

Alchemy's "offshore" asymmetrical spinnaker

Dick Stevenson (June, 2015)

When we bought Alchemy, a Valiant 42 (40 foot/12.2 meter hull), it came with a ¾ oz 1670 square foot (155 square meter) asym in a North Sails sock. This was a beast: ok for coastal sailing, but we (almost all our sailing is double-handed, husband & wife) found it too large for offshore, not forgiving enough for wind changes, and a bit scary to handle in swelly offshore type conditions. Chris Wentz of Z Sails (Stamford CT) designed and made us an 1.5 oz, 1200+ square foot (112 square meter) asym and put it in an ATN sock (this was done in ~2003). We use this asym all the time: it is easy to work and I figure we sail anywhere from 10-25% more a year than we would have otherwise: mostly sailing when we would have motored. We have 10 years with this sail and have been very happy with it.

The following is how we made the sail work for us.

Dick & Ginger Stevenson, s/v Alchemy

Observations:

1. More sailing: Over the first few years we had this asym, I kept track and worked out that we sailed about 20+% more than we would have otherwise. An additional 10+% was spent with more satisfying speed and comfort than the resulting slatting/slapping of working sails being asked to take you downwind in light airs.
2. Alchemy's "offshore" asym advantages
 - a. Large and light enough to have up in 5-6 knots true wind speed
 - b. Very forgiving; we have had it up for long periods with true winds in the 20s.
 - c. A larger sail would be faster in light winds, but we care mostly about moving acceptably in light winds (i.e. not motoring) and a bit of extra speed is not all that important as long as we are moving comfortably
 - d. Not so scary when things go a little pear shaped
3. Advantages/disadvantages of 1.5 oz cloth
 - a. Seems to hold shape better when seas are a bit sloppy
 - b. Seems to allow for better shape airfoil when going upwind
 - c. May not fill so well in the zephyrs
 - d. May collapse more easily when you outrun your wind
 - e. But is much more forgiving in higher winds and when there is operator error. We have used it in winds in the 25+kn true: not wise, but done without breakage.
4. Set up
 - a. ATN sock: vastly preferable to our old sail's North sock
 - i. Slipperier up and down, better funnel for capturing the sail
 - ii. Just generally works better, better design/execution details all around
 - b. Sock furling benefits from a block on the deck
 - i. Allows you to pull into the deck when socking the asym
 1. I (and others) have been lifted off the deck pulling the sock down in the conventional manner when it catches a puff ½ way down, filling and catching the foredeck crew by surprise.
 - ii. The block on the deck is great: some recommend a ratcheting block which ours is, but we have never really used the ratcheting part

- c. We use an ATN Tacker (wraps around the furled jib and keeps the tack of the asym close to centerline)
 - i. North product for same function (with old sail) was of cloth and abraded stitching on the jib; the ATN Tacker is of smooth formed plastic, less abrasive
 - ii. Our sailmaker wants the tack of the asym not to be restricted to the forestay but we like what feels like added control from doing so
- d. A 4-1 block & tackle gives control to the tack of about 4 feet (attached to the ATN Tacker which slides up and down easily)
 - i. Sail benefits from luff tension adjustment, especially upwind
 - 1. For us this is best done from the tack
 - 2. If adjusting halyard tension need to watch over-tensioning and having a splice get stuck in the throat of the sheave when tension unloads (see below)
- e. A full-release-under-tension snap shackle (Tylaska, Wichard, others) to the tack (mounted on the Tacker) allows blowing the tack when pulling the sock down is hard/impossible otherwise, and is an important safety feature
 - i. This allows the sail to stream downwind and makes socking easier
 - 1. Rarely necessary, but really helpful/essential in a pinch as it unloads the sail in an instant
- f. Asym sheets
 - i. We used for years 7/16 inch sheets of polyester/Dacron double braid
 - 1. They soak up water like a sponge and become very heavy
 - a. This makes things very difficult in light conditions where the sheet inevitably dips into the water occasionally
 - 2. We have replaced with 2 7/16 inch high modulus sheets (Samson UltraLite) that float and do not soak up water and get heavy
 - ii. We have one ¼ inch Sta Set X lite Spectra sheet
 - 1. Bought for light air use, but which we use much more than expected even into medium air
 - a. Does not soak up water, a surprisingly big advantage
 - b. Much lighter (even dry) so does not collapse the sail in light airs
 - i. Strong enough for light to moderate conditions
 - iii. All sheets are about twice the boat length
- g. Asym halyard
 - i. We always pull the asym to full hoist and adjust luff tension by pulling the tack down
 - 1. This keeps the skirt clear of the water
 - ii. We use a shackle, but tie it onto the halyard with a knot (buntline hitch). With a splice, use a donut (see below)
 - 1. A splice may/will get pulled into the throat of the sheave at the mast head making lowering the sail impossible without someone going up the mast. This will not happen with a knot or a donut but may with a splice.
 - 2. Shackles are undependable enough that I am considering doing away with it and just tying the halyard to the head with a bowline
 - a. Downside: an untied knot that gets lose may drop the halyard into the mast, something a shackle prevents.

