

**OCBC Education Series**  
**Basic Racing:**  
**Sailing the Course Without Being Afoul of the Rules**  
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**Pre-Race Preparations**

The obvious first thing to do is prepare the boat and crew for racing. Arguably, the most common cause for poor performance among relative beginners is lack of knowledge and attention to details, particularly on the part of the helmsman. But crew work and boat preparation also play an important part. A slow boat will win few races, even when sailed by competent teams. There is little doubt that knowledge of the rules can aid in competitive situations but real expertise is not necessary to begin enjoying racing. If you just understand the port/starboard, windward/leeward and clear astern rules you can stay out of trouble and have fun. You may have to play conservative at the start and mark roundings but it is still possible to be reasonably competitive.

Ensure the boat and crew are in racing condition.

- Clean bottom
- Check standing rigging, adjust if necessary
- Sails ready and in identifiable bags if not hoisted
- Winch handles available
- Assign crew positions and jobs
- Get on the water early to get comfortable and maybe practice some
- Study the wind to get a feel for what it is likely to do.

**The Start**

Check line length and favored end. The easiest and most reliable way is to find an open spot near the middle of the line and luff head to wind then note which end is upwind. If one end is highly favored then it may be advantageous to start as near that end as possible. Other competitors, however, may have the same thoughts so the area may be extremely crowded. In that case, unless you are one of the few in front, you will be better off starting away from the crowd and in clear air. Even those leading the pack at the favored end are likely to be pushed over the line early.

Which side of the course looks better for the early part of the first leg? This may affect where and how you want to start. Remember, the objective is to be leading five minutes after the start, not to be the first boat to cross the line or even cross it at the most favored position.

**What starting method to use?**

1. Vanderbilt – About two minutes before the starting signal, sail on port tack just below the starting line until you reach the point at which you want to start. Note the time remaining until the start and bear away to a course about 135 degrees off

- the wind. Continue until almost half the remaining time has expired then head up, tack and sail back to the selected starting point. Since you are close hauled on starboard tack, you have pretty strong rights and other boats will have to keep clear. In theory, if your timing was right, you should arrive at your desired point on the starting line at full speed just as the gun fires. This is a relatively conservative start that was popular years ago. It can generally keep you out of trouble but does not often lead to a good start. Contrary to popular opinion, it can be done at any point on the starting line, not just at the committee boat. This may work somewhat if you have a large and heavy boat. In practice, there will be many boats between you and the line causing dirty air. If enough are there, their ability to respond to your presence may also slow you down. The bottom line is, although safe, it is usually not very effective.
2. Late Barging – A boat barges by trying to squeeze into the starting line, usually at the signal boat end, to windward of the close hauled layline. Barging is, of course, legal but a barging boat has no right to room to cross the starting line. This is why we refer to late barging. If the fleet is at all competitive, a barging boat will find no room at or shortly after the starting signal and will have to wait for a hole or break in the stream of boats not barging. The wait may or may not be significant, depending on the quality of the line, the number of boats late at its end and the number of other boats barging less than you are. This can be an effective start if not too many boats attempt it. It is particularly useful if the right side of the course is favored and you really want to tack as soon as possible after starting.
  3. Port Tack Base Leg – A boat sails on port tack slightly below the line and near the starting signal. She is looking for a hole in the line of starboard tack boats. When a suitable hole is found, she tacks in front the next approaching boat and goes for the start. This can be a very effective start, especially when the fleet tends to bunch up at the signal boat end. It may, however, be a little intimidating for the inexperienced. As the fleet gets larger or more competitive, the holes tend to be smaller and harder to find.
  4. Conservative Mid-Line – Sail on a port tack reach near the center and a bit below the line about two minutes before the start. Continue until a little less than half the time has expired then tack (gybe would usually be better) to return to the line. Sailing just below the line, head up to start just before the starting signal. In practice, of course, it isn't quite that simple. There will be other boats to interfere with your plan. Try to estimate how many and where they will be. You can only tack or gybe in a clear spot and disturbed air will slow down your return. Adjust your timing to compensate. Try to avoid having boats ahead and between you and the line but also avoid having boats below that could push you over the line early.
  5. Second Row – Just lay back and wait for most of the hotshots to start and get out of the way then head for the line. Not a very aggressive start but also not likely to get you into trouble. Actually, if you lay back right near the line and the fleet is not all that competitive, this can be a pretty effective way to start. You will quickly gain confidence if you do remain close to the line waiting to start.

