

Safety First

The sailor's motto is "Live slow, Sail fast." Hopefully, we will achieve that. The reason we sail is for fun and friendship but, while we are onboard, our number one concern has to be safety.

1. Safety First
2. Fun and Friendship
3. Winning and Competing
4. Eating and Drinking Well

I love sailing. You get from point A to point B and then back again without using any fossil fuels. No noise, no vibration, no smell; just the wind, open water and your wits. You are at one with nature. Sailing just feels right. It seems to me to be the right way to travel.

Work Together and Respect Each Other

No profanity, no yelling, and no negative teasing. If you have to say "Oh I'm just kidding" after a statement, you shouldn't have said it.

Show respect to others by being on time or early. If 'Boat Call' is 08:30, that means you are on the boat at 08:30 when your name is called. It does not mean you are parking or are on the dock looking for or even at the boat.

Take Care of Yourself

Bring sailing gloves, hat, warm clothes (layers), jacket (water proof or resistant is helpful), sailing shoes (gym shoes are fine but no sandals or bare feet), sunglasses and sun block.

Also, wear a good belt! Some time you may want to lean over the boat to grab a loose line or something in the water. As you lean over, it is most helpful and stabilizing if someone holds on to your belt.

If this is a buoy race, don't bring a backpack of items to change into. Wear what you need and carry a jacket.

Get a good night's sleep and don't overindulge the night before.

If you bring something to eat or drink, bring enough to share with others. Beer is always welcome but not in bottles, and sailors have a superstition against bananas on a boat. I don't know why, but they do. NO bananas, NO bottles.

Cameras and cell phones proliferate. Take pictures as you wish. Pictures of crew are most appreciated but make certain the needs of the boat or the race are taken care of first.

Racing Philosophy

One of my philosophies for racing is you should have your decisions already thought out and made. Then you only have to recognize the situation and implement the decision you've already made for that situation.

This is similar to visualization. I think about the "What if" this happens and decide what the solution is while I have the time to consider all the options. I try to leave very little to chance or seat of your pants sailing and decision making. This allows me to make a very quick decision while racing because I've already thought about the problem and its solution.

Use Standard Terms

While sailing, I believe it is best to be clear with our statements instead of clever. Please use standard sailing terms (and, yes, that means the same terms over and over again), which are esoteric and have specific meaning in the sailing world, instead of using different or clever terms or phrases that at best may get you a smile but at worst may get you misunderstood. Being misunderstood on a sailboat during a race even for a moment can be dangerous.

To that end, I added the standard points of sails to the bottom of this primer and to the sailing guides.

We also use the simple and always correct terms 'Ready to Tack?' and 'Tacking' for tacking.

And we use the simple and always correct terms 'Ready to Gybe?' and 'Gybing' for gybing.

I use the British spelling of 'gybe' because it is not similar to other words like jib if I were to use jibe.

Finally, when pointing something out, please don't say "it's right over there!" Use the dial of a clock as the bearing reference (the mark is at 11:30) and a distance reference that is appropriate (two boat lengths, 100 yards, on the horizon et cetera).

Be Precise to Be Understood

On board, we have to communicate and be understood. Directions and commands, said in our 'Outside' voices, should be explicit. Not because we are that precise but because we want to be understood.

Don't say "Ease the Jib a little" or worse "Trim the Jib." Try to say "Ease the Jib two inches." Then take a look at the jib. If you want more say "Ease the Jib another inch." Or, if you want less, say "Oh, too much, bring in the Jib an inch."

Again, the point in giving precise directions and commands is so others know what you want, not to fancy yourself as that good of a sailor. We also have to make a determination. We will use the term bring in to mean bring in or harden up, and we will use the term ease to mean ease out or release. That means don't ever just say "Trim the Jib a foot." If you want someone to take in on the jib, say "Bring in the Jib a foot."

Start with Speed and Clear Air

You are approaching the line on a close reach. Make sure you have the sails and controls trimmed for a close reach. You will need speed and not pointing ability and you will be in dirty air. So have everything loose and, after the gun, trim in and come up only after you have speed.

