

Sail Trim on Laser SB3/SB20

This article was written by David Cheyne in the early days of the SB3 and before the boats became Sportsboat World SB20s. In this time the rig hasn't changed and the principles of the article remain the same. As have the people sailing the boat

This article is written in response to a request for an updated document outlining sail trim on an SB3

Jerry Hill has written an excellent article on the Top Tips section, and once this article I have written, has been discredited and rewritten by someone who knows what they are talking about, I'll add it to the Top Tips Section too

In essence the SB3 truly is a one design boat, and of all the sails I have had (and I've worn out a lot of sails since I got 3041 in Oct 2002), I can genuinely say I have only found one jib that looked a little different to the others, and I think that is because one of the panels was a little too tight. Generally, I feel they are pretty good quality, and more importantly fairly uniform in cut.

If you lay a new main on top of an old main, you will see the luff is 6-10 inches longer on a new one, than an old one. (sorry, 16-25cm for the European Irish owners out there) This is because after about a year, the bolt rope in the luff shrinks, and they all end up roughly the same.

New sails should only vary by the fact that re-enforcing patches have been applied to the new ones (not necessarily in the right place....)

Anyway, onto trim -

I'll work through Windward settings first, then leeward, and each sail in turn

My thoughts are based on sailing with the likes of Colin Simonds, Peter Kennedy, Craig Burlton and Adam Heeley, all of whom are obsessive tweakers, and have varied the way they go about things enormously.

EVERYTHING I SAY IN THIS DOCUMENT ARE MY OWN OPINIONS AND NOT NECESSARILY REPRESENTATIVE OF ANYONE ELSE, INCLUDING COLIN, PK, CRAIG or ADAM

As a result I have compiled a version of my own. I believe there are many different ways to sail the boat, and ultimately boat handling and teamwork far outweigh anything rig settings can provide. Tactics are next most important, and finally rig adjustments. That said of course, to be at the front, you have to get it all right, but in order of importance, in an SB3, I'd say the following are important.

1. boat-handling and sail trim
2. starting
3. on course tactics
4. rules knowledge
5. fitness
6. rig settings
7. hull preparation / condition

I am of the lesser numerous school who believe 270kg is too heavy for anything other than a blow upwind, and 250-255kg is ideal to maximise downwind speed, and depth as a result, which gets you much more advantage. We are currently, as I write this, 270kg, but aim to get down to 255kg by the Europeans.

I will assume a fairly advanced ability and knowledge base, consistent with mid fleet performance.

I avoid giving numbers, as I feel the boat must be sailed by feel, so give rough guides only, for you to tune to.

RIG TENSION

With rig up and no sails, head to wind – pull on backstay – watch the shrouds between the two sets of spreaders – if one goes slack before the others, tighten it, or loosen the opposite – this is how you know your fixed wires at the top are the same length

I suggest you sail with the same tension for a while, and get used to the effects of sail trim on the rig – we have tried everything from (outers then inners) 37-34, 28-25, 28-22!!, 30-30 etc

For chop, aim for a straight mast; say 33-33,

For flatter water, put a gap in the numbers to pre-bend the mast, say 36-33

The backstay works better with a straight mast than a pre-bent mast (have to leave something to your imagination....)

I'm not sure forestay sag is an issue in an SB3, but maybe wrong – I think Colin will set a soft rig at times, and no-one I have seen in the fleet can display such a huge difference in speed, compared to the rest, as Colin; albeit rather inconsistently!

I'm assuming 36-34 for this article

UPWIND

General points

- i. maintain speed by minimising rudder activity
- ii. steer by moving bodyweight and sail trim
- iii. weight as far forward as possible, helm's front thigh just to rear of traveller, so as to adjust with forward hand - unless sea conditions are rough, in which case sit in the middle of the boat
- iv. helm does stick and traveller, middle does mainsheet, both do backstay, crew does jib - all need constant adjustment
- v. That said - head out of boat!

