

Tuning Log – 2008

'Madelaine' – GBR 707

Written by Edward Donald

Results with new Sanders Sails: 1st - FB Nationals, Cowes Week, Winter Series; 2nd - Cowes

We chose to race with Peter Sanders' new cut mainsail (slightly shorter in foot with ability to flatten foot in a breeze) flatter on entry and exit and three jibs for light, mid and heavy conditions. The Light jib is very baggy and forces us to sail 3 – 5° lower than normal, which is good for speed. The mid-weight is the workhorse and can do well in force 2 – 4 and survive in force 5 – 6 with same pointing ability. The Heavy jib is a blade sail, very flat and good for bouncing wind through the slot (Main fully down traveller track) whilst pointing high. Be careful in large seas as the mid-jib is a better bet to allow wind to spill out of the sail through greater twist.

Below are the settings that worked for us this year. This is to maximise rig and sail speed (worth 5%). You cannot beat a good start and clear air, keeping the boat upright as far as possible upwind (worth 50%). It is extremely difficult to overtake once behind due to relative boat speeds being so similar and amount of dirty air that kicks-off a Folkboat! Much better to play wind shifts or attack from leeward if possible rather than sit in it. Always look for clean air.

Down wind, it will take a lot to beat a straight line in a constant breeze, especially in mid to heavy weather. In lighter or predictably shifty winds, more gybes will pay by increasing VMG sailing closer to wind, creating acceleration and carrying this through to maximise boat speed.

General rule, floppy rig set up light airs and therefore looser rig, more pre bend to de-power in heavier weather and therefore tighter shrouds, looser diamonds to allow wind to spill off. When in doubt, ease it out! Start your own logbook to maximise your speed. Really good when feel going slower, numbers rarely lie! This allows concentration on team work and course management.

The more time your head is up and out of the boat, the faster you will go. Look forwards upwind, spotting wind shifts and position into first mark. Only look back down wind to maximise wind channel and defence of position.

I have raced with MP sails and tuned Madelaine's mast with the help of North Sails guide. I have then fine tuned from there. This season it all seemed to slot together. I have repeated the general mast and sail trim guide below for ease of reference. This will take you 90% there, the last 10% for Madelaine is shared in the tuning log table.

GENERAL GUIDE

Always experiment and try finding your own trim using these guidelines. The weight of the crew, the balance of the boat, the mast together with specific local wind and sea conditions all have an influence on the fastest and final trim. The mast on the Folkboat is one of the vital areas of trim as the quality of the wood is incredibly important to the mast stiffness and flexibility. The ultimate bend characteristics are hard to define, but the bend, measured 5.0 m from the top of the mast should be between 10.5 and 14.5

cm. Have a look at the shape of the masts of the boats with consistently high placings, bring your tape measure, there are 20 Folkboats in Lymington Yacht Haven to choose from!

MAST

1. Control that the mast is straight in the boat. This is best done by leading the shrouds in along the mast and put a mark at the height of the gooseneck mark. Then measure from this point to the turnbuckles in the deck - the distance should be the same on both sides.
2. Hereafter measure the distance from the bottom of the mast (where the rail enters the mast) to the aftmost point of the boat (just next to the rudder). This distance should be between 4.97m and 5.00m, a 1 l depending on the stiffness of the mast and the inaccuracy in the alignment of the mast hole. Under all circumstances the mast should touch the aft edge of the mast hole. Here the mast stiffness plays a part; if the mast is stiff it should be pressured against the aft edge of the mast hole to induce a nice, even curve in the mast. If the mast is soft, it shall only touch this same edge slightly.
3. The mast rake is measured in the following way: The forestay is lead in along the mast and the wire is stretched as much as possible. Then put a mark at the height of the gooseneck mark. The forestay is then fixed in its proper position. The distance from the black mark to deck along the forestay should be 1.31m.
4. The jumpers are adjusted by pulling the backstay. Then look up along the sail track and check that the jumpers are equally tight in both sides. If this is not the case, the jumpers should be adjusted till the mast is completely straight. They are set quite loose in light and in heavy winds, whereas the turnbuckles are tightened 2-3 times in medium winds. The draft in the top of the sail is then moved back 47% of the chord measured from the luff. The most important thing is that the mast curve is even from deck to top. If the jumper is too tight, the mast will curve too much in the bottom and be to straight in the top, whereas the bottom will be straight and the top will curve if the jumpers are set to loose. The even curvature gives the leech a nice, even twist.
5. Using this trim the shrouds help control the tension of the forestay. The pressure forward from the aft end of the mast hole makes sure the forestay is loose. In light wind the forestay-sag should be 8 cm. This is best done by tightening the shrouds while sailing until the 8 cm are fixed. When the wind increases the shrouds are tightened 2ft rounds and further 2ft in heavy wind. This way the forestay is tightened as the wind increases. On soft masts a 2 cm thick wedge is set on the aft edge at the height of mast hole to achieve the same effect.