Always stay close to the starting area, particularly in light or variable air. Try to approach your selected position on the starting line at the optimum time, usually a few

seconds early. Watch for boats below you if early. They may be able to force you across the line before the starting signal. But be careful of allowing many boats to be between you and the line as the air will be dirty and you will probably be very late. Try not to cross the line early and do not touch a starting mark or the signal boat. If possible, just before the start, bear away slightly to reach maximum speed then point back up when necessary or practical.

### **After the Start**

Immediately after the start, assess your position. Do you have a faster or higher pointing boat below you that may force you to tack? Do you have a boat right above you disturbing your air? Remember, a boat on your windward quarter is getting dirty air from you and one on your leeward bow is giving you dirty air. If you have that boat close to leeward, you will have to point up as high as possible without losing speed. The alternative, unless you have a significantly faster boat, will be to eventually tack away or fall behind and below. If you have that boat close to windward but behind, you can point up a bit and probably force it to tack away. If it is windward and ahead, you almost have to bear away some to build speed and avoid being blanketed. If that is not possible then all you can do is wait until you fall far enough back to tack yourself. Start making a plan for doing so early.

### **Sailing the Windward Leg**

Four or five minutes after the start, the fleet will usually have spread enough that you can begin to sail your own race. Now it is important to maximize your speed made good and minimize your distance sailed. It should be pretty obvious that the fastest boat, sailing the shortest distance will win.

What is speed made good? More properly it would be called velocity made good to indicate its vector nature. We know that a boat on a beat can make some speed, dependent on the wind and water conditions. If she bears away slightly, her speed will typically increase but the distance she will have to sail to get upwind will also increase. If she pinches then her speed will typically decrease but the distance she has to sail will also decrease. Obviously, bearing away far enough will result in never working upwind and pinching high enough will result in zero boat speed. There is some point between these two extremes that will minimize the time it actually takes to work some distance upwind. This same point will maximize your speed made good. This angle to the wind has traditionally been thought about 45 degrees and varies somewhat with the wind conditions. Modern, high-performance boats can sail much closer than that in most wind conditions.

The other factor is, of course, the wind direction. It is desirable to work upwind at our best speed but it is also necessary to eventually arrive at the windward mark. If the race committee set a perfect course and the wind is not variable, then these two goals are the same. Usually though, the wind is not so cooperative and changes direction from time to time. If the course was originally square and the wind veers (shifts to the right) then

the starboard tack will be the lifted tack and will be closer to the windward mark. If it backs (shifts to the left) then port tack will be lifted and closer. All else being equal, you should usually try to be on the lifted tack. Wind shifts can be short lived, however, and each time you tack costs some temporary speed and thus distance. That's part of why you got out early and studied the wind before the start. If a shift is short and you tack, you probably will not make up that lost distance. If it holds for a while, and you are on the wrong tack, then you should consider tacking to the favored tack.

All the above only is fully applicable when you can sail your chosen course. There will be times when other boats may restrict your ability to fully control your race. Be sure to always keep watch for other boats in the area, particularly others that may be on a collision course with you or might change course so as to be on a collision course. In general, try to sail in the same general area as the other boats, particularly those who tend to do well, but maintain a reasonable distance. Stay away from close encounters and dirty air. The former causes fouls, protests and reduced boat speed. The latter causes poor speed.

#### Crossing Situation – Opposite Tacks

When you are approaching a boat on the opposite tack and you are on starboard, you have the right-of way and the other boat must keep clear. That means she must avoid you such that you can sail your course without having to take any action to avoid contact with the other boat. There are, however, some restrictions on you. You cannot alter your course in such a way as to prevent the other boat from keeping clear. There are some fine points in the rules but, being inexperienced, we may want to avoid them. The best way to do so is to not alter course when that port tack boat is within two or three boat lengths of you, depending on the wind. In any case, you need to be sure the other boat knows of your presence; hail starboard to get her attention. It is also probably advisable to notify her of any course change you intend to make.

When you are the port tack boat, you have the burden of keeping clear. Be aware though that the skipper of the other boat may not be inexperienced and may intend to take advantage of some of those rules fine points. Let the other boat know you are aware of her presence and announce your intentions. If you are well ahead and can cross safely then say so and proceed but be certain you can cross before committing to it. Remember, you are the burdened boat and may not cause the other boat to take any action to avoid you. If you can't safely cross well ahead then you must make the decision how you will keep clear. It may be that the starboard boat will cross clear ahead. In that case then you really don't have to do anything to keep clear. If not and you think the other tack is more favorable then you may want to tack. If so, you should do it early to avoid having the other boat roll over you, foul your air and slow you down. If you prefer to stay on port tack and are on a collision course then you will have to bear away to pass behind the other boat's stern, or duck. Again, you should notify the other boat and begin altering your course early. The earlier you alter, the less course change will be required. If more than a tiny alteration is necessary, ease your sails so as to increase your speed a bit. As soon as your course will clear the stern of the other boat, trim back in and head up to

close hauled. When properly done, the distance lost will almost be made up by the short term speed increase.

