

## Buccaneer 18 Boat Handling Techniques

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### Forward:

I'm trying a new organization to this piece from prior versions. I've removed strategy. It is not particular to any one boat, so not appropriate here. My favorite book is North University's Tactics. Go read it. It is shorter and touches the most important concepts. In this version, I explore boat handling and sail trim and rigging techniques for the Bucc 18 only. Yet many of these techniques carry over to other boats. There are so many things that can help you and your Bucc go faster. For this version, I'm selecting what I currently think are the two most important concepts for going a lot faster than the competition (and they aren't particular to the Bucc 18):

1. Steering – find ways not to use your rudder by leaning the boat primarily, but also by using your sails. Pay attention to any area where I discuss rudder use or roundings or turning.
2. Jib and spinnaker slot – Put a window in your main so you can see a telltale 2/3 up on the jib leach and see my notes about maintaining flow through the slot below.

### Heavy Air Upwind

NOTE: The Buccaneer is manageable in 15-20 knot winds upwind, particularly if you have enough weight. I question whether a race team can be successful in heavy air without a total crew weight of at least 320 lbs and their weight significantly in their upper body.

- 1) Heavy air – Keep the boat flat and fast. The faster you go, the better the boat will absorb gusts rather than heel. Vang can allow you to ease main sheet like it is on a traveler but because vang closes leach so effectively on a bucc, many bucc sailors don't think it is a good way to try and depower. I think it is a good idea to put on the vang tightly (I believe Spira concurs). It keeps the sail from flogging which itself causes a lot of disturbance and slows you down.
- 2) Speed is key to keeping from heeling. Don't sail too pinched! The boat will slow and then heel and side slip in heavy air. You've got to sail close to fully powered up to keep your speed up. If you get slowed down, you heel more, the jib tends to push the bow downwind making you heel more and sideslip a ton! You actually start scooping water in the boat because you go sideways so much. At this point ease all sails because you are no longer pointing high and you want to stop heeling immediately! New sails (particularly the jib it seemed to me) are much less susceptible to being overpowered.
- 3) Consider raising your Centerboard by pulling the CB up (specifically, on typical CB rigs, pull the CB line about 2". Not much. It should help stabilize the boat.

- 4) Tight Cunningham depowers sail as it bends the mast and pulls the belly out of the sail and moves the draft forward allowing the leach to spill more air but also flattening the draft which opens up the slot between the jib and main so the main will be less backwinded.
- 5) Q2 has 3 mainsheet attach points on the boom. I attached my mainsheet to only the aft boom hole in heavy air to induce mast bend. Lite air, on Q2 I can move mainsheet to forward attachment point on boom. This induces the least mast bend when close hauled. I did not replicate it on Q3 (I left it as rigged by Nickels) as I don't think it made a noticeable difference.
- 6) Jib cars back half way on track or more if really howling (40" back from bulkhead is ok!). Trim in the foot of the jib inboard of the tensioned (stowed) spinnaker sheet lines about 3 inches.

#### Medium Air upwind:

- 1) Try tons of vang and a bit less Cunningham so Top batten may be hooked significantly to windward which helps pointing.
- 2) Leach telltale should be flying at least half the time. If it is streaming nicely, you aren't sheeted in enough. Trim in as this helps open the slot with the jib. Trimming more helps with pointing by also tightening forestay.
- 3) Scalloping course upwind is effective.
- 4) Skipper sits forward near the back of the centerboard trunk.

#### Light Air Upwind:

- 1) Light air – ease the main enough make sure the leach is open (nicely curved, not tight) and so top batten is not hooking to windward much if at all and the leach telltale is streaming most of the time. This is where the top batten becomes sooo important. I use north sails and the top batten provided is perfect. Buy one or contact them for specifications. Always foot for speed in light air.
- 2) This is the only time I suggest heeling the Bucc at all. In really light air, it helps to induce sail shape and open the slot between main and jib. In this case, the benefit of an open slot and good sail shape outweighs the weather helm that is happening due to heeling.
- 3) The weight of boom, especially with the pole stowed on it as typically rigged) acts like a vang, closing the leach. For boats with topping lift attached to pole all the time (pole stowed on boom), on the appropriate tack you could raise the topping lift to support the boom a bit to open leach. I've changed my rig to place the pole upright attached to the mast which will reduce the weight of the boom.
- 4) Skipper and crew as far forward as possible. I sat across from my crew aligned with the trailing edge of the centerboard, and the crew was sitting aft of the jib on the leeward rail, hand trimming (hand on the line just where it attached to the jib) to perfect the slot to my main trim.

