

Jud Smith Etchells Clinic, 6/13/06

Notes by Jim Turvey

At Lake Champlain Yacht Club (Etchells Fleet 25)

.. General Topics

.. Jud is a big believer in sailing by the numbers and by marks on key leverage points (e.g.

Backstay)

.. Marks are especially helpful at mark roundings - get right to the area you want to be quickly; adjust from there as appropriate

.. Leave dock at base settings; adjust before/during race as appropriate (and per the rules)

.. Helm

.. Always want helm, even below 5 knots - Ken Read agrees

.. "boats go better on two wheels"

.. How to get helm - setting of the sails, crew position

.. How much helm? - want to be holding tiller just off the windward corner of the console (equivalent to about 3 pounds of helm)

.. How to reduce helm

.. Shorten the headstay by 1/4" (basically moves center of effort of mast forward)

.. Play the traveller - but Jud doesn't like the boom below centerline

.. Tighten backstay to twist main/depower (not sure I got this right)

.. Mast Topics

.. Biggest variable in Etchells performance is the mast

.. Main thing - must be STRAIT!

.. All masts fine if straight - Kenyon, Proctor, Aussie; Proctor is a good mast for East Coast U.S. conditions

.. Must have no bend at all, especially at the tip

.. If there is side-to-side bend, that can be removed fairly easily and permanently

.. If there is fore-aft bend, can't remove easily and usually can only get 1/2 of it corrected

.. Less than 4mm fore-aft bend is critical

.. Measure by putting string behind the mast between the bands (gooseneck; 6" below top of mast)

.. Mast Step

.. Want to establish a base position and then generally only need to vary +/- 1/4 inch

.. Base position is a by-product of the boat, keel position, etc

.. Mast step controls pre-bend of the mast just like chocking does

.. Now that we've started to adjust the headstay length, mast step controls aren't as critical as before

.. Mast step doesn't impact the rake - that is set by the headstay

.. Headstay

.. Boat balance is set by headstay length

.. Generally want to establish a base position, and vary by +/- 1/4 inch

.. Can be boat-specific, but for Etchells 1300 base setting is 46 3/4"

.. Jud plans to set up an interactive matrix on the Doyle Curtis web site to allow sailors to plug in stats for their boat and get recommendations for headstay settings (coming soon)

.. Headstay sag

.. Why is it good to have headstay sag, when you normally think of having a flatter entry point on jib (i.e. No sag) as helping you point?

.. Think of it like a spinnaker - to point higher on the wind, let the pole move forward

.. Letting headstay sag below 12 knots is analogous to letting the pole move forward on the spinnaker

.. Greater than 12 knots, want to reduce headstay sag

.. At mooring/dock - by tightening headstay 1/4"

.. Under sail - by tightening the jib halyard deflector

.. How much sag?

.. Most jibs are cut for 2-4" of sag

.. 8" of sag is too much

.. If you are sailing with a heavy/medium air jib, and sailing in low wind, might go as high as 6" of sag to compensate

.. For a DCM jib in 10-12 knots, would expect 3" sag

.. High wind conditions

.. In heavy air, less sag for sure

.. Want to be able to get 20-21 tension on PT-2 guage at the dock/mooring, by putting backstay in high wind setting

.. If you can't, then need to make an adjustment - shorten headstay?

.. Chocking has a huge impact on sag

.. Chocks in front, full up main, tighten headstay (need more words here - not sure I got the point Jud was trying to make)

.. General notes (need some more explanation here-what is the significance of next two points)

.. Load on headstay pulls the mast forward at the partners

.. Above 14 knots, could get the headstay too tight

.. Mast height

.. Mast height is a key factor in determining proper rake - if mast is high, then headstay settings will be different

.. The exact measurement is a projection from the top of the chain plates to a point on the mast (notes unclear here as to what exactly this measurement would be theoretically), but this is difficult to measure in practical terms

.. Reasonable proxy for measurement above is to measure from the top of the lip at the top of the cuddy to the top of the black band at the gooseneck; this should be about 21". If more than 21.5", this is high and need to do the more precise measurement referred to above.

.. Dirk Kneulmann is putting I-beam higher on newer boats to allow the mast to go further forward

.. Chocking

.. Base chocking about 1/2 "

.. Light air - go up to about 1" chock (pre-bend the mast)

.. Question: if pre-bend is used to flatten the main, why would you do it more in low wind conditions? (i.e., do I have a note issue here?)

- .. Pre-bend
- .. 1.5" between bands (at gooseneck and about 6" below top of mast) is max?

