

Wianno Senior Racing Guide

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*****pre-Doyle Mainsail (2013)*****

I. Crew:

At the most basic, you cannot get around the racecourse without a crew. At the highest level of the sport where everyone has the best equipment, crew contribution is the deciding factor. Developing and maintaining an enthusiastic, competent, reliable, and compatible crew is therefore a key area of focus for the racer aspiring to excellent results. Prior to the Class Championship you should have your crew set up, with assigned positions and job responsibilities – well trained in tacking, jibing, roundings and starts. The following may help you set up your program to attract good crew.

First, good sailors want to do well. So do everything you can to make sure that you understand how to make the boat go fast and do everything you can to ensure that your boat is in good racing condition (more on these two issues later). If you are a helmsman make sure that your driving skills are developed to your best abilities. Assemble sailors who are better than you or find an enthusiastic non-sailor to train and encourage. Arrange practice time either pre/post-race or on a non-racing day. The right type of crew personality will want to improve performance and the best way to do this is to spend time together in the boat. If your crew does not wish to make the effort to spend time in the boat, cast a wider net. The right crew will make the effort to get out on the water as a group and will appreciate your efforts to coordinate practice into your schedule. The GOAL is to get everyone into a state of constant improvement.

The other key factor is the preparation you put into your program. A crew member will function best if they know that all issues regarding boat maintenance transportation to and from the regatta, lodging and meals are, if not paid for, at least well organized and intelligently thought out – with the crews comfort and peace of mind always a consideration.

Crew Positions and Responsibilities:

1. **Helmsman** – scrub the bottom before every race (it's that important). Build competence and proficiency at all angles of sail. Master starting, mark roundings, and straight line boat speed in all weather conditions. Contribute to an atmosphere of calm and competence on board. If you find you are raising your voice during racing maneuvers, try to arrange additional practice time so your crew has an understanding of the maneuver before execution. Much frustration can be overcome with prior preparation. Recruit, train, encourage and reward crew.
2. **Tactician/Main Sheet** – with rest of crew, determine strategic considerations for race management and determine strategy. Factors such as tide direction and strength, wind strength and characteristics (persistent shift or oscillating – will

wind build or soften and from which direction will it likely fill). Determine whether the line and course is square to the wind. Discuss issues related to race committee tendencies and course management before the race.

Understand and make sure the rest of the crew understands the starting sequence. Additionally, calmly facilitate communicate with the rest of the boat so that any change in strategic conditions can be recognized and strategy changed if circumstances warrant. The tactician is also primarily responsible for tactical decisions on a boat-to-boat basis. How will we start, duck or cross, lay line, jibe set or peel away are all tactical decisions that will need to be made on the fly. The tactician also needs to trim the main sail and if you want to do well, your tactician will have the main in his hands anticipating puffs and keeping the boat at the proper angle of heel upwind. Off the breeze the tactician is looking behind for puffs and wind shadows helping to place the boat in the right spot on the racecourse. Then doing it all over again prior to the leeward mark or gate.

3. **Navigator/Jib Sheet** – Trimming jib upwind. If your navigator is also an outstanding tactician so much the better. You cannot have too much talent on board. As navigator, primary responsibility is tide direction and flow speed; and whether it will vary in strength or direction at different places and times on the course. Also responsible for keeping track of median compass headings up wind, with an eye out for a persistent shift; compass bearings to the leeward mark, allowing for current, and degrees of bearing away from rhumb line down wind. The navigator trims the spinnaker. It is helpful if the navigator has a good seat of the pants feel for boat speed, an excellent knowledge of sail shape and an understanding of the proper angle of heel up and down wind. The navigator is responsible for reviewing race committee instructions with the rest of the crew and making sure that the sailing instructions, local navigational map and tide book are waterproof and onboard. Additionally the navigator maintains the VHF with charged batteries and insures the radio is tuned to the recall channel at full volume before the start. The navigator will communicate with the tactician informing on position on the course, such as distance to layline and compass bearing relative to other boats. The navigator handles the sheet and guy during spinnaker hoists and jibes, also controls the guy and gathers the spinnaker during spinnaker douse.
4. **Bow/sail trim** – First and foremost is spinnaker work at roundings and jibes. Hoists, douses and jibes should be automatic in all wind conditions and tactical situations. The crewmember responsible for sail trim must have a thorough understanding of sail shapes for every condition and situation. Ballast, the bow crew is hiking hard in winds over 10kts and down below on the leeward lead in light air. This is your best mobile ballast and the bow