As you approach the line if you think you are fast and want to hold your position (i.e. you are clear ahead and to leeward), ease the jib first so your bow automatically comes up (and does not automatically fall off which is what would happen if you eased the main first), then move your tiller pushing your bow up further, feathering the boat, and, finally, ease the main to slow you down more. Also, hail any windward boat to come up; hopefully, even pushing them over the line, as you slide to leeward holding your position.

If you think you are going to be early and there is no place to go (no hole in front or to leeward), or if you are slow; foot off for speed while simultaneously easing both sails (setting them correctly for a close reach) and find a new hole to leeward. Finding clear air at this time is most important.

Set Controls for New Leg Early

When we are close to a mark, we will adjust the sail controls for the new leg first. That way we are ready to move out fast. In other words, a few boat lengths before the windward mark, we will ease the outhaul, ease the Cunningham, ease the backstay and drop the traveler.

This is great at the upwind mark for in disturbed air the sails should be powered up and these controls should be eased anyway. At the downwind mark adjust the controls for speed and not pointing ability because you can not point until you gain speed and the keel starts to work (creating lift).

Plan Breaks and Housekeeping

Plan your breaks when it is advantageous to the race. Breaks for water, personal hygiene or clothes changes should be done while running. The boat is sailed flatter and as you move around gently, someone else can move to counter your weight change. Not true when beating as everyone should be on the rail. It's obvious to take off an extra layer after a beat when you now are running but also remember to put a layer back on while you still are running for the next beat.

Housekeeping is essential and needs to be done but again plan it when it is advantageous. Right after any mark rounding is not the best time to cleanup lines. Crew weight and position for a quick exit is much more important than an immediate cleanup. While beating, clear lines on the high side and wait until you tack to clear the other lines.

Remember that movement is detrimental to the concentration for the driver and tactician. Let them get into their groove before you start to move around.

Wind Puffs and Lulls

While sailing upwind, you should luff the boat up in gusts to improve VMG, and hold course in lulls to maintain VMG. The worst thing to do in a lull as the apparent wind goes forward (a speed header) is to fall off. Falling off will kill your VMG as you sail off in the wrong direction while the boat slows down to the speed appropriate for the new wind speed.

Play the Traveler in Puffs

While racing a fractional rigged boat like the T Ten, don't play the mainsheet to depower in puffs, play the traveler. The mainsheet is supporting the forestay and easing it would sag the jib and power up the rig, opposite of what you want. So play the traveler and then the boom vang to depower in puffs. Also, feather up in puffs to improve your VMG's.

Crew Weight

Hiking out and crew weight placement is very important.

A boat naturally turns in the direction opposite of its heeling direction. This is one reason why you get weather helm. When a boat heels over because of strong wind it turns into the wind and the helm has to use more rudder (which is a brake) to keep the boat on course. It is better for boat speed to hike out harder during a puff.

I believe a lot of sailing fast (racing) is to get the boat's momentum going in the right direction with changes in crew weight or sail trim before you apply rudder (break) action.

The crew needs to know they steer with the accelerator while the helm steers with the brake. One example of crew steering is at the windward mark. The crew bears the boat off by hiking out as the main is eased first then the jib. Many new crews go to the leeward side too early at the windward mark before the boat has borne off, which means the helm must bear off with heavier rudder braking. The crew, at the windward mark, should heel the boat to windward until the boat has borne off to the new course and then get off the rail to help stop the boat from turning further.

As a general rule, no one should be positioned forward of the mast and probably even aft of the shrouds is best. This includes the spinnaker trimmer, stay aft of the shrouds.

In light air, heel the boat to leeward one or two degrees, the weight of the sail will help keep the sail still and in shape.

Sail Trim Turns the Boat

If you harden the jib, which is in front of the center of lateral resistance (CLR), the boat turns away from the wind. If you harden the main, which is behind the CLR, the boat turns strongly towards the wind (the other reason for weather helm). The fact that the main is big and aft of the CLR is why you must ease the main in order to turn away from the wind while bearing off at the windward mark or ducking a boat. If you do not ease the main, the boat will not turn. The rudder is a much smaller foil below the water line than the main foil is above the water line. Besides, steering with the rudder is steering with the brake and steering with the sails is steering with the accelerator. This means at the windward mark, ease the main first and then ease the jib.