#### Main Sail General:

- 1) Tighten Cunningham to take wrinkles out of top half of the sail.

#### Upwind general:

- 1) Keep the boat flat! Don't heel the Bucc at all except if you want to turn upwind or for light air as noted above. The rudder design doesn't let you feel the amount of weather helm you are creating and there is a lot (and more than a little weather helm is too much). The rudder is slowing you down more than you realize.
- 2) Whether you are pinching upwind or need to steer off at the top of a wave, ease the main to fall off. Two things happen, the jib will push the bow down and the boat will heel more to windward which lets it turn on its lines downwind, which is MUCH better than using the rudder to turn.
- 3) Work the main. If you are heeling too much ease it a few inches, hike it flat and trim the main back in. You'll get a speed boost. Stay hiked out to keep that boost of speed up.
- 4) See a slight heel (you should be flat!) as an opportunity to accelerate like a mini roll tack. Ease the main a hair (only so the leach opens a bit), hike and trim back in. You'll get a speed boost.
- 5) If you loose speed, sail as if you've just come out of a tack, ease your sails and head down for power (sails not fully trimmed in) then trim for speed (flatten out sails) once your speed is back up.
- 6) Apparent wind through the sails breeds more apparent wind through the sails. Once the boat is moving, keep it moving. Don't allow the slot to get choked off. Bring in the main to allow the jib to work or let jib out so it doesn't backwind the main too much (the Bucc sail plan makes a little main bubble unavoidable). Leach curve of jib should parallel the main luff as best possible to allow the best slot airflow.
- 7) Put a window in the mainsail so you can see a jib leach telltale mounted about 2/3 up the jib. That telltale should be streaming at all times, not stalling. If stalling, ease the jib. It'll open the slot too, breeding more speed, lift and apparent wind. Even though you'll have eased the jib, you'll point a bit better and be going faster.

*During the 2009 Championship of Champions on Lightnings, Spira and I asked Greg Fisher and Alan Terhune what the main mistakes are when people are having trouble getting from 4<sup>th</sup> to 5<sup>th</sup> gear. Here's what they said:*

*Heeling too much seems a common problem. When you flatten the boat out and the foils hook up, and is balanced on its lines well, the boat generates lift that makes it track a much higher line than 4<sup>th</sup> gear. Not only will you go faster, but you'll track a course that is higher.*

*To do this the skipper needs trim in the sails after a tack carefully to get minimal helm. Feeling the helm, the skipper can instruct the crew to trim the jib if he is generating weather helm or can first trim the main if getting lee helm. Or, the skipper can ask for more or less heel to generate neutral helm and then trim both sails in at the same time.*

*If getting weather helm, and getting pushed up into a pinch situation, ease the main. The jib will drive the bow down or at least reduce the weather helm and*

*the boat will go faster. Weather helm equals drag more than lift. If you get a header, ease the main to bear away, not the rudder!!!*

*Coming out of the tack, because heeled, the main must be eased so that you don't have weather helm rounding you up. The jib will hold the bow down. But, coming out of the tack, the jib must be eased an inch to power up. Therefore, the ease on the main must be greater than you'd think.*

*Puffs make you go in and out of 5<sup>th</sup> gear because they make you heel and use the rudder, which make the foils less effective and you sideslip and slow automatically. The key to sailing fast is to minimize this moment and get back to 5<sup>th</sup> gear.*