crew should be working, forward of the bulkhead, to keep the boat on appropriate angle of heel at all times. The bow crew should also help the boat through roll tacks and manipulate weight to assist the helm and sail trimmers get the boat around marks. Boat maintenance (breakdown prevention) such as taping shackles and lubricating tracks, cleaning of bilge and sail set can be responsibilities for the bow crew. The bow crew maintains the primary watch for the starting sequence, calling time every 10 seconds, and monitors time and distance from the line prior to start. He or she may also help with the inevitable organizational concerns of getting the boat and crew to the racecourse on time and in one piece.

Your boat may decide to split up responsibilities differently, however all details must be attended to and the more involved you can get your crew the better your results will be. Clearly the helmsman trying to manage all of the above and steer the boat has a full plate.

Compatibility of crew and commonality of racing goals is an often-overlooked, yet critical factor, in putting together a crew. There is nothing wrong with sailing for the joy of the experience or the glory of a beautiful day on the water with friends. In fact this is part of the reason most of us sail. However, if you are racing to win it helps a lot if everyone on board is committed to enthusiastically do all the little things that contribute to the goal.

Suggested Drills:

1. Definitely assign responsibilities and positions so that crewmembers can start thinking about jobs, goals and responsibilities before heading out to the water.
2. Boat Handling – Tacking, Jibing and Roundings with Spinnaker.
3. Starting. Stop to full speed drills, over early drills, distance/time practice.

II. Boat Setup

Getting Your Boat in Top Shape:

If you are planning to purchase a Senior, and do not have an unlimited budget, buy a new or used fiberglass boat. The glass boats are much easier to maintain in top racing form and you gain the peace of mind that goes with knowing that your bottom is smooth and fair – also you will not have to worry about constantly keeping the water out of your bilge. The reason to keep your boat in top shape is to eliminate excuses – if there is a problem with your boat speed, you need to know the problem is not with the boat but with the way you have it set up or the way you are sailing it. A glass boat eliminates a lot of excuses and it's easier to concentrate on sailing smart and fast.

There is little more wonderful than a beautifully maintained wooden racing machine. The wood boats feel great on the water but maintenance is an issue. The key areas to concentrate on, from a performance standpoint, are bottom, topsides, keel, board, and rudder. You want your planks smooth and fair, seams should be as smooth as possible. Your foils should be smooth and shaped to class minimum specifications. Don't worry too much about stopping the leaking – install one small electric pump, on each side of the trunk, in the bilge. The weight of the pumps and small battery is not significant and the pumps will change your life. The other key area in a wooden boat is the condition of your ribs and fastenings – obviously stiffer is better. There many issues involved in maintaining a wooden boat in top racing form and the advice of an expert would be well worth heading. Again, if money is an issue, and even if it is not, you should understand that the cost of a new glass boat is not much more than four or five years of basic upkeep on a wooden boat.

Whichever boat you have, you need to get every ounce of extra weight off the boat. Blocks and fittings should be at class minimum weight. Lines on board should be only the minimum necessary length. No extra line except that which is detailed below should be carried. There should be no extra gear stowed on the boat at all – bring just what you need for the trip to the race course, the racing day and back again. Some crews count the number of water bottles they bring on board.

In either wood or fiberglass the goal is to:

1. Eliminate all excess weight.
2. Set up the boat for efficient sailing (sail controls, etc)
3. Keep it clean – inside and out.
4. Develop a routine to eliminate breakdowns

To Be Carried On Board in addition to USCG requirements:

1. Basic first aid kit.
2. Tool Box containing items necessary to effect minor repairs or make adjustments while underway.
Multi tool, Pliers, screwdriver(s), duct tape, spare shackles, cotter pins, snatch block, electrical tape. At least one crewmember should have a sailing knife or multi tool on person at all times.
3. 15 to 20 feet of very strong thin line.
4. Navigational chart of racing area and Eldritch Tide book.
5. Cell phone, GPS, VHF.

Items above should be carried in either Tupperware type of container or zip lock bag for protection and good organization. The best place for storage of items is low in the boat next to the trunk.