Wind Shifts

When playing wind shifts upwind, it is very important to know whether the change in wind is a fluctuation (tack on the shift) or a persistent shift (sail to the shift). Here, the definition of fluctuation is relative to the time to the mark! If the wind does not shift back before you reach the next mark, it is a persistent shift to that mark.

Downwind is easier. Pick the favorable run first (that really is the only secret) and Gybe when the wind lifts you. If the shift is persistent you will gybe once or not at all. If the shift is fluctuating, you may gybe more than once.

Bad Air on the Race Course

While racing, bad or disturbed air from other boats can be very disruptive to overall boat speed and pointing ability. Sometimes the effect is hard to distinguish but a lack of feeling in the helm or a flatter boat can often be symptoms. The only way to go faster in bad air is to get out of it! Watch Tango, which is exactly what Martin does; two quick tacks to get up wind and out of bad air.

The effect of a boat's sails on the wind can also stretch surprisingly far. Bad air can stretch over seven mast heights downwind! That means that on a T10, with a mast 50 feet above the waterline, the affect of bad air extends at least 350 feet downwind. That is over a football field long. If you're behind on an upwind leg, or ahead on a downwind leg, make sure to keep yourself sailing in clear air. It's hard enough to keep a boat going full speed, don't sabotage yourself by sailing in bad air!

Sail the Boat Flat with a Balanced Helm

If you are experiencing weather helm you need to flatten the boat (mainly in light air) and flatten the main. If you get lee helm in puffs (not common in T Tens), you need to depower the jib by easing the jib sheet or moving the jib lead aft.

In overpowered conditions, for a T Ten that's 20 knots and above after the traveler has been dropped, all the power comes from the jib as the main is usually back-winded. The jib should have a tight halyard, the forestay is supported by the main sheet and the jib lead is moved back an inch. Use barber-hauls to move the jib clew out to the shrouds. On the jib leech at the middle batten have a tell tail and it should be streaming back parallel to the center line of the boat. If you are losing height (a symptom would be your VMG falls) you should reef the main.

Do One Job at a Time

Do not try to do two things at once. If you are trimming the main, you should not be holding on to the jib sheet while trying to pull in on the mainsheet. Cleat the jib sheet off first (even if it's not perfect) and then trim the main.

Divide and Conquer

During sail changes, tacks and gybes, it is helpful to think of the crew in two different groups: a) crew that is responsible for sailing the boat fast with the current sails and b) crew that is responsible for changing the sails fast.

The crew responsible for sailing the boat fast is the Helm, Main Trimmer and current Jib or Spinnaker Trimmer. The crew that is responsible for changing the sails fast is the Foredeck, Mast, Pit and new Jib or Spinnaker Tailer. Also, when changing sails, tacking or gybing, it is most important to remember to be accurate first and then fast for you can not be fast without being accurate.

Decide which group you are in, and only look at and worry about things that concern your group. When something goes wrong, fix it only if it is in your group's responsibility. This may be most obvious for the helm. The helm drives the boat and, at the leeward mark, should be concerned with making a nice mark rounding and not whether or not the spinnaker is being pulled in fast enough. Make a nice rounding, they'll catch up!

Complete One Job before Doing the Next

Do not leave your current post or job to do the next job. Don't move on to the next job until you've completed all of your current tasks first. Especially true of ensuring a line runs clear if that is your job. Stay there and keep it clear until the end. Most of the time a line, if prepared first, will run clear but the one time you turn your attention to something else before it is finished running out, it will foul. This is similar to you have to be accurate before you can be fast.

Do Your Job and Not Someone Else's

If you see something that needs attention or was skipped, don't move in to do it, especially if it's not in your group's responsibility – see '**Divide and Conquer**' above. Instead, give succinct commands of what needs to be done and let others learn. People take pride in what they do and all human beings want to be relevant. Let everyone do their own job. We're a team, help each other out but don't compete with each other by doing someone else's job.

If you physically move past someone to complete a task or fix a problem, you probably are wrong for moving. The classic is skirting the jib. If you are trimming the jib and it needs skirting, ask the foredeck to skirt even if they are now on the high side. If you leave your trim position, you are wrong. You can not trim and skirt at the same time, and odds are, after the jib is skirted, it will need trimming and, then, maybe even skirting again.