*Active sheeting. Ease the main if hiking won't IMMEDIATELY KEEP THE boat level. As soon as it heels, you should be hiked and can tell whether your weight alone will keep it flat, and if not, ease IMMEDIATELY to keep it flat. If you don't, you'll get weather helm and that will REALLY slow you down. If you must ease then this is your mantra: Ease, Hike, Trim.*

*To head up, trim the main, ease the jib, or heel the boat.*

*To bear away, ease the main, trim the jib, or flatten the boat.*

#### Tacking:

- 1) Light to moderate air, don't bring the jib all the way in right away and ease the main a hair in the tack. Both should be cracked off just slightly (don't ease the main too much or the slot will be choked off!). Skipper steers the boat so the sails are really full until the boat picks up speed, then trim in the sails the rest of the way. In other words, trim for power first (sails not fully trimmed in) then speed (flatten out sails).
- 2) Turn slow enough to let crew get smoothly through the tacks, and for heavy air, it is really helpful as it will allow the crew to get into the hiking straps and trim the jib before it gets loaded up.
- 3) Crew faces backward when switching sides to better fit under vang and get feet pivoted right into hiking straps while moving across.
- 4) Crew on high side (anything but light air) - before tack reach down with forward hand and cinch up the lazy sheet under your legs. Get all the slack out. It'll help speed your trimming as you will simply keep your grip as you move across the boat and automatically be trimming as you move. It is a little awkward in that your arms are crossed. This way the crew will have the new jib sheet in the correct hand as he moves across the boat (and on cross cleated boats can get it immediately in the cleat as he is also getting his feet in the footstraps) and his other hand will be free to guide the other sheet to a place where it will run freely.
- 5) Light to medium air, roll tack it. Flap that big wing!! Bucc's need to do this more!! We are wasting tons of boatlengths out there!!! Get a bit of preroll. Wait until the boat is almost head to wind and then both skipper and crew sit on the windward rail causing the big wing overhead to flap! As the turn is just about to

- be finished, the old windward rail (with both your butts on it!) should be just entering the water. The crew, sitting with his legs over the jib car and butt on the rail, trims the jib quickly to the new tack (trim to the powerup position, not fully trimmed tight). As the sails fill (not before the fill!!), the skipper gives the sail a little ease (to open the leach and power up on the new tack) and moves to windward leading with the tiller extension (like on a Laser steering behind skippers back hiking out on high side). It is scary! Get used to it! Heeled up on the new tack, you want to flatten the boat quickly (another flap of the wing) with the main slightly eased (leach not tight). The boat will squirt forward and you can trim the sails in tighter. In light air, the crew stays low and let's the skipper flatten the boat by hiking alone. In medium air, the crew will move with the skipper at the exact same time and hike out momentarily to windward as well to really flatten the boat (flap that wing) fast.
- 6) Don't turn too little! Make sure not to stop the turn in a pinched heading – you will stall! Turn somewhat past close hauled for a boat length. Make the outside jib telltale flutter (this requires you to turn slow enough that the crew can have it properly trimmed)...you'll come out much further ahead!
  - 7) In theory, Take the first third of the turn slow, the middle third fast, and the last third slow except in light air (last 1/3 fast)
  - 8) Don't tack in waves or chop. Wait until they pass and you get your speed up again.
  - 9) Ease the main a hair coming out of the tack. You'll be heeled and you'll already be fighting weather helm. Don't give yourself more weather helm by trimming in before you've flattened the boat all the way. It'll also give you that open leach which you need when you aren't up to speed.

#### Spinnaker Hoist:

- 1) This technique is much related to the windward mark rounding and a review of wind, traffic, course in the minute before rounding to determine your initial heading from the windward mark. Determine if it will be bear away or gybe set.
- 2) The twing on the windward side is set by crew prior to setting the pole, which will always be on the windward side.
- 3) If a bear away set, crew sets the pole once you know you'll make the mark. Skipper or crew releases the guy out of the cleat so the crew can get the pole on and raised.
- 4) Crew attaches guy, topping lift, then pole on mast, pushes pole forward. Skipper gets topping lift while crew is putting on the pole. Some think pole should start out as high as perpendicular from head stay (ie. Pointing up) and then lowered as speed is gained. I don't set it that high. The higher the wind, the higher the pole and vice versa. I have started stowing my pole vertical in front of the mast (see Jimmy Yurko YouTube technique) for a faster set, because the topping lift is always on and set to a good height and to keep the weight of the pole off the boom.
- 5) Conservative – Pre-feed a bit of the guy so the spinnaker clew is up almost up to the pole and pole back 25 degrees and CLEAT (common omission) the guy. Crew pulls guy along longitude of pole to pre-feed (otherwise it could bend the pole too

