

Notes for informal catamaran training course,

Alec Duncan, 3/3/2015

Part 5: Starting

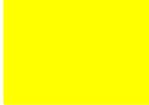
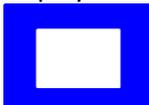
Many beginners use the “hang back and stay out of trouble” method of starting races, but you will never win any races that way (and you will often get into trouble anyway), so the aim of these notes is to teach you a few ways you can stay out of trouble and still get a good start.

Equipment

As a minimum you need a waterproof watch, either digital or analogue, that displays seconds. A digital watch with a countdown timer is better, because it avoids the requirement for mental arithmetic, and a proper yacht racing watch is better still because it gives you sound signals that avoid the need to be actually looking at the watch in the hectic last 20 seconds. Yacht racing watches also usually have a neat facility whereby if you start the timer a bit late you can correct it at the next signal by pressing a “Sync” button. I have a Ronstan 4031 Clearstart sailing watch, which now seems to be obsolete. It is pretty good but has the disadvantage that you can’t see both the clock time and the countdown timer at once. I notice from the Ronstan website that their newer models do allow you to see both. Their RRP’s start from around \$100, so they aren’t a big investment.

Signals

At Shelley, as for most races you are likely to sail in, we use a 5 minute start sequence. It goes like this:

Time before start	Visual signal	Sound signal	What you should do
5 minutes	Class flag displayed (Cats at Shelley: Yellow rectangle) 	1 signal	Start timer or glance at watch and note seconds. (It is handy to also note the minutes, but it is the seconds that really matter.) Get to somewhere where you can clearly see the starting signals and wait for the next signal.
4 minutes	One of the following flags is displayed:  P  I	1 signal	Check timing and sync timer if required. You now have three minutes to plan your start. A final check of the wind direction relative to the line is a good idea.

	 Black		
1 Minute	P, I, or Black flag is removed.	1 signal	Re-check timing, start final approach to line – but not too soon.
0 Minutes	Class flag is removed (and replaced by the class flag of the next fleet if there is one).	1 signal	Start! Aim to reach the line about 1 second after the gun, travelling with good speed and in the optimum direction. Easy to say, hard to do!

Note that the visual signals have priority over the sound signals, so if they happen at different times, it is the visual signal that matters.

The P, I and Black flags indicate which rule will be in place in the final minute before the start. The options are:

-  P – Normal start. If any part of your boat crosses the start line in the final minute before the start, you can dip back so your boat is completely behind the line, and then re-start.
-  I – The “round the ends rule” applies. If any part of your boat crosses the start line in the final minute before the start, you must sail back around either end of the start line before re-starting. You must also give way to all boats that are starting correctly while you are doing this.
-  Black – If any part of your boat crosses the start line in the final minute you will be instantly disqualified (ouch!). (Often used by a frustrated race committee after the umpteenth General Recall in a major regatta – see below.)

Note that at Shelley, we always use the I flag – yes that little yellow and black thing that appears in the start box window from time to time does actually mean something – so the “round the ends rule” applies if you are over the line in the final minute.

The above is all you need to know for 95% of races. However, check the appendix for other signals it is worth learning for the remaining 5%.

Rules

If you remember the following four rules (you’ve seen them before) you won’t go too far wrong:

1. A boat on starboard tack has right of way over a boat on port tack.
2. If two boats on the same tack are overlapped, then the windward boat must keep clear of the leeward boat.
3. If two boats on the same tack aren’t overlapped then the boat clear astern must keep clear of the boat clear ahead.
4. A right of way boat changing course must do so in a way that gives the other boat the opportunity to keep clear.

Finally, remember that you cannot claim mark room (or water) at a starting mark that is surrounded by navigable water.