Don't Talk to the Helm

Do not talk to the person on the helm. The helm needs to concentrate and should not be talking to anyone and no one should be talking to the helm. This kind of fits under do one job at a time. Quite frankly, I am the worst. If I start talking, I am all over the race course. I can't helm and talk at the same time.

Also, if the helm asks for a drink or something to eat, hand it to them open and ready to be consumed.

Winch Work

The best way to avoid an overwrap on a winch is at first to place only two wraps clockwise on the winch. Then pull up on the tail of the line while removing all the slack. Once there is pressure on the line, a third (the manufacturer says to put at least three wraps on the winch before engaging the self-tailer) or fourth wrap may be placed on the winch if needed and then the winch handle may be inserted. Again, pull up on the tail of the line as you smoothly crank the handle.

If an overwrap on a winch occurs immediately report it. The sooner an overwrap is identified, the faster it can be fixed. Don't wait to say something.

When releasing a line that is on a winch from its self-tailer or cam cleat, cup the wraps of the line around the winch first so the line will not slip and then release the line. This is called cupping and we will say cup the line.

Always Place Sheets on a Winch

Place every working sheet on a winch so what energy the sail generates is transferred to the hull and not dissipated in arm/body movement. This is especially true in light air, you may be able to hold the line but you will waste all the energy.

Color Coding

I like color coding, ask my children! The halyards are color coded so they are easy to remember: **Yellow is for the jib halyard** because most jibs (made out of Kevlar) are yellow; **Blue is for the spinnaker halyard** because the spinnaker is flown up in the big blue sky and **Black is for the main halyard** because the black hull is the main color of the boat.

Then, for good measure, we through in a **Purple Pole topping lift**.

I created four evolution guides for Eleanor Rigby and color coded them: **Yellow is for tacking** again because jibs are usually yellow, **Blue is for spinnaker gybing** because you are looking up in the blue sky while gybing, **Red is for windward drop** because it is hazardous, and **Brown** (as in a brown bear) **is for a bear away set**.

We also have color coding for the wind strength: **Yellow** (drifting sand) for Drifting Conditions, **Green** (let's go sailing) for Light Air, **Blue** (blue water sailing) for Moderate Air and **Red** (dangerous) for Heavy Air. See chart in next section.

Then we color code the control lines to match the color code of the wind strength. The **Cunningham is Yellow** because in drifting conditions it is totally off. The **Outhaul is Green** because it is adjusted in Light Air. The **Backstay is Blue** because it is used in Moderate Air and the **Boom Vang is Red** because it is worked in Heavy Air.

And we color code our sails for the wind strength. We have a **Yellow reaching spinnaker**, a **Green VMG spinnaker** and a **Blue running spinnaker**. The heads of all spinnakers are white, both leach tapes are white, the foot tape is black and the clews are the same color of the spinnaker.

For jibs we have a **Green light wave jib** and a **Blue speed jib**. The draft stripes and the clews are the color of the jib (green or blue), the tacks are black and the heads are white.

For the mains, we have a **Green light air main** which has green numbers, draft stripes and clew, a black tack and a white head. We have a **Blue AP main** with blue numbers, draft stripes and clew, black tack, white head and red reefing tack and clew.

This really makes all the sails and their corners easy to identify. If you didn't notice, all the tacks are black because they are tacked to the black hull, all the heads are white because they go up to the clouds and the clews give you a clue to the wind strength by their color (Yellow, Green, Blue or Red. See next section).

Wind Strength

We define wind strength into four categories: Drifting Conditions (Yellow) as 0 to 5 knots, Light Air (Green) as 5 to 10 knots, Moderate Air (Blue) as 10 to 15 knots, and Heavy Air (Red) as 15 knots and above.

Designation	Wind Speed	Sea State	Land Clues
No Air	Zero to 1 knot	Mirror smooth water	Nothing moves
Drifting Conditions	2 - 5 knots	Ripples	Smoke drifts with wind
Light	5 – 7 knots	Small wavelets smooth crests, feel wind on skin	Some movement in flags, vanes and leaves
	8 -10 knots	Large wavelets with crests starting to break	Light flags extend fully, leaves and twigs move
Moderate	10-15 knots	Small waves with consistent whitecaps	Small branches move, dust and paper lift.
Heavy	15-19 knots	Moderate waves with frequent whitecaps	Tops of all trees move, small trees sway.
	20-29 knots	Large waves with spray	Large trees sway, cheap umbrellas invert.

