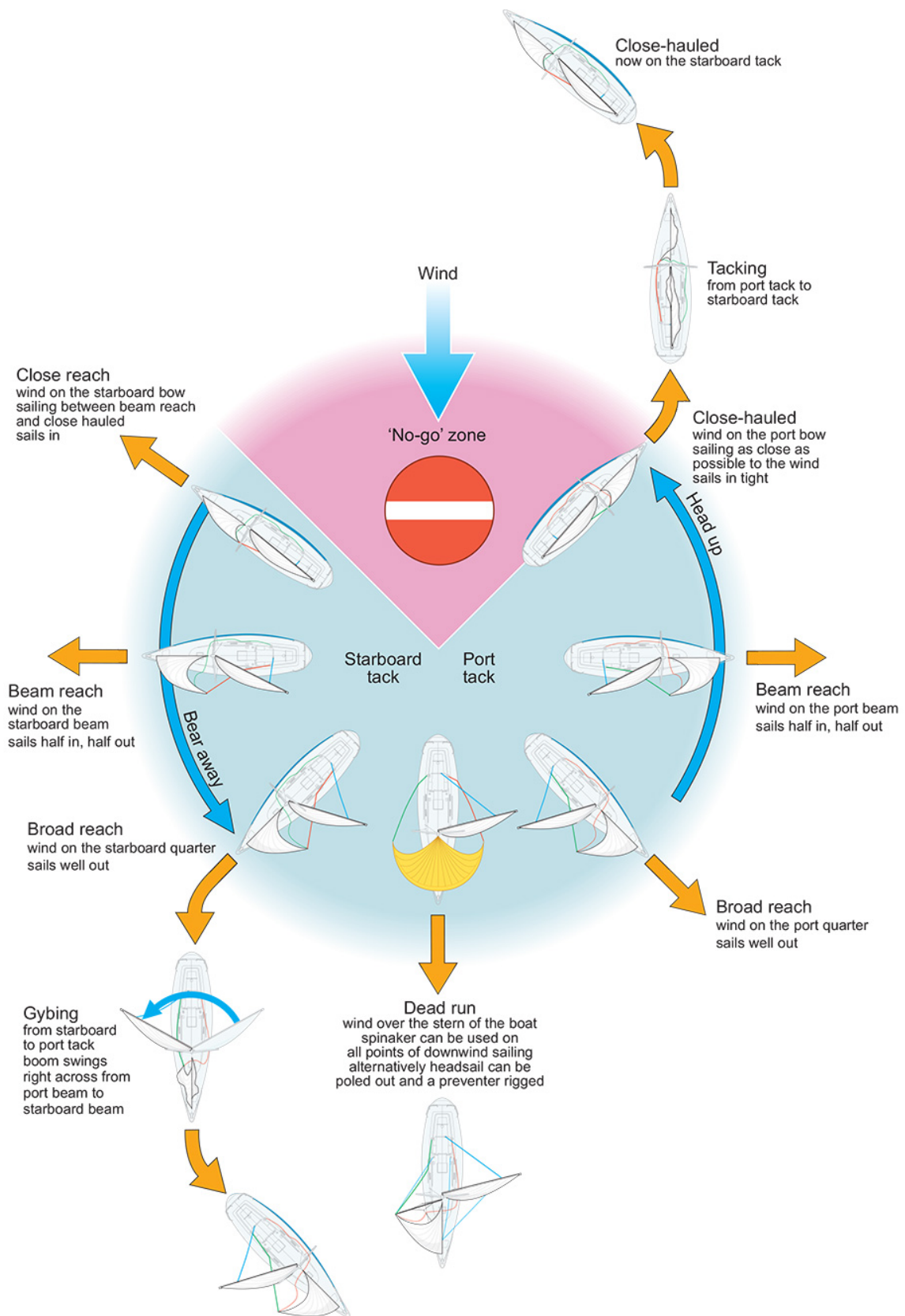




Sailing the Course

2015

This presentation is not intended to be a fully comprehensive guide to sailing the course but rather an attempt to help skippers who are new to Radio Sailing and racing.



This slide shows the points of sailing that you will encounter when racing.

Points of Sailing

You can sail in any direction except directly into the wind i.e. the no go zone.