- much). This extra step can be avoided by simply hoisting fast and skipper tending the sheets while crew sets the pole.
- 6) The heavier the air, the more towards dead down wind you must be when the spinnaker fills (the boat won't capsize as easily in heavy air if you are pointed downwind). So, watch for gusts in the moment before you hoist.
  - 7) Hoist: While crew is raising pole, skipper folds the tiller extension back and straddles the tiller. Steering the boat straight with your knees, hoist the spinnaker fast with both hands. Cleat the halyard, grab both of the sheets and fly the spinnaker while the crew sets the pole and furls the jib. Then, hand off the sheet and guy to the crew. Conservative: Cleat the spinnaker in flying position and crew furls jib.
  - 8) Head up to help fill the sail. Start heading back down once spinnaker is full. Carrying speed is key (see windward rounding techniques). Give a look for competitors behind and do not allow them to get upwind of you.
  - 9) Gbye set – gybe around the mark. Execute the gybe well first, then skipper hoists as above and crew gets the twings and pole.
  - 10) If necessary, throw the entire jib furling line on the bow so that it doesn't get caught in the mast base when deploying jib later.

#### Spinnaker/downwind general

- 1) I rig the dousing line on the inside of the spinnaker so there is less line interfering with the shape of the sail. This makes a significant difference in light air.
- 2) I use the smallest plastic rigging ball to secure the dousing line to the sail. I also use a plastic rigging ball on the halyard so there is no chance of the knot pulling into the mast and getting stuck.
- 3) It is worth investing in tapered sheets and halyard/dousing line and lighter weight hardware. I've gone minimalistic using only a small stainless ring for the twing (Jimmy Yurko has the specification for the ring). I'm amazed at how well it works vs. blocks at the end of the twings. I also run the twing through the eye strap on the deck rather than through a block fixed to the eye strap as provided by Nickels. It provides a steeper angle to the pole, reduces weight and works just great!
- 4) Spin halyard 59' is all that is needed.
- 5) I run the halyard through a carabiner that is visible near my feet as I straddle the tiller for the hoist and douse. I don't run the halyard all the way back to a carabiner at the aft end of the cockpit anymore because the halyard gets caught up underfoot too much. This carabiner helps the halyard to run smoothly and be accessible and visible during the douse and hoist. I can't recommend it enough. I attach it to the loops in the aft tensioning lines of the footstraps.
- 6) I use 5m Endura Braid for halyard with the outer removed (core of the line only) for 13' to make the dousing line super light which makes a big difference in light air.
- 7) Spin Sheet is 57' and core only for 11' on each end of the continuous line on my boat. I use 6m Flight Line from APS.