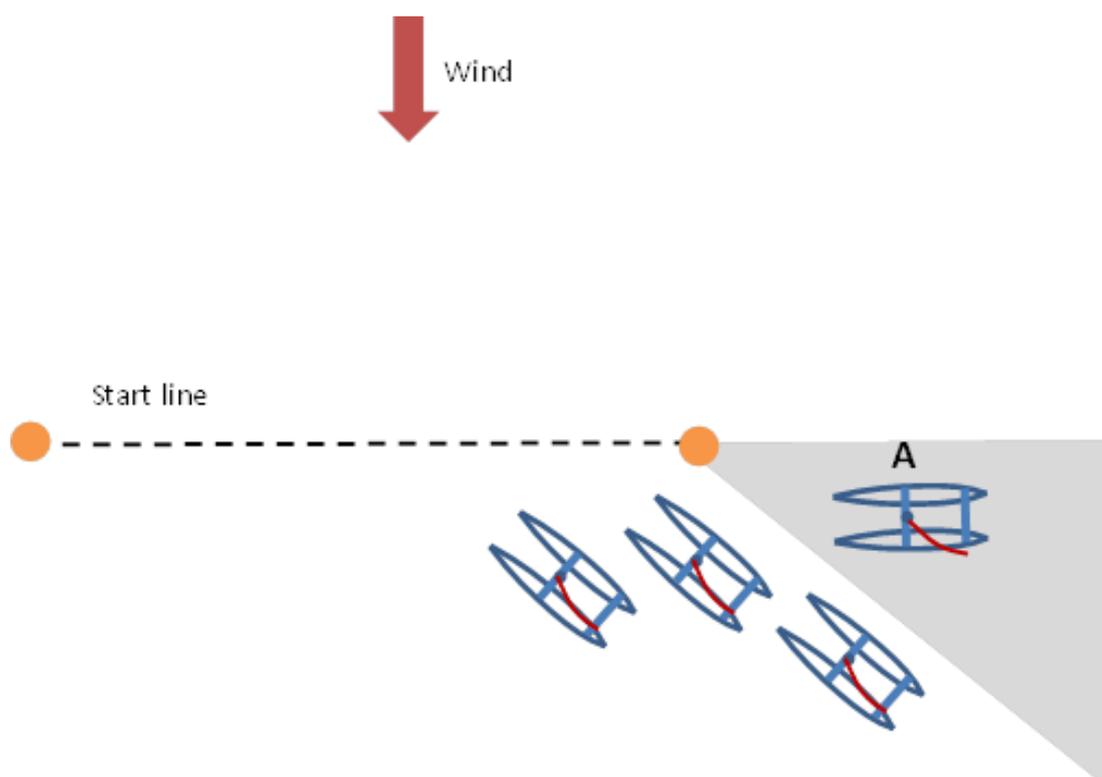
Tactics

Race committees pretty much always try to set the start line at right angles to the wind, with the first leg being a beat. This is usually achieved pretty well for open water boat starts, but is often very approximate with shore starts like we have at Shelley.

