sculling the bow down isn't working

Baler

When it's windy the bailer will be left open. When it's lighter with the baler closed, try sliding your foot quickly along cockpit floor all the way to the back to kick the water out

Clearing weed in Summer

Sailing upwind: - first lift the board, then heel way over, and as rudder comes out of the water vigorously shake it back and forth. This should sweep the weeds down the leading edge and off – if not, pick your spot to lift the rudder.

Sailing Fast

All boats get around the course much quicker with great techniques; the Laser will help a sailor develop practices and feel that will make him better in any other class he chooses to sail. The more you become aware of the correct methods, and the more time you can spend practicing them in various conditions on the water, the greater your progress up the results table.

Hwyllo Dda – Good Sailing

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