SEASONAL SET UP:

1. Mast Rake – Balances boat. The fore/aft position of the mast is the key determinant of boat speed and windward ability. Move the top of your mast back until your weather helm is excessive. Move your mast forward to lessen weather helm. To change mast position, loosen side stays a turn or three, if you are adjusting back, loosen forestay until the desired slack is achieved. You will need to unfasten the cloth boot from the mast deck interface, and then hammer the wedges in the mast partner up from below so that the mast can be moved to the appropriate position. Use your backstays to help stabilize the mast while you are working on it. Pay particular attention to the lateral placement of the mast, the mast must be centered perfectly amidships when looking at the boat from either the bow or stern. Then snug down side stays, continue to stabilize the mast position using backstays and re-set wedges in the mast partner. A note on side stays – your spreaders should point ever so slightly (not more than 3 degrees) up. Use whatever wrapping necessary to stabilize the position of the spreaders on the side stay and make sure both spreaders are symmetrically set up. As a practical consideration a good place to start positioning your mast is similar to the fleet leaders. Hop on a launch and view some of the top boats at rest without crew weight - try to duplicate the position you see. A good way to gauge mast position is to look at a straight line down from the tip of the mast to a spot the deck. Measure or eyeball the distance between that spot and the base of the mast to get into the right range. A small adjustment goes a long way and once the boat is well

balanced there is no reason to change the position of the mast, so set it and forget it.

2. **Lead placement** – Sets the boat on its waterline and if properly placed minimizes pitching movement. Your lead should be as low and tight as possible. When stacking lead, leave the first space, between ribs, forward of the bulkhead empty to facilitate pumping. Start placing your lead in the second space forward of the bulkhead laying first the course next to the trunk, moving outboard course by course for two or three spaces between ribs. Once you have filled outboard and forward as far as possible, start laying the second layer on top of the first, again as far outboard and as compact as possible. Continue the process until the lead on one side is stacked and packed as tight as possible. The goal is to pack your lead so that it is compact as possible fore and aft and tight enough so that it does not shift when the going gets rough. A good check to make sure your lead is in the proper position is to look at your boat from the rear quarter while it is lying gently either on a mooring or dock. **YOUR RUDDER SHOULD BREAK THE SURFACE OF THE WATER WITH BETWEEN 1 AND 2 INCHES OF THE RUDDER ABOVE THE WATER.**

3. **Sail Controls** – Your controls should be set up with the following considered. First, create the necessary purchase power so that every string is easily adjusted by a crewmember in racing position. It does little good, for example, to have a peak halyard that can only be adjusted from one side or that requires the crew to move from racing position to adjust the peak height. The peak halyard and mainsheet are lines that should be adjusted frequently; your performance will benefit greatly if you develop fingertip controls, which can be easily adjusted at any time from racing position. Second, set up all controls so that they are easily accessed by the crewmember making the adjustments. A final consideration is the thickness and texture of the lines you use. Thin, slick line flows through blocks and around corners best. A line that moves easily gives a better feel for what is happening at the working end, and this will help your trimmers achieve the desired result. Thin, slick line is harder on the hands and you should provide gloves for your crew if you push this to an extreme. Purchase thin non-stretch line for spinnaker sheets, this makes foredeck work with the pole easier, high-tech sheets do not absorb energy by stretching and you can wait a lot longer before switching to a light air sheet.

4. **Compass** – Proper placement of compasses is an area of much debate. At the end of the day you need your compass to be in a position so that your navigator can easily and accurately read the compass from racing position. It is necessary for the helmsman to have the ability to read the compass as well. Try to find a position for your compasses that will enable the largest number of crew to easily read the compass and note the course steered. My best

recommendation is two compasses, as large as possible, mounted on the cabin top, one on each side of the companionway hatch. Make sure to have your compasses professionally calibrated or swung so that the numbers are consistent if you have more than one. It is surprising how often compasses are inaccurate, giving disparate information before they are calibrated.

5. Centerboard painter – The aft corner of the centerboard should extend, at maximum depth, to a position between 1 and 3 inches below the bottom of the shoe. Tie a knot in the painter so that when the knot is resting on the cap of the centerboard trunk the above centerboard position is achieved.
6. Jib Track Position – The interior track provided by the builder should be used for all upwind work.

Pre-Race Boat Prep:

1. Clean decks, cockpit, inside cabin and bilge.
2. Eliminate all excess gear and trash
3. Scrub the bottom
4. Lubricate tracks and slides.
5. Check and tape or otherwise secure all shackles and fittings.
6. Wet-Vac or sponge the bilge.
7. Check and replace or repair if necessary all lines and bungi cords.
8. Visually inspect to confirm satisfactory setup and safety of all items.
9. Bring sails onboard
10. Check the batteries of VHF, GPS and Cell Phone.
11. Pack chart and beverages.