- **Sailing Upwind**
About 40 degrees off the wind is about as close as you can get. So if you want to sail upwind you need to zigzag from side to side of the no go zone. This is called beating to windward and involves tacking your boat through about 90 degrees from close hauled to close hauled through the no go zone.
- **Sail Trim**
Every time you change direction, even if it's just a little bit, you will need to trim your sails depending upon your heading. As you turn towards the wind, this is called Heading Up and you have to pull your sails in, which is 'sheeting in'. When you turn away from the wind, Bearing Away, you will need to let the sails out, which is 'easing the sheets'.
- **No-Go-Zone**
The No-Go-Zone is the bit that you can't sail in. Your sails will start to flap and your boat will come to a stop.
- **Close Hauled**
Being Close Hauled is as close to the wind as you can go. You will need to make sure your sails are pulled in nice and tight.
- **Close Reach**
The Close Reach is not quite as tricky as close hauled and you'll need to let your sails out a bit.
- **Beam Reach**
The Beam Reach is the fastest and easiest point of sail. The wind is on the side of your boat, the beam and you'll sail with your sails out half way.
- **Broad Reach**
On a broad reach you'll be heading a bit further downwind, so you will have to let your sails out a bit more.
- **Training Run**
On the Training Run the wind will be slightly to one side of your stern making it a bit easier to steer than in a dead run.
- **Dead Run**
On the dead Run – With the wind directly behind you, is the trickiest point of sail to steer, as it can be quite unstable. On a run, your sails can be let out on opposite sides of the boat to catch the wind known as goose-winged.

The Start

- **Advantage**
At the start, you need to identify if the course is advantaged to one side? You then need to decide which way you want to go up the beat and whereabouts on the line you want to start.
- **Timing**
Do not get to the start line too early
- **Speed**
Try to start at or close to full speed

Starting Types

Generally speaking, starts at Radio Sailing events fall into one of four types: -

- **Time Approach**
To enable you to cross the line as the gun goes with the boat in full beating trim, it is beneficial to practice sailing towards the start line from a point on the water that you can identify, and time how long it takes. Repeating this during the early part of the countdown will allow you to perfect this. This type of start is very good for club racing where there are less boats in each race or if you want to risk a port tack start. However, it is not advisable if there are a lot of boats in the race as you will find it difficult to find a clear run to the line.
- **Jostling for Position**
Jostling for position is the most common type of start and involves boats jostling for a position on the start line with their sails often flapping, waiting for the last few seconds to sheet in and accelerate away. This type of start is often avoided by many for fear of 'getting involved' and 'causing collisions'. This results in many skippers starting in the second or third row of the fleet and then wondering why they are always behind by the time the first mark arrives.
- **Deliberately Late**
Sometimes it can pay to be deliberately late. For example when a line is given a very heavy starboard tack bias it is common for the majority of boats to all try and be at the starboard end when the gun goes. Inevitably there will only be space for one boat in the prime position to windward of the fleet, and so by being slightly late you can track that prime positioned boat and arrive at the mark second with clear air and the ability to tack whenever you want.
- **Looking for a Hole**
Looking for a hole is not always advisable and carries a large degree of risk but can be very effective. If the start line has a port bias and the wind is a little flukey there can be occasions during the countdown where it becomes difficult to cross over the start line on starboard. 'Looking for a hole' involves sailing down the line on the course side on starboard until a hole appears that you can bear away into in the last 10 seconds. The advantage of this, is that, as well as having slightly more speed than boats around you, if the wind heads, many of your opponents will end up being well below the line when the gun goes.

Starting Techniques

Regardless of which type of start you adopt or what tactics you decide to employ, there are several techniques and principles which should be practised and observed for all situations.

- **Keeping your Boat Stationary**

To ensure a great start amongst all the other boats jostling for position around you, you must be able to stop your boat and keep it stationary just a foot or so behind the line. There is more to this than you might imagine so it is well worth practising.

- **Sailing Backwards**

If you stall out during the countdown or get hit by another boat, if you have practised going backwards you will be able to rectify the situation much more quickly.

- **Get on Early and Try the Line**

Always make sure that you put your boat on as soon as you can so that you can try the bias of the start line and how it relates to the first mark. Try starting on port tack from one end and then starboard tack at the other. This will decide your tactics for where you want to start. Never assume that you can throw your boat on in the last 30 seconds and get a great start. Although a minority of top skippers do this with great success it is not advisable!

- **Stay Near the Line**

It is always important to stay as near to the line as the wind strength will allow. There is no excuse in light winds for finding yourself 5m to leeward of the line when the gun goes.

- **Stay out of Trouble**

This is more important in stronger winds. There is often no real need to get involved with other boats until the last 30 seconds as it increases the risk of damage.

- **Front Row**

Try and ensure that, regardless of where you decide to start along the length of the line, you are on the front row when the gun goes. You will not win by starting on the second or third row as it gives your opponents a two or three boat's length head start.

- **Space to Leeward**

Once in position on the front row, try and maintain space to leeward. Not only does this mean that you won't be at risk of being hit by a boat to leeward but it allows you to bear off and accelerate into the space in the last few seconds and start with speed at the gun. This is where your ability to hold your boat stationary comes into its own.

- **Be Firm with Boats to Windward**

Whilst the rules require you to give windward boats opportunity to keep clear, don't be too generous or you will find them rolling over the top of you. Before you know it you'll be on the third row of the grid. Be firm and hail the boats dropping down towards you and force them to bail out if necessary.

Starting Tactics

The tactics for every start are different but in essence the bias of the line and the strength of the wind create six general situations which determine your basic tactics.

The position of the first mark will have a large bearing on your start tactics but for these general examples we shall assume the first mark is well up the course and that we are starting from left to right.