- 8) All this reduced weight on the spinnaker allow it to stay fuller in light air and thereby keep the slot more open. None of this matters in heavy air but these items all work well in heavy air too, so why not?!
- 9) Keep the two ends of the spinnaker level (when not heeling) by adjusting the pole height. This is optimal for the sail. Another way to see this is to make sure the middle seam is vertical. In heavy air, the pole will be higher than horizontal and in light air it will be pointing lower than horizontal. Between high and low wind settings, the pole tip height could vary as much as 4 feet, I believe.
- 10) The windward twing should always be set to the deck. For heavy air, rig both twings, and if adjustable, snug them to the deck. The twings direct the sheets down to the deck for stability on a run. Set only the windward twing in anything but heavy air.
- 11) **IMPORTANT!** The pole should be perpendicular to the wind direction to fly properly. In other words, on a beam reach the tip of the pole would be all the way forward just touching the forestay. Dead downwind and the pole should be all the way back. This range is, therefore about 90 degrees between all the way forward and all the way back. When I say adjust the pole 45 degrees forward or back, that would be “forward” from the dead downwind position or “back” from the beam reach position. If you steer up, the pole must go forward and vice versa.
- 12) Ease your vang
- 13) Always have the luff breaking in middle, not near top or bottom. Adjust pole height to make this happen.
- 14) Centerboard should be around 1/3 down. The only time I have it all the way up in flat water, light air, otherwise you’ll need it to help with steering). This stabilizes roll, yet allows for less drag. It also allows some side slipping in gybes which helps the boat keep from heeling a lot. It also gives you something to grab if you do capsize.
- 15) In heavy rollers, particularly in a dying breeze, raise your centerboard so the boat slips more and rolls less, and sit further from center so the boat doesn’t pitch as much. This stabilizes the boat best to allow the wind to move through the sails better.
- 16) Steer by heeling the boat, not by using the rudder. To head down/gybe, heel to windward and vice versa. The rudder is a break!
- 17) Err on having pole too far forward. It increases the slot and gets the sail out forward of the main where it is more exposed. Don’t allow the slot to get choked off. Bring in the main to allow the spinnaker to work or let spinnaker out so it won’t backwind the main.
- 18) You could ease outhaul. Several leading sailors say not to bother with a downwind change to outhaul (I don’t). They just leave it.

#### Heavy Air Spinaker:

- 1) Heading should be as close to dead downwind as possible. The boat is less likely to capsize over its bow, but you will need to steer to counter rolling (see below).
- 2) Steering: CB is key! It should be around 1/3 to 1/2 down to provide a powerful surface against which you actively use the rudder to keep the boat under the mast.

Especially in waves, or if the spinnaker collapses and refills, the spinnaker will be trying to roll (heel) the boat to leeward and then windward violently (if you let it). The skipper must forcefully and actively steer to counteract the rolling of the boat. It is far smoother, quicker and safer than trying to jump from side to side of the boat to keep it from tipping.

- 3) This would be a bad time to have a rudder failure. Inspect your equipment before venturing out!
- 4) Pole 30-45 degrees forward (of perpendicular to the wind) even though going dead downwind.
- 5) **THOUGH SHALT NOT HEEL:** If you heel, because of the shape of the hull, the rudder lifts out of the water a bunch, the boat will turn (and with any speed capsize over the centerboard). It is very hard to recover. If you must head up, first get into full hike out mode then carefully head up in lulls, and down before puffs and keep the boat absolutely flat. This is the most fun you'll have on a bucc!
- 6) **STOP ROLLING!:** A simple and effective solution: If the boat starts to heel to windward or gets very unbalanced, rolling wildly, the crew should pull in the spinnaker sheet as much as possible (without ripping the foot). This chokes it down behind the main and (because the leeward twing is on) keeps the spinnaker more stable because it is tightly strapped in. When the spinnaker is optimal, there is a lot of belly in the sail that is hard to control and as that belly (the center of effort of the spinnaker) begins to move around a bunch, it easily pulls the mast wherever the belly of the sail is going and causes the boat to heel one way, then the other violently. Pulling in the sheet to blanket the spinnaker behind the main is the cure.
- 7) Crew and skipper should sit on opposite sides if dead down wind. Move back to keep the bow up in more wind. Any course above dead downwind and both should sit to windward and be prepared to hike.
- 8) Pump main and spinnaker sheets at the same time when the stern is rising to initiate surfing, but only if there is resistance in the sheets, otherwise you probably missed the opportunity.
- 9) Keep your speed up. The more speed you have, the less violent the gusts will feel.
- 10) Have a snug vang to stabilize the main, but remember to ease it after the windward mark. A tight vang is slow and, for gybes in heavy air could break something.
- 11) Skipper handles guy unless very experienced crew.