These four categories correlate well to desired sail shape, shaping or depowering techniques, and optimal sailing strategies. In other words, you shape the sails and sail the boat differently in Drifting Condition than in Light Air, than in Moderate Air or than in Heavy Air.

Take Waves at 90°

Upwind if you bear off before a wave hits to gain speed, make sure you ease the sails to keep proper trim and gain the speed you want, but always take the wave at 90° and bring in the sails as you come back up to keep proper trim.

Items Specific to Eleanor Rigby

We raise and lower the mainsail from the starboard side of the boat because the black main halyard is positioned on the port side of the boat. Since we have the mainsail on the starboard side, we dock the boat on the port side so crew does not have to step over the main.

When bending the mainsail on the boom, first attach the main halyard to the head and insert the head into the prefeeder and then the slot of the mast. Raise the head about two feet up the mast by pulling on the black main halyard.

Next unroll the main and find the untwisted clew and attach it to the outhaul and the Velcro strap.

Finally, attach the untwisted tack pulling on the mast end of the outhaul going through the deck coming out of the boom to ease the outhaul if necessary.

When trimming the jib for upwind, look at the colored tapes on the spreader. They match the colors for the wind strength. Put the leach of the jib at the correct color for the wind strength and get up high. Setting the jib close and getting up high is more important than fine tuning the jib. Later, if the jib needs to be fine tuned, the closest person will do that.

The jib sheets and spinnaker sheets do not get stopper knots tied on them. All other lines get stopper knots (figure eight) placed on them: Main sheet, all halyards, tweaker lines, downhaul, reef line and ends of the five control lines in cockpit (outhaul, cunningham, boom vang, fine tune and backstay)

Put things back where you found them. Don't use something and then put it down somewhere else. Many things have a specific place just because that is where we originally put them and crew now expects them to be in the same place.

Large black flashlight is on the starboard nav station table.

Life vests are stored on the starboard side aft bunk

Portable boat ladder is underneath the starboard side aft bunk.

Removable hatch cover and washboard are placed on starboard side aft between the engine compartment and bunk.

Boathook, tiller extensions and tiller cover are placed on the port side aft bunk.

Sail bags when removed from a sail are placed on the port side aft bunk.

Red tool bag is placed underneath the port side aft bunk.

Tape is placed on the faucet handle next to the sink on the port side.

Hand held radio is 'behind' (to port) and to the right (forward) of the sink. To remove it from its cradle, pull straight up.

Put items you do not want to get wet in the plastic box in the sink. Make sure the box is closed and well seated in sink.

Boat registration is in this plastic box.

Hand sanitizer, sun block, lighter and winch handles are also stored in the sink next to the plastic box.

First aid kit is behind (to port of) the sink.

Paperwork and laminated charts are on the nav station

My sailing gloves and extra gloves are placed on and around the sink (port) and nav station (starboard) to dry.

Garbage bags, soap and boat cleaner are underneath the sink.

Engine crank and bilge pump handle are underneath the nav station.

If anything breaks, is broken or is lost overboard or otherwise say something immediately. We need to know.

If there is or will be any food in the cooler, leave ice in its bag, do not open bag and spread ice around.

Do not leave any of your items on the boat, it is universally considered inconsiderate.

When to Use Gybe Versus Gybe Ho

When gybing, the tactician should use three commands: Ready to Gybe, Gybe (or trip) the Pole and Gybe the Boat. When the boom starts to move across the boat, the Helm or the Main Trimmer says Gybe Ho.

Many boats don't know when to use Gybing and Gybe Ho. Some say Gybe Ho at the start of the evolution. Then when the boom comes over they don't know what to say and usually yell "watch it, watch it, watch it!"

The correct way is to say "Ready to Gybe" to get everyone in position for the gybe and to say "Gybing" at the start of the evolution. Then when the Helm wants to move the boom to the other side, the Helm completes the turn and says "Gybe Ho" as the boom moves across the boat.

