

Laser training. A few key point for self training

The controls

The laser is by theory very simple with 7 adjustable controls. However, we can easily consider than for start, only 4 are very crucial to attain a decent speed around a sailing course.

These controls are :

- 1. The Wang (kicker).** Controls the height of the boom, the leech tension and the mast bend
- 2. The downhaul (Cunningham).** Controls the position of the sail volume and sail profile.
- 3. The mainsheet.** Controls the sail profile angle versus wind
- 4. The outhaul.** Controls sail volume in lower parts and have slight effect on leech tension
- 5. Traveller.** Controls leech tension
- 6. Centreboard.** minimise leeway upwind.
- 7. Toes strap.** Optimising hiking position

Simple does not mean approximate and everything good! The laser is very sensitive to the slightest change and the new controls allow us now to be very precise, so please use them!

We can assume 3 main marks (colour tape) on each of the control 1, 2 and 4.

Mark 1 : loose, no pressure on the rope. Max out for the outhaul (about 20-25cm at boom cleat level)

Mark 3 : max tight. Kicker max= block in block at back with no main sheet tension. Downhaul max & outhaul max = you cannot physically get more!

Mark 2 : one mark in the middle... to gain in precision, you can add a mark at 1.5 and 2.5.

The centreboard can be marked as well by indicating with a waterproof marker how much is still left in water (4 marks can do : 10cm, 20cm, 30cm and 40 cm). You realise this by putting your boat on the side: someone is marking the board while you measure length under boat.

Here is a table giving you a rough indication of controls adjustment. Only practice and research ON THE WATER (speed test) will give you more precise indication of what you need (it depends on your weight, size and fitness level). Then of course, it will depend on you sailing style (ex: someone who likes to pinch will use less kicker upwind than someone who likes to go fast in 15-18 kts of breeze). So it is important to use this as a guideline but to make your own more precise table from your own session on the water. Waves have also an impact. More waves means you need more power. You will get that from an heavier load of kicker and a looser outhaul.

Heavy breeze. 20+ knots. Main objective, keep the boat flat and not too much pinching

	On the beat	On a reach	On the run
Kicker	Mark 3	Mark 1 to 2	Mark 1
Downhaul	Mark 3	Mark 1	Mark 1
Outhaul	Mark 2 to 3 (above 25 knots)	Mark 1 to 2	Mark 1
Main sheet	Block to block, but could be eased if overpowered	Fly telltales	70 degrees angle (careful, not too much out)
Centreboard	Fully down	20cm to 30 cm	30 to 40cm
Traveller	Tight	Tight	Tight
Toes strap	Loose (keep max hiking efficiency)	Tight (don't want your bottom in water)	Tight

Heavy medium breeze. 15 to 20 knots. Main objective, keep the boat flat and not too much pinching

	On the beat	On a reach	On the run
Kicker	Mark 2 to 3	Mark 1 to 2	Mark 1
Downhaul	Mark 3	Mark 1	Mark 1
Outhaul	Mark 2	Mark 1 to 2	Mark 1
Main sheet	Block to block, but could be eased if overpowered	Fly telltales	75 to 80 degrees angle (careful, not too much out)
Centreboard	Fully down	30cm	30cm
Traveller	Tight	Tight	Tight
Toes strap	Loose (keep max hiking efficiency)	Tight (don't want your bottom in water)	Tight

Medium breeze. 12 to 15 knots. Main objective, keep the boat flat

	On the beat	On a reach	On the run
Kicker	Mark 2	Mark 1 to 2	Mark 1
Downhaul	Mark 2	Mark 1	Mark 1
Outhaul	Mark 2	Mark 1	Mark 1
Main sheet	Block to block	Fly telltales	80 to 85 degrees angle (careful, not too much out)
Centreboard	Fully down	30cm	20cm to 30 cm
Traveller	Tight	Tight	Tight
Toes strap	Not to loose (keep max hiking efficiency without risking bottom in water).	Tight (don't want your bottom in water)	Tight

Medium light breeze. 8-12 kts. keep the boat flat or slightly heeled to leeward. Go fast, clean air

	On the beat	On a reach	On the run
Kicker	Mark 2	Mark 1 to 2	Mark 1
Downhaul	Mark 1 to 2	Mark 1	Mark 1
Outhaul	Mark 1(waves) to 2 (flat water)	Mark 1 to 2	Mark 1
Main sheet	Block to block, but could be eased to play waves	Fly telltales	85 degrees angle
Centreboard	Fully down	30cm	20cm
Traveller	Tight	Tight	Tight
Toes strap	Tight (keep pressure on boat)	Tight	Tight

light breeze. Less than 8 kts. keep the boat flat or slightly heeled to leeward. Go fast, clean air.
Focus on telltales and wind indicators. Heel boat to windward on the run.

	On the beat	On a reach	On the run
Kicker	Mark 2	Mark 1 to 2	Mark 1
Downhaul	Mark 1 to 2	Mark 1	Mark 1
Outhaul	Mark 1(waves) to 2 (flat water)	Mark 1 to 2	Mark 1
Main sheet	Block to block, but could be eased to play waves, especially in very light winds. The lighter the more you ease (up to 20-30cm between blocks in 2-4 kts)	Fly telltales	90 to 95 (very light) degrees angle
Centreboard	Fully down	30cm	20cm
Traveller	Slightly eased (to help block to go on other side when tacking)	Slightly eased (to help block to go on other side when tacking)	Slightly eased (to help block to go on other side when tacking)
Toes strap	Tight (keep pressure on boat)	Tight	Tight

Hope this gives a rough guideline from where to start. It is now your job to make your own table for each condition of wind you have been sailing in.

Summary
<ol style="list-style-type: none"> 1. mark your control lines 2. mark your centreboard 3. have a idea of the effect of each control line 4. go sailing and fill your own table