III. Sail Trim:

Lift v. Drag:

It's easy to create lift – either sheet in and/or bear away and you have created more lift. Unfortunately, you are also creating drag by doing this. Sailing fast is the ability to balance lift and drag so that you are making the boat move fastest toward the next mark.

You can tell you are in range of the right combination when the boat is at the correct angle of heel and you are getting good flow off your leach telltales. The leeward flickers on your jib should stream straight back and the windward flickers should flip up between 10 and 90% of the time depending on conditions.

Setting our gaff rigged sail for racing:

The class approved sail from the loft of Tom Olsen is the sail used for interclub racing and it is this sail, along with the jib and spinnaker from Norm Cressy, that is the focus of this writing.

Tip # 1: Trim your sails together:

Most sailors can trim either sail independently. Ideally one would look at all set sails as part of an interrelated sail plan. Spend your time trying to speed up the flow on the Leeward side of your sails. You trim sails in concert by focusing on the slot area and the area just aft of the mast on the main, paying particular attention to the interface between the main and jib. Back wind on the main is to be avoided as much as possible because it is indicative of a jib that is hooked into the main, slowing the flow of air on the leeward side of the main – the opposite of the desired effect.

Your trimmers can alleviate this area of backwind in a number of ways with the desired result of no more than a slight flutter, evenly distributed from top to bottom, along the luff of the main. The obvious way to eliminate backwind is to trim the main and ease the jib.

Trim the main: (Tom Olsen)

Tip # 2: Set up your main sail for the “down and in” position.

The Boom at full speed should be parallel to the deck trimmed over the corner of the transom. You will need to bring your peak down to achieve this - simply maintain the same peak/boom relationship with the whole package trimmed down and in.

The great advantage of trimming the main down and in is the change in angle of attack that can be achieved (you point higher) while maintaining speed. Because we sail gaff-rigged boats one must lower the gaff in order to get the main in. Don't confuse this with changing the shape of the sail by dropping the peak with a cleated main. You must drop the peak to create some slack in your leach and then remove the slack by trimming your main. Most Senior sailors still using the traditional setup could easily pull in another 4 feet of mainsheet, thus improving angle of attack by 1 – 2 degrees. You should be aware that if you can point 1 degree higher while maintaining the same speed you will gain 100 feet per mile sailed to weather over a

boat sailing one degree lower. Sheeting in your main can only be accomplished by dropping your peak because an over sheeted main with high peak, thus tightly hooked leach, will cause your boat to stall and wallow in the waves.

Tip #3: Use your Peak like a backstay.

Once you have your main sheeted in – your boom should be over the corner of your transom and parallel to the deck – you can start working on getting your leach properly set up for good airflow and speed. A good place to start is to get your top batten to set parallel to your boom. You can get this done by either dropping or raising your peak or by tightening or loosening your main downhaul. Tightening your main downhaul and dropping the peak causes the battens to fall to leeward. A good visual aid for appropriate peak height and downhaul tension on the main is the telltale on the end of the top batten pocket. This telltale should be flowing back 90% of the time for top speed. If it is not flowing tighten main down, if still not flowing then drop your peak a little; if either of these adjustments seem excessive increase peak outhaul tension. Except for very specialized conditions (big wind, big waves) you should not have a big ugly inversion crease from the throat to clue. Instead you should, in most situations, have what has been described as crow's feet radiating down out and up from the throat shackle. Another advantage to orienting your main as above is that the airflow off the leach becomes more perpendicular to the leach – this is fast.

Tip # 4: Build speed then try to point.

Underwater appendages lift your boat up wind. The best way to create lift is to speed the flow over your underwater appendages. Maximum speed with 3 degrees of weather helm will give your Senior the best upwind VMG.

MAINSAIL CONTROLS

Mainsheet:

Controls angle of attack and tension on leach.

Main down:

Controls draft and consequently how much hook you have in your batten section. More main down = smoother flow off leach. This will give you better straight-line speed at the expense of maximum height. No main down in light air, max main down in heavy air.