#### Moderate Air Spinnaker

- 1) Reaching – For some spinnaker shapes, on a beam reach, lower the pole to make the leach nearly tight to fill the sail better. For some spinnakers, you could even lower the halyard a 1-3 feet to allow the boat to point better and open the slot between the spinnaker and main. During mid-winters one year in Phoenix, on a tight reach in low wind, I lowered my older North spinnaker halyard 3 feet and it was faster! I've tried it several times since and it hasn't worked like the mid-winters...so it may have been a fluke!



- 2) Crew sits to windward forward on rail, skipper to leeward and at as forward as the centerboard if possible to keep the stern from dragging, but moves to windward if the boat starts to heel (keep it flat!).

#### Light air spinnaker:

- 1) “ventilating”- Head up to increase speed and fill sails. This causes the apparent wind to shift forward as you speed up. With the apparent wind forward, you can head down a bit until you slow down again. Then head up again and start the cycle all over again. This results in a scalloped course, also known as ventilating the sails. This should be done while leaving the pole at about 45 degrees forward and not moving it, should be able to just ease the sheet as you head down. Overall keep the boat headed up 30-45 degrees from ddw for optimal speed.
- 2) Don’t allow the slot to get choked off. Bring in the main (I learned at BNAC 2011 that the boat goes faster with the main over-trimmed in light air to let the spinnaker slot open up more) to allow the spinnaker to work.
- 3) Crew sits to windward, even up on bulkhead, skipper to leeward and at as forward as the centerboard if possible to keep the stern from dragging.
- 4) If really light air, crew can sit on CB slot and skipper to leeward to induce more leeward heel so gravity gives the sails better shape and opens the slot. In this case, the benefit of an open slot and good sail shape outweighs the weather helm that is happening due to heeling.

#### Gybe general:

- 1) Most people think of gicing as a turn. It is not a turn and generally should not even be accompanied by a turn (except for the S turn noted herein which occurs in heavy air).
- 2) During a gybe, you should generally be driving a straight line dead downwind.
- 3) So, to start a gybe, turn downwind and straighten out your course dead downwind, stabilize, focus on driving a straight line, and keeping the boat under the spinnaker (ie no heeling).
- 4) Adjust the spinnaker pole so the spinnaker center seam is centered over the snout and vertical. To get the spinnaker vertical, adjust the pole height so the clews are the same height off the water. The foot should not touching the forestay, therefore the pole must be eased considerably forward of perpendicular to the wind direction – probably at the mid point of its possible positions - 45 degrees forward of the typical dead downwind position. As a result of all this, both clews should be nearly equally forward of the mast. The crew will cleated the sheet in a position that is likely to keep the sail full during the gybe (trimmed in a bit extra from where it would otherwise start to collapse). This will allow the sail to be in the best position to fill after the pole is released during the gybe.
- 5) Once stabilized in this ready position (takes only a second or two after practicing), the skipper then grabs the bundle of mainsheet between the boom and centerboard cap and pulls the boom over forcefully to gybe the main. At the same time both crew and skipper switch sides of the boat (skipper goes to new leeward side and crew goes to new windward side) with the skipper being very mindful not to move the tiller (drive a straight line) while switching sides.

- 6) The crew adjusts the twings (twing engaged fully on the same side as the pole - in heavy air, both twings are already set, so nothing for crew to do with twings) at the moment the main gybes since crew has nothing else to do at this moment besides moving from the old high side to the new high side.
- 7) If an unsteady gybe, settle the boat down first (by steering the boat under the rig). Then crew gybes the spinnaker (where crew sets the pole on the new side).
- 8) During the spinnaker gybe, the goal is to keep the spinnaker full even though the pole is being switched. Crew stands up in the bottom of the boat (don't have crew stand on seat or deck as this higher center of gravity promotes heeling and rolling which is unstable and slow), and facing forward, reaches forward then around mast with hand closest the mast. Palm facing up and forward, with that one hand, twist the release line so both jaws open at the same time. At this time, skipper might sheet in the new sheet a couple of feet quickly because the pole has just come off of it and there is some slack that could cause the spinnaker to collapse. Crew, keeping both hands at the end of the pole that was just released off the mast, flosses (like dental floss) the new guy on the pole. Crew pushes the pole forward to help the spinnaker stay full as he puts it on the mast. Skipper eases the new guy some if necessary to help crew get the pole on the mast. Remember to recleat the guy after adjusting it! Crew sits to windward and grabs sheet. Crew should say "pole made, twing made".
- 9) Continuous twings and spinnaker sheets allow for the crew to stay on his/her side of the boat so that the boat doesn't roll (heel). FLAT boat is fast!
- 10) Don't over trim spinnaker after gybe. Common mistake.