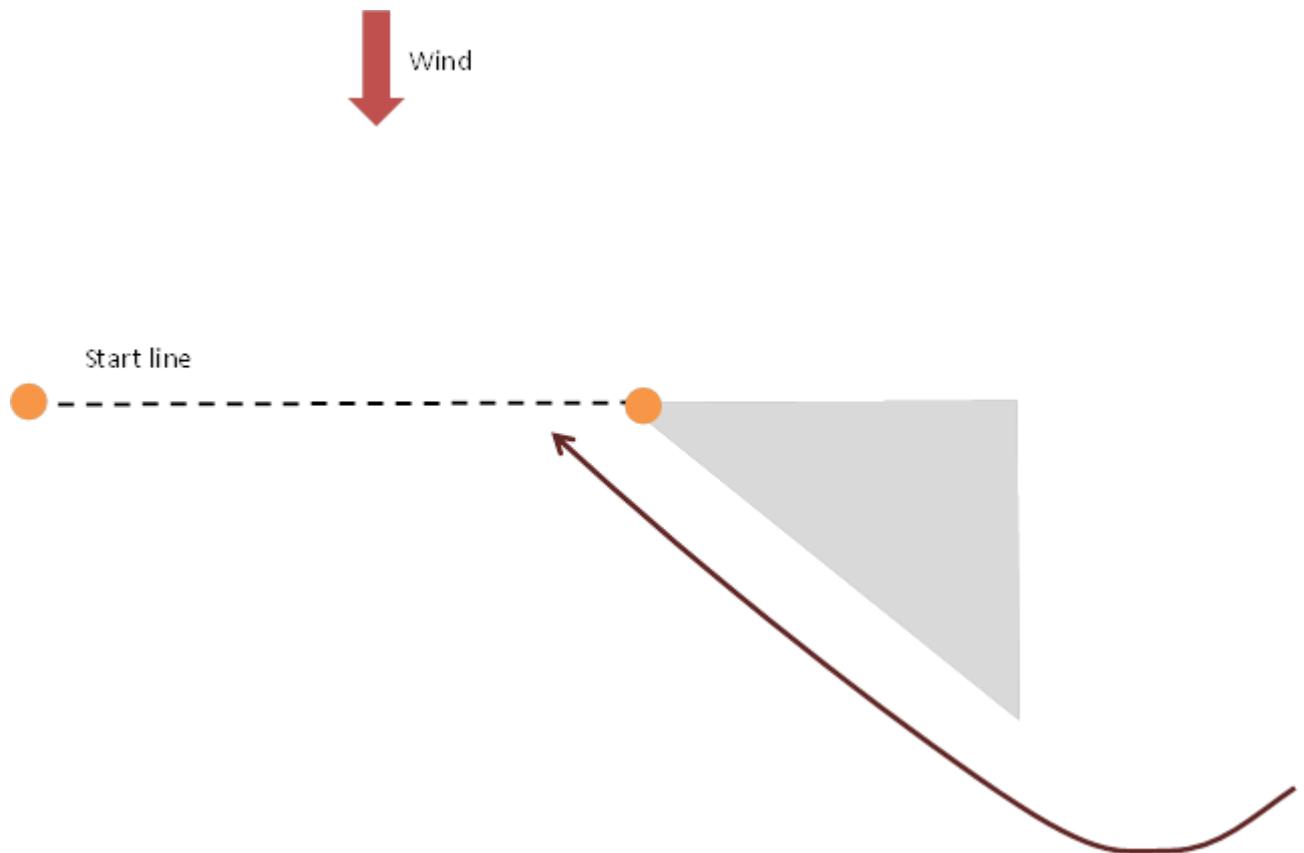
Rule 1 dictates that you should approach the start line and start on starboard tack if at all possible, and in most cases the ideal position to start is at the starboard end of the line. If the line is skewed so the port end is to windward, then starting at the port end of the line on starboard might be advantageous in open water, but if you try this at Shelley you'll have nowhere to go. A port tack start at the port end might be worth the risk if the line is very skewed, but you have to get it absolutely spot on so you can cross ahead of all the boats starting on starboard, otherwise you'll have to dodge around behind them which will cost you a lot of ground.

Rule 2 dictates that you CANNOT, I repeat CANNOT, reach down to the starboard end of the line and expect other boats that are to leeward of you to let you in. In fact they are completely within their rights to push you onto or the wrong side of the start mark. This is a very common mistake amongst people new to yacht racing – so much so that it has its own name: “barging”. It seems the obvious thing to do, but you'll lose a lot of friends (and probably a fair bit of fibreglass) if you make a habit of it.

The drawing below shows what happens: Boat A is coming in to the starboard end of the start line on a reach at high speed and can't slow down, but is the windward boat and therefore has to give way to all of the other boats. The only way for boat A to prevent a nasty collision and a lot of damage they will be responsible for, is to head sharply up into the wind which will put them either on top of, or the wrong side of the start mark. DO NOT GET INTO THIS POSITION!



The solution is simple: treat the shaded area in the diagram as a no-go area, and don't go in there during the last 30 seconds or so before your start. If you've been hanging around out beyond the starboard end of the start line your ideal route to the start looks something like this:



The essential point is to come in wide so you can be on a close-hauled course well back from the line (at least 4 or 5 boat lengths). Try to time this so you are close hauled about 20 to 30 seconds before the gun. You can then easily control your speed by sheeting out or pointing a bit higher to slow down, and sheeting in to speed up. Aim to be about a boat length behind the line, a few seconds before the start, then sheet in, hike out hard and you should hit the line just after the gun, with a fair bit of speed – the perfect start! Of course in practice this is complicated by the fact that everyone else is trying to do exactly the same thing, but you'll find that coming in from this angle it is easy to pick yourself a clear spot. It might not be exactly where you want it but as long as you get up close to the line with a couple of seconds to go it will still be pretty good. Remember that you have right of way over boats to windward and behind you, but that you have to give way to boats to leeward and ahead of you, so don't bear away unless you are sure there is no-one underneath you.