Peak Halyard:

Controls leach tension in conjunction with mainsheet. Controls twist of main sail. Additional control for batten section. It helps to think of the peak halyard as analogous to a backstay adjustment on a Marconi rigged boat – dropping the peak (or tightening a marconi backstay) loosens the leach, depowers the batten section and thus the sail. Raising the peak (easing marconie backstay) creates a more powered up sail and hooked batten section for brief periods of extra pointing at lower speeds.

Main Outhaul:

This is your power control. Ease outhaul for maximum power and lift. When the boat develops excess weather helm or when your crew cannot keep the toe rail out of the water by hiking you should de-power the sail by tightening main outhaul. The first adjustment when you get overpowered should be tightening the outhaul. Then tighten main down.

Gaff Outhaul:

Controls fullness at the top of the sail and consequently controls the range of effect that the other controls will have on leach angel at the top of the sail. My experience has been that it is faster to be relatively too tight, rather than too loose, in any conditions, on this adjustment. A relatively tight gaff out haul will help air flow smoothly off the leach of the main. The best eye ball check to make sure you have proper gaff out haul relative to main down haul tension is to look at the imaginary line that results from extending the length of the throat shackle through the leach of the sail. This line should exit the leach of your main sail between the clew and first batten. If the line exits at the clew you have well-balanced tension along the head and luff of your sail. If the line exits above the first batten you have too much peak outhaul tension relative to main down haul tension.

Trim the Jib: (Norm Cressy)

Tip # 5: Bottom; Back - If your bottom windward telltale breaks first move your jib lead back. It is faster to have your lead slightly to far aft than to far forward.

There are three points of orientation used to optimally set up the Jib. You need to keep in mind that as the wind speed changes it exerts different pressure on the cloth and you will need to adjust either the sheet, halyard or lead position in order to maintain the optimal shape for the given wind strength. First trim your jib sheet so that the middle batten on the jib is oriented parallel to the boom. You should be looking as well at the top batten telltale to make sure that it is flowing at least 80% of the time. Now look at the foot in relation to the toe rail. When the jib is set correctly the forward part of the foot is just caressing the tow rail. At times the foot will be

smoothly lying on the deck and at others it will be up to an inch outside the tow rail. Now look at the backwind created by the jib on the main. If there is no backwind you can trim the jib ever so slightly so that a trace of backwind is apparent. More backwind at the top of the mast bring your leads back. More backwind at the bottom of the mast, try moving your leads forward. **When in doubt – ease the jib.**

Tip # 6: Jib halyard tension has a significant effect on boat speed. Easing the halyard gives you a fuller jib for power in lighter and lumpy wave conditions. A softer halyard also gives your helmsman a fuller sweet spot. A tight halyard will give the maximum pointing ability but the fullness of the jib will be lessened. A tight halyard secured by backstay tension is necessary in heavy air.

JIB CONTROLS

Jib sheet:

Controls tension on foot and leach of jib. Helps control fullness of jib. Controls position of the foot relative to the deck.

Jib Halyard:

Helps control fullness of sail. Ease for full; tighten for flat.

Fore/Aft adjustment of Jib lead:

Controls angle of attack, twist, and defines parameters for leach and foot tension.

Tip # 7: Use the Barberhauls to move jib to maximum outboard position while sailing down wind or on a reach.

Barberhauls:

Moves jib leads outboard, this should only be used when running or reaching but in those situations a jib lead placed in the outboard and slightly aft position can add up to a knot of extra boat speed.

Cunningham:

Along with the other controls the cunningham helps set the leach of the jib. Tighten to drop the leach, loosen to power up the sail.

Situational Boat Setup:

The important thing to remember is that there is one perfect setup for each condition and conditions are constantly changing. As wind velocity, and sea state changes you will need to make adjustments to your setup or you will be left behind those that make changes. Additionally, you are going to have to learn to shift gears – that is

manipulate your sails to achieve the best boat speed for varied tactical situations. For example you may need to go from slow to top speed immediately after the start. You may need to climb off a competitor's hip to maintain your clear air rather than be forced to tack away from the obviously favored side. You may wish to achieve maximum straight-line speed to get to the next shift first and thus an ability to tack and clear a close competitor. The tactical situation and weather conditions are constantly in a state of flux. A boat that can move the fastest in all conditions will have a lot more options on the racecourse and will make the tacticians job a lot easier. This is why we have worked so hard to get our control lines with the correct purchase and positioned for convenient adjustment.