- .. If you have more pre-bend than this, loosen lowers to compensate
- .. Backstay Topics
 - .. When the headstay is at its base setting, and you tension the backstay to the point where it just begins to be tight, that is the point for about 11 knots of breeze - mark it
 - .. Heavy air mark - 5" above the 11 knot mark
 - .. Light air mark - 2-2 ½ " below the 11 knot mark
 - .. Jud also makes another mark for the mast full forward position downwind, with fracolator on
 - .. Note: moving the mast forward is generally to help the flow off the main; doesn't really help the spinnaker, although it doesn't hurt it either
- .. Spreader Topics
- .. General
 - .. You should get to the point where you can count the number of full turns to get to the settings you want
 - .. Do this at the mooring/dock - can't accurately measure settings under sail
 - .. Makes adjustments before the race easier - can't be taking out Loos guages when under sailing conditions (might drop in the lake, for one thing!)
 - .. Jud's experience - uppers need about 4-5 full turns +/- from base settings to get to range; lowers need about 10 full turns (but you need to determine what it is on your boat)
 - .. Settings should be checked on the water rather than on the trailer before launching - tensions are different based on how weight is distributed in water vs. trailer
- .. Uppers
 - .. Generally attach to chain plate position 2
 - .. This helps to pull the mast forward, which is good for two reasons
 - .. (1) Generates headstay sag in light air
 - .. (2) When you tension the backstay, you are also tightening your rig (i.e. The tension on the uppers goes up), which is what you want in a higher breeze
 - .. Base setting: 15 on PT-2 guage when leave dock
 - .. Note: you MUST check this with the forestay in the base position and the backstay in the 11 knot position - uppers have very different tension depending on the backstay tension
 - .. How do you know how well you've set the uppers?
 - .. Check the leeward upper when under sail - never want it swaying in the breeze
 - .. In light air, want it a little looser than in heavy air, but not too loose (you would lose the differential between the upper and lower in that case, and would get none of the sag that you probably want in light air)
 - .. Jumping uppers from position 2 to position 5
 - .. Might do this in high wind conditions to help support the headstay
 - .. If you have a full main in high wind, this allows you to do prebend to flatten the main, and still support the headstay
- .. Lower

- .. Generally attach to chain plate position 4, although 3 is ok too
- .. Definitely not aft of position 4 - that would not allow rig to go forward enough downwind

- .. If go in position 3, that helps to move rig forward (but may be difficult to turn turnbuckles, and may not be able to fit upper/lower hardware in adjacent positions)
- .. 3 is forward of neutral for the rig, 4 is neutral, 5 is aft of neutral
- .. Jud generally sets the lowers at about the windspeed on the older Loos guage (which reads about 4-5 above the PT-2 guage)
- .. At 12 knots and above, Jud wants no side sag
- .. Above 15 knots, want lowers a little tight
- .. In general, Jud is not a fan of very loose lowers
- .. Only reason you would want loose lowers is to offset pre-bend
- .. Sail Topics
- .. Jib
- .. Types of jibs
- .. DCL is a light wind jib, but not needed in smooth conditions like Lake Champlain - geared towards Marblehead, Newport conditions
- .. Jud favors having the jib low
- .. Jib halyard
- .. Jud likes having a single ball on the jib halyard (always starting from same point)
- .. But: if even one strand on wire halyard breaks, you need to replace it
- .. Then adjust halyard tension with the jib halyard deflector
- .. Note: this not only changes halyard tension, but also the clew position (height off the deck, and even position relative to blocks)
- .. In heavy air, you tend to shorten headstay (to bring mast forward and reduce helm), but this will also lift the clew off the deck => need to compensate with the jib halyard deflector to get the jib back down low
- .. If the jib clew gets too high, its like moving the lead forward (which is not good for jib shape and the slot between jib and main; these are my words - is this the right reason for not moving lead forward?)
- .. Jib leads
- .. Jud is not a fan of adjustable jib leads - can get moved accidentally; find out when you've lost speed relative to competitors - too late!
- .. Main
- .. North San Diego main and Doyle Curtis DC+ mains both are full mains (North good to 13 knots, DC+ good to 15 knots)
- .. Doyle Curtis AP main designed for higher speeds
- .. At 15+ knots, run out of controls on the Etchells to flatten the main; all you can do at that point is ease the sheets (or sail with a flatter main in the first place, e.g. AP main)
- .. Recommend using sail slug at the tack of the main - need to keep the main close to the mast
- .. Tight outhaul is key - if in doubt, tighten it!
- .. Seastate Topics
- .. In heavy seastate, go into twist mode

- .. Ease main
- .. Ease backstay? (wouldn't this untwist the main?)
- .. Bring traveller up
- .. Ease jib sheet

- .. Ease jib tack
- .. Take out chock => straighten mast
- .. In heavy air but in smooth water like on Lake Champlain, can go with inverted main
- .. Need some more words on what inverted main is, and how to get it