JIB

- High aspect sail
- Adjustable up and down forestay
- Variable clew plate
- Inboard outboard track
- Luff tension - Cunningham

Due to its high aspect, sheet tension has very dramatic effect on the jib leech - sheet in until the boat stalls, then out 2-3 clicks - VERY SENSITIVE, and needs constant adjustment, esp in the light - with time you will know when over sheeted, as the rig will stall badly

Height on forestay - Jerry marks his forestay and jib luff for comparison, I mark the halyard where it leaves the mast cleat and also judge by the height of the foot off the deck

Variable Clew plates - stick it in the middle hole and get used to it - don't fiddle here as it overcomplicates

Track - two holes from inside until F5 - sheet trim is much more sensitive because of its effect on twist, and I usually drop the jib down the forestay to de-power and increase twist - in flat water, you may move it out and keep the jib height higher, but I would rarely bother

Drifter-F1

Max sail height, say 3 inches from deck at mid point of foot

Sheet trim is everything - trim loosely and to the breeze to avoid having to steer to maintain airflow - slide through the velocity headers rather than bearing off each time

Cunningham - enough to just about see scallops down luff

F2-3 - Fully powered

No scallops on luff - probably tighter than in any other boat I have sailed

Sail height 2-3 inches midpoint of foot from deck

Sheet in until you reach stalling point - very variable due to high aspect of jib, so it is hard to give measurements - play the sheet constantly in chop (2-3cm range in sheet at ratchet block)

F4-5 - Overpowered

De-power by flattening with backstay

Sheet tension fully in

Consider dropping Sail Height to 1 inch off, or on deck at midpoint luff

Don't overcook the Cunningham

Track still in - 2 holes from inboard end

F6-7 - Survival

Height - drop to deck level, or foot resting on deck - any lower than this and you can't get enough luff tension

Sheet - play it constantly, in tune with mainsheet - 5-10cm range at ratchet block - absorbing the gusts

Track out to 5-7 holes showing if really bonkers breeze

MAINSAIL

- High aspect
- Loose foot
- Cunningham
- Powerful vang system
- Powerful sheet system
- Backstay
- Traveller

General Points -

We used to sail with lots of twist - this is nice as it gives you lots of feel to the helm, but is ultimately slow - the really good drivers can sail with neutral helms and hard mainsail leeches - this is your target - let the boat slide forward rather than be driven

Upwind, in order of importance

1. Mainsheet
2. Traveller
3. Backstay
4. Vang
5. Cunningham
6. Outhaul

Aim never to cleat the main upwind

DRIFTER

Oh Lordy! - fairly flat and kicker off, trim as per jib

F2-3 - Fully powered

Aim to centre the boom and keep leech working, but as soon as heeling enough to submerge the gunwhale, start de-powering with the traveller - helmsman best placed to do this - traveller generally up to windward, but starting to move it down - remember that as the traveller starts moving down towards the middle of the track, it starts easing the mainsheet, so more sheet is needed; likewise as it passes to lee, it will start to tighten the mainsheet, though this isn't such a problem, as you need more leech tension anyway

Constant communication between helm trimming traveller and middle trimming main leech is essential

Kicker - as soon as the traveller starts to be dropped, wind on the kicker fairly hard - but ease it as soon as it goes lighter again (some never touch it upwind...) - if gooseneck shrouds are less than hand tight, the gooseneck will move forward, and flatten the lower main, so we loosen them in big breeze to allow this

Outhaul - 2 inches from side of boom in all conditions upwind until F5+, then tight

Cunningham - matter of preference, but we have always taken the slack up on this - some sail around with a huge slab of sail scalloped above the boom

Backstay - start to pull it on as traveller three quarters way down the track - rough guide only, as it depends on your rig settings - opens leech of main and flattens it - reducing drag - I cannot give you numbers here, as you need to look at the shape of the middle of the main - if it looks terrible, tighten the inners to straighten the mast

F4-5 - Overpowered

As per F2-3 but with kicker hard on

Cunningham starting to come on

Communication and coordination all important now, between middle and helm, and middle and jib trimmer

Backstay now critical - pulling it on will

1. open main leech
2. flatten middle of main
3. flatten front of jib
4. cause compression in rig, which will drop off too leeward at the top if insufficient rig tension

I suggest lighter crews may like a little drop off to leeward, but my feeling is that you start to lose pointing height, so more rig tension might be a better idea

Beware of inverting the main with the backstay - requires fiddling with rig to get enough tension and straightness to prevent over bend, which is ugly, and very slow

You are really now into co-ordinated boat handling, so practice is everything

F6-7 - Survival

Much the same - maybe crank the rig on a bit to 38-36 to accommodate the increased backstay

Fitness is crucial - she's a bit of a hooper in these conditions - not a bad tempered one, more an expensive Russian type.....

DOWNWIND

Coming shortly....