Gybe Ho is a statement or warning, not a command, to be used only when the boom is coming across. This means it can be used as a statement that the boom is coming across when you are controlling the gybe and the boom starts to move, or it can be used (shouted) as a warning that the boom is coming across during an accidental gybe.

If the Helm remembers that they are in control, and takes responsibility for the evolution and exactly when the boom gybes, the whole gybe will go more smoothly and be controlled. The helm is in control at all times and can control when the boom comes across. If anything is going wrong, the helm can slow or even stop the gybe.

Points of Sail

Points of sail are defined by your direction related to the True Wind. In the "Basic Keelboat" student manual, all points of sail are shown from the True Wind perspective but, when you are sailing, all the telltales will show Apparent Wind. This difference mainly comes into play when Close Hauled or on a Beam Reach.

There are seven different points of sail that we define: 1) No Go Zone, 2) Close Hauled, 3) Close Reach, 4) Beam Reach, 5) Broad Reach, 6) Run, and 7) Danger Zone.

The **No Go Zone**, which is also called In Irons, is the angle into the wind which the boat will not sail. It does depend on the exact boat and wind conditions but it is operationally, if not universally, defined as less than 40° to the True Wind.

Close Hauled, which is also called Beating, depends on the exact boat and wind conditions. It is stated that Close Hauled is as close to the True wind as you can efficiently sail. Close Hauled is defined as between 40° and 45°, inclusive, to the True Wind. Most boats sail optimally closer to the True Wind as the wind speed increases. As an example, at 6 kts of wind, a T Ten will sail close hauled at 43° TWA and, at 16 kts, a T Ten will sail close hauled at 37° TWA.

Close Reach is between Close Hauled and a Beam Reach; therefore, it is greater than 45° and less than 90°.

Beam Reach is sailing across the True Wind so it is 90° TWA.

Broad Reach is between a Beam Reach and a Run. A Run is sailing downwind in the push mode and for most boats that is around 155°. So a Broad Reach is operationally defined as greater than 90° to less than 155°.

A **Run** is sailing (running) in the push mode downwind. Operationally, we limit its use to where the boom can be carried only on one side, where the boat will not gybe. Therefore, a Run is sailing greater than 155° to 175°, as defined by the Danger Zone below, with the True Wind.

The **Danger Zone** is sailing downwind (still running) where the boom can naturally (without a preventer) be carried on either side. The Danger Zone is where a boat can be sail by the lee and a gybe can happen. Forced or otherwise, the boom can be placed on either side. The Danger Zone depends on the boat but it is operationally defined as 175° on one tack to 175° on the other tack or what some sailors call Dead Downwind.

Sea Breeze

A Sea Breeze is created when the land temperature rises faster in the day than the water temperature. The air over the land is heated and rises. The cooler air from the sea rushes in to replace it. The wind aloft dissipates out to sea (hopefully helped by an Offshore gradient wind) and falls as it cools. The cycle continues.

A 2° to 3° F difference is enough to sustain a Sea Breeze. An Onshore gradient wind does not add to but kills a Sea Breeze because the warmed rising air is pushed inland and there is no cycle of wind aloft going out to sea to maintain the Sea Breeze. You still have the Onshore gradient wind just no additional Sea Breeze.

Clear skies out to sea and a line of Cumulus clouds above the shore line indicates a Sea Breeze. The clouds at the shore line are created by the relatively wet air coming in from the water, and then rising and forming the clouds as it is warmed by the land. The standard in Chicago is one ten at one ten. The breeze will change to 110° at 1:10 in the PM.

More Wind at Harbor Mouth

Tunneling is the usual reason most people think there is more wind at a Harbor's Mouth and, certainly, this can happen. However, the main cause of more wind, noticeable even on light wind days or when the wind is blowing into the Harbor and tunneling would not be a factor, is water temperature.

When the water in the Harbor is warmer, it is also warmer towards the mouth of the Harbor. The higher water temperature leads to warmer air near the surface giving decreased stability and a stronger more clocked wind. This is similar to the Trade Winds. The Trade Winds are caused by the increased water temperatures, and ancient Mariners looked for and knew they were in the Trade Winds because of the higher water temperature.