- iii. I am not racing so I do not mind a bit of give in my halyard (not so jib & main) to absorb gusts, so ours is a conventional polyester double braid. It also takes a knot well (the aforementioned buntline hitch for the shackle).
 - h. Hour-glassing
 - i. We use a "single-handers'" spinnaker net
 - 1. Pull jib clew out 6-8 feet or so (for us the clew is pulled out to the staysail) and fix sheets so sail is firmly amidships
 - a. If hourglass occurs (less likely with the jib cloth and sheets in the way) and the asym is tightly wrapped, rolling up the jib (inside the wrap) loosens the asym wraps and allows untwisting the hourglass. Do incrementally.
 - i. I look with envy at bow extension poles (sprits) for the tack, especially those that articulate port and starboard, but I have no experience.
 - j. I have played with using the whisker pole for the asym clew, but felt I gained little from this added complication and have generally have been happy without it
 - i. Seems too complicated and prone to problems
 - ii. Might try on a light air passage with days of light air forecast
 - iii. Dousing mainsail often gets the asym clean air DDW at the expense of less sail area and the ability to blanket the asym with the mainsail shadow (less important if you can blow the tack)
 - k. Find a way to use the asym easily
 - i. On Alchemy the asym lives on a shelf in the forepeak.
 - 1. This allows the sail to be prepared ready-to-go below decks but protected till it is wished for
 - 2. Opening a hatch allows the halyard to be attached while still in the forepeak and sail to be hoisted right up through the hatch
 - 3. Dousing goes right down the hatch in its sock out of the way, but ready to go again
 - a. Our forepeak cushions, when offshore on longer passages, have a waterproof cover so a wet sail can be brought down the hatch without worry (not a big worry in either case)
 - b. Putting back on shelf can be done later as the sail is now immediately safe, out of the way and free from spray etc.
 - i. Offshore, the sail may just stay like that for long periods. Ready to go (just attach sheets, tack and halyard) but out of the way
 - 4. No reason a bag could not be fixed below a foreword hatch when storage is in a bag rather than a shelf. I have heard of bags whose mouth is clipped to the 4 corners of the hatch while the base sits on the cushions allowing easy access and bagging from the open hatch
- 5. Pointing/use
 - a. Often when going DDW or with not a lot of distance to go (or in day sail mode), we just hoist the asym without the main
 - i. Below ~140 degrees AWA the main blankets the asym (depending on tack placement)
 - ii. With set up described above we never need the main to blanket the asym to douse/sock, we can always blow the tack

- b. We can & do carry the asym up to 70 (sometimes 60, depending on wind strength and sea state) degrees AWA
 - i. In light air this is very powerful and we get 6+kn boat speed in 6-7 knots TW and sail ok down to 3-4 kn TW
 - 1. The boat just gets overwhelmed with more wind unless very careful hand steering (we are almost always on auto-pilot) is done. Over 8-9 knots TW we will go almost as fast with a lot less excitement with the jib (again, this is upwind)
 - c. DDW the sail does just fine unless there is a big swell from the side, even to the point of sailing by the lee a bit (again small seas, maybe hand steering)
 - d. With 2 sheets attached (we often use only one sheet if we think the wind is predictable), gybing the asym around (in front of) the forestay is very easy (it is usually possible to attach a second sheet while still sailing)
 - e. On a displacement boat we are unconvinced that tacking downwind is faster (actually we are convinced it is not faster) than heading straight to destination so we always try to sail our course
6. Design
- a. Not sure what in the design allows sailing so close to the wind, but it sure is a nice capability (talk to your sailmaker or ours, Chris- see above)
 - i. Certainly the 1.5 oz allows for a stiffer leading edge and the sail to stand up better; provide a better foil
 - ii. The adjustable tack height also contributes
 - iii. Maybe the ATN Tacker helps as it keeps the tack fixed at centerline
 - b. Little is more annoying than a skirt which gets wet with salt water when dousing and just as you wish to store it
 - i. Design so skirt at full hoist stays out of water even on a rolling boat (deck height seems about right)
 - ii. Always pull sail up full hoist (to keep out of water)
 - 1. Make tension adjustments at the tack
 - 2. This means you do not have to play with halyard adjustment

Any questions/comments, please, come back to me.

Enjoy, Dick Stevenson, s/v Alchemy