Foot Mode:

This is full flow mode with all telltales streaming aft. Relatively loose on leaches and sheets, weather helm should be – 2 to 3 degrees.

Point mode:

Maximum leach tension and sheet tension. Ease outhaul, adjust your peak up, feather jib, avoid back winding main, weather helm should be – 3 to 5 degrees.

Light air, Lumpy seas:

Ease sheets, ease jib halyard, ease backstay, drop peak, release main down, adjust crew weight to minimize pitching and sail full.

Big wind, Heavy seas:

Set the controls maximum tight on downhaul, cuttingham and halyards. You're your rig as low as it will go. Adjust to maximum tight on outhauls and back on jib cars.

Drop peak – this is the only time you should have an excessive inversion wrinkle from your throat to clew. The dropped peak will de-power the main and eliminate pitching moment. Make sure to check and tape all fittings and shackles.

Big Wind Flat seas:

Same as above with the peak as high as you can bear.

Boat Speed:

No one is in the groove 100% of the time in either up or down wind sailing. This is something to aspire to but as a practical consideration good sailors are happy to be grooving more than 65% of the time. There is always an unexpected wave, bad air, laps of concentration, or change in wind strength or direction that will slow your boat. There are things you can concentrate on that will help maximize the time spent at the best possible speed.

First, never sail your racing boat slow no matter whether you are on your way to the race course or coming into your mooring at the end of the day. Bad habits are hard to break and there is no good reason for you, your boat or crew to be in any way interested in going less than fast anytime. Get into the habit of sailing fast and develop a sense of what your boat feels like at it's fastest. On the racecourse if, after a tack, rounding or jibe, you are not moving at full speed, everyone on board should recognize this and make the necessary changes to get moving again.

When in doubt ease your sails and get them full. You need to be moving maximum fast before you can begin to point. Sail fuller with twist in waves. Helmsman and trimmers concentrate hard on angle of heal. Your toe rail should be out of the water in all conditions. An upright boat is always faster. Weather heal is a big help down wind – because you can project your spinnaker further away from the main and you don't have to fight as hard to keep the bow down.

At the end of the day you need to recognize and admit that you are not going fast, then make the adjustment in trim, or setup to correct the situation. There are four boat setup issues that you need to look at. **Mast position, bottom condition, lead position and jib lead position.** Once these are sorted as specified herein, you just need to want to go fast, and with the rest of your crew work hard to make it happen. Get your weight positioned properly, adjust your sheets slightly until things feel right, trim your sails together and watch the flow off the leaches. Helmsmen, concentrate on every wave and increase or decrease in pressure. Remember you need to be sailing fast before you can point so get things flowing, steer for flat spots and work together with weight together. Down wind get your weight to weather and project your spinnaker to weather with a winged jib if possible. Just keep working and practicing until your tacks, jibes and roundings are the best they can be. With all of the above sorted out you can begin to sail with confidence. Your results will improve significantly.

IV. **Quick Reference for Tuning:**

MAIN

Throat shackle should be about 2.5" long

Out haul just eliminate the wrinkles – fairly tight.

Main down – fairly loose start with crows' feet at the hanks and snug slightly to eliminate them to bring draft forward if necessary. This will also help to eliminate backwind.

Important to keep the slot between main & jib open – do not over tighten main down, forestay or jib halyard.

Peak Height – very important – just eliminate wrinkle between throat and clew. Most people sail with a peak to high, which is never fast. Raise peak as the wind comes on and drop when overpowered. Better to be slightly low rather than too high.

Sheet tension – when in doubt ease and foot. Need to go fast before going high. Set up tactically ahead and to leeward not on the opponents' hip.

Key learning – build speed before height. It is easy to over strap the sheets. To build speed ease jib around one inch and main up to 6 inches. Both jib telltales can stream straight back. After speed is built you can work the boat up. Remember to maintain speed by cracking off slightly and then work back up once target speed is achieved.

JIB:

Jib should be full in front.

Slight crows' feet in luff where hanks attach to head stay.

Jib leads inboard

Optimum sheeting angle 9 degrees off head stay.

Lead position

Equal tension on foot and leach with even break on all telltales.

Slack head stay

Provides fullness and power.

Warning:

Do not over tension luff of sail or head stay. Should have some head stay sag.

Pointing:

Allow full jib to pull the boat fast through the water. Lift will come from under water appendages moving fast through the water.

The setup will vary depending on wind strength but these are the basics.