#### Heavy Air Gybe boat handling:

- 1) Vang should be eased a bit (easier on rig).
- 2) Sheet boom in a foot from shrouds and cleat it (so the boom won't hit the shrouds when it swings over, which could cause damage).
- 3) The twings should be both set so there is nothing the crew needs to do with the twings.
- 4) Steering – S turn right at the moment of the gybe. Aka "Steer back method." The goal is to minimize heeling, which causes the rudder to come out of the water and the boat to lose control. Specifically, skipper turns deliberately about 5 degrees past dead downwind to help initiate the gybe. As skipper swings boom over and moves to the new low side (the crew moves to the new high side at same time) skipper quickly and actively uses the rudder to turn the boat 5 degrees back to dead downwind. This could also be expressed as turning the boat a bit in the direction the boom swings (and all that force behind it as it fills on the new side) so the hull ends up staying under the rig when all that force climaxes as the sail fills on the new side. Put another way: "follow the boom" to keep the boat under the sail. This all happens in a matter of ½ a second or less! You come out of this maneuver pointed dead downwind more or less driving straight while the crew attends to the pole. Generally, the skipper will want to focus on steering actively (3-5 degrees in alternating directions as dictated by the roll of the boat, but generally in a straight line) to keep the boat flat. Keeping the boat flat also can be expressed as keeping the hull under the mast. Generally it helps to come up about

- 5 degrees from dead downwind (the point to which you had steered to initiate the gybe a couple of seconds before) as this gives the boat some stability from rolling to windward, but that is it (don't steer higher than that)! So, generally, you drive this relatively straight course adjusting the tiller only to stabilize the boat. Once the crew is done setting the pole on the new gybe and the boat has stabilized with spinnaker full and the crew is settled into position, then you are ready to alter your course strategically. Practice this without the spinnaker several times until you get the timing right. It is amazing how well this works. You won't have to jump to the new high side and the boat will feel very stable! Smooth is also fast!
- 5) Focus carefully on driving that relatively straight line (other than the S turn right at the moment of the gybe and the adjustments to keep the boat flat) until the sails and crew settle in on the new gybe.
  - 6) If you must jump to windward side to balast, be ready to get back in the middle of the boat as soon as the boat absorbs the shock or your weight will roll you to windward too much!
  - 7) Heavy air gybe should be done when the boat is up to speed in a puff or as a puff is waning, and in waves when the stern is rising (ie, the boat isn't about to be slowed by going up the face of a wave).
  - 8) If the spinnaker gets shadowed by the main and collapses, do not gybe because you will be slowing too much. You may need to pull the pole back more perpendicular to the wind, pulling the spinnaker more out from behind the main and out into the wind. Make sure the spinnaker is full and pulling hard when the skipper gybes the boom. Speed is your friend and greatly reduces the violent rolling a gybe can cause.
  - 9) Centerboard - Centerboard should be no more than about 1/3 to 1/2 down so that the boat will make some leeway rather than flip over its centerboard but you can still actively steer to keep the hull under the rig. Never do a gybe in heavy air with the centerboard all the way down or up.

#### Light and medium air gybe boat handling:

- 1) Use the hull to steer the boat through the turn. So heel to windward to turn downwind. Flatten the boat to drive a straight line downwind. Once the gybe is complete and the boat steady, heel to leeward to head upwind if desired, heel to windward to head back down toward dead downwind. Try to not use the rudder. It is really slow and totally unnecessary!
- 2) Figure out how to do a roll gybe (I haven't worked on this much yet). In concept, you could flap that big wing twice through the gybe.