Parallel to the Boom

When trimming the main, the usual statement is to get the top batten parallel to the boom. This is a misnomer. What you are trying to do is get the top batten and the boom in the same plane; trailing off in the same direction. Once in the same plane, they may or may not be parallel because of how they were manufactured in the sail. Usually the top batten and the boom are both horizontal to the deck of the boat but not always.

The confusion comes because lines can not be parallel unless they are planar. Putting two lines that are horizontal to the same surface in the same plane makes them parallel. However, you are not trying to make the top batten and boom parallel by moving them up and down, you are trying to make them planar with each other by moving them in and out, to windward or to leeward.

The point is you are trying to put the correct amount of twist in the sail for the wind conditions as indicated by the top batten and the boom being in the same plane (and, therefore, trailing off in the same direction) and not necessarily parallel. So you should be thinking about ways of moving the aft part of the top batten in and out, and not up or down.

Sailing Trivia

The nautical mile was originally defined as one minute of arc along a great circle of the Earth. Therefore; there are $360 * 60 = 21,600$ nautical miles around the world. All meridians (longitude) are great circles but only the equator at zero latitude is a great circle. Because the world is not a perfect ball, the distance of one minute of arc varies depending where on the globe it is measured but, on average, a nautical mile is about 6,076 feet (or about 1852 meters) which is about 1.15 statute miles. So, seven nautical miles is about eight statute miles.

Mariners measure the speed of a boat in knots. Why? It was a simple way to document the relative speed of a boat. Throw a piece of wood in the water attached to a line with equally spaced knots and count the number of knots that slip through your hand in a specific amount of time. That is your speed in knots.

If all you care about is your boat, it doesn't matter what the distance in knots you used or how long you counted as long as you are consistent. As long as you are consistent, your speed measurement in 'your' knots would tell you if you are going faster or slower than the last time you measured.

However, if you want to compare your speed to the speed of another boat or, more importantly, to the distance you have traveled, you have to standardize the calculations and a good thing to standardize on is to make 1 knot of boat speed equal to 1 nautical mile per hour. One nautical mile per hour is the same as 6,076 feet per hour, which can be said as 6,076 feet per 60 minutes. That's a pretty long rope and who wants to time your speed for 60 minutes so divide both sides by 60 and that gives you 101.2 feet per minute or 101 feet per 60 seconds. That still could be a pretty long line (if you were going 5 knots you would need a 505 foot line). How about dividing both sides again by 10, that would mean 10.1 feet per 6 seconds or let's just say 10 feet per 6 seconds.

With your speed in knots standardized you can compare your speed to other boat speed and you can use your speed in dead reckoning for navigation.

Two general rules for sailing upwind in a handicap fleet if you are the bigger faster boat; first, avoid tacking a lot, it defeats the purpose of being faster; and, second, never pass a smaller boat close to windward because, if they pinch even a little, they will slow you down to their speed.

Whenever the wind moves towards the bow (head of the boat) it is called a header; therefore, whenever the wind moves towards the stern, it is called a lift.

While sailing upwind, beating, push the tiller to the side of the luffing telltale. Same with trimming sails, trim towards the direction of the luffing telltale. Which ever telltale is luffing is starved for air. Here is one more thing; you must grossly trim the sails before you look at the telltales. Know where the sails go for each point of sail and then fine tune them with the telltales. If the sails are not close to their proper trim (grossly trimmed), the telltales could be doing loop-de-loops for a variety of reasons. You need to first grossly trim the sail and then fine tune them with telltales.

While running, if you lose control of where the wind is, sail away from the side of the boom. In a tiller boat, that means push the tiller to the side of the boom. Remind yourself of this right when you get on a run so if you get into trouble your action will be automatic.

View the compass card as being fixed to the orientation of the world and the boat is what is bobbing around.

If you can see the red light of a boat, it is moving right to left.

If you can see the green light of a boat it is moving left (leaf green) to right.

Joy dish soap is great on a boat. It can be used as intended, and it can be used to clean and lubricate moving parts or tracks. Want to clean and lubricate your windward sheeting traveler? Just squirt some Joy on it.