MAINSAIL TRIM

The mainsheet is critical in setting the shape of the sail and small adjustments can have a big effect on speed and pointing. If the mainsheet is sheeted tight, the leech will close and put more pressure on the rudder - on the other hand pointing ability is improved. This can especially be used in medium winds and flat water, where the boat can be kept flat by hiking. In light winds the mainsheet is eased so that the top tell-tale flies straight.

In heavy winds sheet tight and pull the backstay until the rudder feels light again (but without losing

pointing) . In large waves let the leech twist a little more to have a wider steering angle to steer in. This at the same time increases speed (and hereby pointing). As a thumb rule the top bat ten is trimmed parallel to the boom in almost all wind strengths.

OUTHAUL

The outhaul is also an important factor when trimming as it controls the draft in the bottom of the sail. In very light winds (0-5 knots) the sail should be 3 cm from the mark. In medium winds (5-12 knots) about 1.5 cm from the mark and in more wind than this pull the sail all the way to the mark.

CUNNINGHAM

Do not set the Cunningham in light winds. In medium winds set the Cunningham so that the creases in the luff disappear. When the wind passes 15 knots it is pulled hard to open the leech and keep the draft forward in the sail.

TRAVELLER

It is a good idea to have two cars on your traveller. They are then connected by two wires of about 40 cm to a mainsheet block. This facilitates sailing in light and medium winds. In light winds (0- 6 knots) pull the traveller cars 15-20 cm to windward. In medium winds (6-14 knots) set them in the middle. In higher wind the cars are eased to leeward to decrease heel and thus rudder pressure.

BACKSTAY

The backstay has two functions: To control draft in the mainsail and to control forestay-sag. When the backstay is tightened the mainsail flattens and the leech is opened, there is less forestay-sag and hereby a jib with less draft. It is a good idea to put marks on the backstay, e. g . every 20 cm to facilitate finding the right trim after mark roundings, etc.

KICKINGSTRAP

The kicking strap is used when sailing upwind in a breeze. It opens the leech in the bottom part of the mainsail and keeps the boom down when easing in the gusts. Never use the kicking strap upwind in less than 8 knots and use caution. Remember always to ease the strap for downwind sailing when bearing off, otherwise the boom might break. Downwind the kicking strap is trimmed so that the top batten is parallel to the boom - on all sailing angles and in all conditions.

SHEETING POINT

The position of the jib lead is crucial for the jib trim. As a reference point measure 2.65m from the pin in the forestay to the centre of the block (if the lead is on the cabin top). The jib shall luff evenly; i.e. tell-tales must fly at the same time in top and bottom.

JIB SHEET

As a general rule sheet the jib so that the middle batten is parallel to the centreline in most conditions, but in light winds (0-5 knots) leave 2-3 degrees of twist. If the sea is lumpy, move the jib lead two to three "holes" forward to get more draft and power in the jib (the middle batten shall still be parallel to the boat's centreline). In heavy winds move the lead on to two "holes" back without letting the foot of the sail become loose and flutter.

HALYARD TENSION

Never pull the halyard too tight. This will cause the draft of the jib to move too far forward. Pull it until the creases in the luff disappear. In light wind the best shape is obtained when leaving small creases in the luff.

Good luck! If there is any further help or advice you need, we are normally on the marina at least once a fortnight at the Yacht Haven. Look forward to seeing you out on the water. Or call in to the Sanders Sail loft and someone will be available to join you for a tune up.

Mast	Shrouds	Forestay	Sails	Comments
4.97m Loose Jumpers	110 cms	131 cms	1 yr Old Main & Mid Jib	Race 1: Force 1 – 3 Good boat speed Sail low to build height
4.97m Touch tight Jumpers	107 cms	130 cms	1 yr Old Main & Light Jib	Race 2: Force 2 – 3 Good boat speed Good use of kicking strap to stop boom lifting when eased down track or easing mainsheet Boat speed slower in light airs, good in mid airs. Suggest loose jumpers in light winds with shrouds @ 109. Touch tight jumpers in mid winds with shrouds @ 108. Loose jumpers in heavy with shrouds @ 107 / 106 and forestay @ 129.
4.97m Touch tight Jumpers	108 cms	130 cms	New Main & New Mid Jib	Race 3: Force 2-3 Flatter main, great shape, pointing higher and sailing faster. Maintain top tell-tale on jib flowing. Traveller up between first and second marks on track. Slight leeward heel. Touch tight kicking strap
4.97m Touch tight Jumpers	107.5 cms	129 cms	New Main & Light Jib	FB Nationals: Christchurch Bay, Mid-June 2008 Slight short chop. F1-3. Faster and higher. Change up to mid jib F3-4, survived rather than prospered. Constant adjustment of jib halyard and main outhaul to ensure optimum loose flow. Touch tight kicking strap.
4.97m Touch tight Jumpers	107 cms	128.5 cms	New Main & New Mid Jib	RT1 – F4-6 exceptional boat speed upwind. 4 crew, 2 on rail, 2 old man's seats. Kicking strap touch tight. Main foot fully extended. Mainsheet block on block. Traveller track all way to leeward. Cunningham on. Ran out of backstay to de- power. Down wind, outhaul off, kicking strap on, jib down, kite flat as board through barber haulers in 25-27 knots wind gave solid platform albeit de-powered.