Being able to slow down and speed up at will while on a close hauled course is an essential part of this, so that is a great skill to practice, especially if you are sailing with a regular crew. If you are really good you can sail backwards by pushing the boom forward so the wind blows on the wrong side of the sail, but be careful – there is a rule that says a boat sailing backwards in this manner has to give way to boats sailing forwards!

Another method that works well on long start lines in open water, but not at Shelley, is to again come in from well behind the line but get well to leeward of the rest of the fleet who will all be jostling for position near the starboard end. You can then bear away and reach down the line just

before the gun and harden up when the gun goes. Be very, very careful trying this if there is anyone to leeward of you, and don't bear away too early or you'll run out of start line. In strong winds make sure you have the weight well back before you bear away so you don't nosedive. You can get a good, high-speed start this way even if your watch is a bit dodgy, but you won't be able to tack onto port until most of the rest of the fleet has done so.

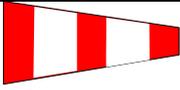
Where is that start line anyway?

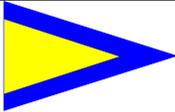
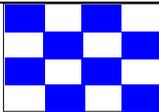
Unless you are close to one end of the line it is quite tricky to judge exactly where the start line is. The starter has no such problem as he/she can sight down the line from one end to the other, but you have to try to judge it from between the two marks, and that is much harder. One solution is to get a transit on the line. What you do is sail very slowly past one end of the line, outside of the start marks, and when you see the two start marks line up, note a feature on the shore beyond them that they line up with. You can do this as soon as the start line has been set, and from well outside the start line. When you start you then know that when you see that feature line up with one of the start marks you are exactly on the line. This works well for open water starts that aren't too far from shore, but doesn't work for the normal Shelley shore based start because the inshore end of the start line is actually defined by an orange line on the start box, not by the inner crowding mark. The sailing instructions say that when starting, you have to pass between the inner crowding mark and the outer start mark, but the crowding mark doesn't define the position of the start line.

Which is the favoured end?

As mentioned above, all else being equal you should start at whichever end of the line is furthest to windward. Get beyond one end of the start line, and in line with it. Option 1 is to then point the boat as accurately as possible head to wind, and let it stop. Use the boat heading and telltales to judge the wind direction and then see how this compares to the direction of the line. Option 2 is to reach in the direction the line runs in by using its two ends as a transit, then tack and reach back the other way, again using the two ends of the line as a transit. If you were closer to the wind sailing towards the line, the far end is favoured and vice-versa.

Appendix: Additional common signals

When	Visual signal	Sound signal	What does it mean	What you should do
Before the start	 Answering pennant (AP)	Two sound signals	Races not started are postponed.	The removal of the AP will be accompanied by one sound signal and the start sequence will commence at least 1 minute after the AP is taken down. It is common for the sailing instructions to specify a longer delay if the AP is displayed ashore.
Immediately after start	 X	One extra sound signal	Individual recall. A small number of boats were	If you know that no part of your boat was over the line – keep sailing. If you think some part of your boat might have been over –

			over the line at the start and the race committee knows who they are.	return so your boat is entirely on the prestart side of the line and then re-start. While doing this you have to give way to all boats that are starting correctly. The flag will drop when all recalled boats have returned. If the I flag was up, you have to go around the ends.
Immediately after the start	 First substitute (FS)	Two extra sound signals	General recall. Some boats were over the line at the start but the race committee couldn't identify them all.	Your race will be restarted using the normal start sequence. At Shelley your start will be moved to the back of the queue. You therefore need to stop racing and go somewhere where you can see the flags, but are out of the way of boats from other fleets. Note that this is different from the standard rule, so if you are sailing elsewhere, check their sailing instructions!
During the race	 S	Two sound signals	Shortened course	At Shelley this will be displayed by the rescue boat close to a rounding mark. After rounding the mark you should proceed directly to the finish. Note that this is different from the standard rule, so if you are sailing elsewhere, check their sailing instructions!
During the race	 N	Three sound signals	All races started are abandoned	At Shelley this effectively means: go back to shore, then wander up to the clubhouse and find out whether there is any prospect of further racing. The official interpretation is a little different, so if you are sailing elsewhere, check their sailing instructions!

But wait, there's more! You can find a fuller summary here:

http://www.wa.yachting.org.au/get_file.cgi?id=2770124

and for the complete story see Yachting Australia's "Racing Rules of Sailing".