#### Windward Rounding:

1. Turn the boat down as deep as you can go (toward the leeward mark, not off on a reach unless you must to protect your position)
2. Keep your speed up by releasing main as you turn, but not the jib. Watch your boom doesn't hit the mark! Also important – HIKE HARD to induce a quick windward heel so that the boat turns on its lines more and less with rudder input!!

At the very least keep the boat flat if not heeded a bit to windward. You want the turn to be well executed first, then focus on the hoist.

3. Practice without a spinnaker hoist until you get the turn nailed, then add the spinnaker hoist.

Spinnaker douse/rounding:

NOTE: If there is nothing else you practice, this is it. A good rounding here with speed will gain you the most places against other sailors. Do it many times without the spinnaker first and in all kinds of wind.

- 1) Pick course side desired for upwind leg. Set jib cars for anticipated upwind velocity.
- 2) Crew puts Centerboard down (it just makes more sense for several timing reasons) first.
- 3) Cleat spinnaker in a position it will fly without attention so crew can use both hands freely to get jib out and quickly trimmed and cleated for current course to mark quickly.
- 4) In a heavy air reach, work your way upwind of the mark so that you have some room to head more dead downwind for the moment of the douse. Otherwise you'll have to do the best you can not to capsize with the crew hiking hard as skipper pulls in the dousing line. In heavy air you really should have sailed a slightly higher course so that you can turn downwind when it comes time to douse or douse early ddw, then reach to mark with jib.
- 5) The crew should square up the spinnaker (center seam over the snout) just as skipper starts the douse. On a difficult heavy air reach, this will also dump air out of it and decrease its healing force.
- 6) Skipper should fold the tiller extension back, stand and straddle tiller steering with knees so both hands are free to handle the dousing line and halyard. Skipper then first cinches up all the dousing line possible and holds it in one hand, then releases the halyard with the other and quickly uses both hands to pull down the sail. Be careful! The halyard can easily get reeled. Skipper must also be careful not to stand on the halyard!
- 7) Crew keeps clews out of the water by keeping some resistance on spinnaker sheets as the skipper pulls the dousing line. This is also critical to prevent shrimping (where one of the sheets gets wrapped around the hull).
- 8) When spinnaker is 1/3 to half in, crew's resistance isn't needed anymore, crew drops (but does not cleat) the sheets and goes to take down pole.
- 9) Skipper finishes dousing spinnaker and can start securing and cleaning up the spinnaker sheets/halyard while crew is putting away pole. However, it is best if the skipper keeps his head out of the boat looking for strategic issues for the rounding leaving the cleanup to the crew.
- 10) If a tight turn around the leeward mark, the crew should trim the mainsheet and trim it in quickly for the skipper as boat rounds the mark. This turns the boat quickly around the mark and upwind allowing for the best tight mark rounding. As soon as close hauled, crew hands off main to skipper and trims jib in. Don't trim the jib in until the turn is done as a tight jib will only serve to retard the bow's quick pivot to windward.

- 11) The crew should pull in the slack in the spinnaker sheets and cleat them as soon as possible (but it is ok to wait for this until you are on the desired tack after the rounding) after the douse. The spinnaker sheets should quickly bunched up and pushed aft (on the seats even with the main sheet cleat) so they don't get hung up in the jib blocks.

#### Rigging:

Review common hang up spots with your crew prior to going out. Here's a sample of some I've experienced on differently rigged boats:

- 1) Jib hangs up on spinnaker pole mast fitting when tacking
- 2) Spinnaker pole hangs up on halyards and jib when deploying, retracting
- 3) Jib dousing line ball gets caught in mast foot
- 4) Spinnaker douse line gets caught on bow
- 5) Spinnaker pole lift gets caught on spinnaker pole mast fitting.
- 6) Jib furling process can catch the dousing line for spinnaker

#### Capsize:

- 1) Ease vang and sheets.
- 2) Crew at bow extended vertically to keep bow into wind as boat begins to right. Skipper douses spinnaker then bails. Spinnaker douse may be best done before righting.
- 3) Practice it.
- 4) Open bailers, get boat moving to drain it. Much more efficient than bailing!