### Windward/Leeward encounters

Another situation arises when a boat that points higher approaches you from leeward. You will almost always lose in this situation. Remember, you, as the windward boat, are required to keep clear. The best strategy is to start early, planning the optimum time or location to tack away from the other boat, which you will most likely eventually have to do. There is generally no need for panic as this develops more slowly than a crossing situation. Just be wary of other boats that may cause a problem when you do tack and pick a time and place that they will not be. Of course, you may be that boat that points higher. In that case, you will have the right-of-way and the windward boat must keep clear. Don't let her loud complaints cause you to bear away or stay behind.

The last situation we should consider is a slightly faster boat on your tack, overtaking you slightly to windward. When she passes, you will be slowed a bunch. The faster she is, however, the less it will hurt you as she will be gone sooner. If you see this situation early, it may be advisable to tack early to avoid it completely. If it does happen, you can bear away slightly to keep your speed up until she passes. Depending on the relative speed and other factors, it may then be advisable to tack as soon as you can clear her stern.

### The Windward Mark

Until you have plenty of experience dealing with outspoken and aggressive competitors, it is best to approach the starboard tack layline fairly early. Never approach the windward mark within three boat lengths or on port tack unless there are no other boats nearby. You will have almost no rights at the mark if you do. This is not a situation for the inexperienced or timid.

Contrariwise, You will want to avoid the laylines as long as practical. Why? Remember the wind is oscillating and we want to take advantage of the shifts by sailing on the lifted tack as much as possible. Once you reach the layline, nothing good can happen. Shifts can no longer help but only hurt you instead. If a lift happens then you have overstood and are sailing a longer course than necessary. If a header happens and you tack, the header may eventually go away and when you tack back, you will already be overstood. Again, you have sailed a longer course than necessary.

When approaching the starboard tack layline, the closer you are to the mark, the more crowded the line will be and the harder it may be to tack for the mark. Remember, you are on port tack and must keep clear of that starboard tack parade. Once you begin to tack, you must keep clear of every boat. Your own experience and the number and closeness of starboard boats will tell you how far from the mark you should join the parade. Bear in mind that boats on the layline will disturb the air of boats behind them. If you have to tack behind one or more boats, be sure to overstand just a little to

compensate. The more boats ahead of you the more you may need to overstand. Do keep that to a minimum though as any overstanding is additional distance you have to sail.

One more consideration may be appropriate. If you will set a spinnaker, you should make preparations early. Get the pole in position at least a few boat lengths before you reach the mark and have the sail ready to hoist. These preparations may help you decide how far from the mark you should reach the layline.

The ideal mark rounding is one in which no other boats are able to pass between you and the mark but your boat and equipment do not touch it but be aware that a boat trying to fit between you and the mark may have some right to that room and you may have to make room. Be careful of the spinnaker here. It is generally not necessary to be so aggressive, however. If you give up a little here, it is not as bad as committing a foul against another boat or touching the mark. Either of these will cost much more than leaving a little extra room at the mark. Remember, we want to avoid close encounters as much as practical.

### **Sailing The Downwind Leg**

Except for the obvious difference, a downwind leg is sailed much like an upwind one. The important factors again are speed made good, wind direction and proximity of other boats.

Speed made good works about the same downwind as upwind except the ideal point is not nearly so dramatically defined. A boat sailing dead downwind can never go faster than the wind speed, reduced by the drag of the boat through the water. As a typical boat heads up slightly, that speed may increase slightly as the apparent wind speed will increase. The higher performance boats and boats with spinnakers will experience a more noticeable increase but it will still be true for almost any boat to a lesser degree. Like sailing upwind, this speed increase will be partially offset by the longer distance the boat will have to sail. The trick to maximizing your speed made good is to find that ideal angle where the increased speed is not canceled by the increased distance. This angle is typically considerably less than the upwind angle and it varies much more with the wind conditions. If you do not use a spinnaker and wing your jib on a whisker pole, it is probably best to just point the boat at the mark, regardless of the wind.

At least for spinnaker boats, the wind direction can be even more critical downwind than up. The jibing angle is probably much tighter than the tacking angle and a properly executed gybe should result in little or no loss of speed. Therefore, a smaller wind shift or one of shorter duration may justify a gybe to stay on the favored course. When sailing downwind, the favored course is the headed course, not the lifted one, because it takes you closer to the mark. You will gybe on a lift and hold on a header.

### **Crossing Situation – Opposite Tacks**

Downwind crossing situations are much like upwind except they develop slower and are less severe because the jibing angles are so much less than tacking angles. Boats are likely to approach at angles of 30 degrees or even less instead of 90 degrees. There will be more time to analyze the situation and take evasive action, if necessary. The boat on starboard still has right-of-way and the port tacker must keep clear. Again, be sure the other boat knows of your presence and your intentions. Make your decisions and any course changes early, particularly if you are flying a spinnaker.

### Windward/Leeward encounters

These are probably more common and potentially more confusing than crossing situations on off-wind legs. The windward boat is still required to keep clear but there are more rules involved on the downwind leg. In many situations, boats are required to sail a proper course. There is a simple way to understand the proper course. Any course that a boat would reasonably sail to get to the mark as quickly as possible if no other boats were present is proper. If you are the windward boat and a leeward boat is sailing higher and there will eventually be contact, you may have to alter your course early to avoid it. If you think the other boat is not sailing a proper course, hail for her to do so. Remember though, it is still your responsibility to keep clear. If you are the leeward boat, don't push your right unless you know you are sailing a proper course.

Although under the new rules, it is not as common as in the past, we still see an occasional "luffing match" where a leeward boat seems to sail clear off the course to prevent another from passing her on the windward side. This is nearly always a losing proposition for both boats. To avoid this when you are overtaking another boat, either do so on her leeward side or far enough to windward to not drastically disturb her air. If you think you will be overtaken by a faster boat, you may want to luff up slightly and early to encourage her to take your leeward side. If she is a spinnaker boat and you are not, it may be best to just let her pass as quickly as possible.

### The Leeward Mark

The leeward mark rounding can be even more of a challenge than the windward, particularly if you arrive there in a crowd of boats. The problem stems from the fact that the boats don't usually line up as neatly as they might at the other end. And the rules involved are simply more complicated. Probably your main goal should be to not have to round outside other boats as that forces you to sail a longer course as well as putting you in extremely bad air after the rounding. This is not always possible but there are some things you can do to improve your odds. The first thing is to try to approach the mark from the starboard tack side. Don't worry about being on the wrong gybe at the mark. Here you want to be within three boat lengths and the rules protect you by giving you the right to gybe to round the mark while boats outside have to give you room to do so. You must not take more than reasonable room though. If you can't be on the inside of the other boats and are coming to the mark on the outside of more than one boat, it may be possible to slow your boat just enough to let those inside get clear ahead where you will no longer have to round outside but clear behind. This often is a better position as you

have not sailed as far and have only given up a small distance to fall behind. You will be in somewhat disturbed air but, being on the inside, you should be able to tack away shortly.

Many races these days use a gate for the leeward mark instead of a single mark. This greatly reduces the problems stated above. The race committee makes great effort to set the gate marks so that there is no advantage to rounding either one. In a situation that may become crowded, it is usual to find about half the boats rounding each mark. This almost automatically cuts the potential problem in half. It is almost always advantageous to round the mark that is least crowded.

Regardless of the actual mark rounding, as soon as you can get the boat cleaned up and sailing fast upwind, you must start thinking of how to keep clear air. If you are in a group and are not the lead boat, you probably will want to tack as soon as possible. Watch what the boats ahead are doing though as they probably have the same idea. You don't want to tack right under the boat ahead of you.

### **The Finish**

All boats generally have the right to finish but not necessarily the right to tack or gybe in order to get to the finish line. On either tack, approaching the finish, if you will have to tack or gybe in order to get to the finish line and there is a boat between you and the line, you cannot unless you can do so without causing the other boat to have to alter course to avoid you. In this case, you can either wait until the other boat changes tack or you can bear off (luff up on a downwind finish) a little trying to get room to tack or gybe and probably cross her stern. On a windward leg, the rules allow a windward boat some leeway to hinder your attempts to do this. The best answer is to get out of the situation early, before finishing becomes an issue.

If you have overstood a windward finish line and there is a leeward boat preventing you from bearing off to get to the line, the rules become a little more complex, remember, you are the windward boat and must keep clear. If the leeward boat established the overlap from clear astern then she cannot sail above her proper course. As the boats near the area of the finish line, the proper course requires bearing away to the line. Also, if the boats are close enough to be considered "about to round or pass the mark" then she would be the outside boat and required to give room for you to pass. If you are not in close proximity of the mark and the overlap was established any other way, then the leeward boat can sail as high as she wants until one of those conditions exists. Your remedy is to remind her of the obligation to sail a proper course when appropriate and demand room when you are about to pass the mark.