- **Flukey Winds**

It is often difficult to consistently get starts right in Flukey winds. The far end of the line will be right in one race but the near end will be right the next time. As a general rule it is therefore best to start somewhere in the middle so as to keep your options open up the first beat.

- **Port Bias and Steady Wind**

The aim is to be on the front row on starboard approximately two thirds of the way down the line. Be careful not to be too early as it may be difficult to slow down. Assuming that you had space to accelerate to leeward when the gun went, you will be controlling the boats to leeward and may be able to tack onto the favoured port tack when you want. Boat speed is very important in this situation.

- **Heavy Port Bias**

Aim to be on the front row on starboard but at the far end of the line and to leeward of the fleet. The chances are that the port tack will be a long leg to the first mark and so the fleet will all quickly tack after the gun. When you tack you will be to windward of the fleet in clear air. Alternatively you could risk a timed approach on port if you have spotted a wind shift before the rest of the fleet.

- **With a Starboard Bias and Steady Wind**

Aim to be at the near end on starboard and the most windward boat. This can be achieved by positioning your boat on the lay line to the start mark and keeping it stationary approximately two boat lengths away from the line. As the countdown progresses, gradually move towards the line and close the gap making boats to windward bail out. Hail if necessary. Be careful of boats which will inevitably appear to leeward of you - you may get a nasty surprise if you were stationary above the lay line as you too will be forced to bail out.

- **Heavy Starboard Bias and Steady Wind**

You can try the same as for any starboard biased line but it will be much harder to remain stationary and there will be A LOT of boats all trying to do the same. It may be worth trying a deliberately late start as described earlier. Alternatively, it is quite common that when a heavily biased starboard line and first leg is set, the far end of the line will be set a long way up the course. In that case it is more important to sail the shorter distance rather than being to windward so aim to start with pace at the far end. The risk with this is that you won't get far enough ahead in order to cross all of the starboard tack boats.

- **Even Bias, Steady Wind**

The most important factor when the line is evenly biased is being on the front row on starboard and moving fast when the gun goes. After that it will be a case of getting clear air as soon as possible.

The Beat

- **Keeping Clear Air**
On the beat, try and avoid sailing behind and to leeward of other boats.
- **Dictate Your Own Race**
You should always be able to tack when you want to. This is why it is often advisable to dip behind a starboard tack boat rather than tacking underneath them and getting stuck to leeward
- **Tacking on the Shifts**
Using the small shifts in the wind correctly will shorten the distance to sail to the windward mark. A fluttering jib that causes you to bear away is a sure sign that the opposite tack is favoured
- **The Big Picture**
On the beat, focusing on 'the race' rather than the small patch of water that your boat is on will help you plan your strategy and avoid trouble. Your position on the bank can help so try to walk just behind your boat so that you are looking up the course and can see the shifts ahead.
- **Stay on the Rhumb Line** (*Shortest distance between two points*)
Generally, it is best to stay on the rhumb line so that you can react to wind shifts from either side of the course. However, there are times where local conditions make it advantageous to 'hit a corner' and sail out to one side of the course if a dependable shift on that side can be found. It can also be worth risking 'hitting a corner' to catch up from behind but beware, the large distances that can be gained can also be lost.
- **Don't Cross behind**
Don't cross behind too many boats - it usually surrenders position and control.
- **The Lay Line** (*Highest possible angle to sail to just clear the windward mark*)
It is often best not to get to the lay line too early.
- **Defend Your Position**
Keep your boat between pursuing boats and the next mark.
- **Don't sail away from the fleet.**

Approaching the Windward Mark

- **Getting On the Lay Line**
As you approach the windward mark, make sure that your final tack to the mark is on, or just above the lay line.
- **Not On the Lay Line**
When you are below the lay line to the mark, don't tack when there are boats above you; if you can't lay the mark, bail out and gybe round.
- **Approaching On Port**
When there are other boats around, don't approach the mark on port and force your way round the mark. If you do approach on port and there is a line of starboard tacked boats, bear away and go behind them all and join the queue. This is often against your instinct but you haven't earned the right to barge in.
- **Keep out of Trouble**
Keep an eye on the 'big picture' and avoid trouble. Deliberately slowing down or avoiding other boats can actually gain you places at a crowded mark rounding.

Windward Mark

- **Approach on the Starboard Tack**
At the windward mark, try to approach on the starboard tack lay line.
- **Approach on Port Tack, Problem!!**
Only approach on port tack if you are in the leading group or if you are well ahead of the starboard tack boats.
- **Overlap Before the Zone**
If an inside boat has established an overlap before the zone, it must be given mark room.
- **Within the Zone**
Do not sail into a space on the inside of another boat within the zone.

The Reach

- **Maintain Boat Speed**
On the reach, try to keep in the strongest wind pressure to maintain boat speed.
- **The Rhumb Line**
The Rhumb Line is the shortest route to the wing mark.
- **Luffing Matches**
Don't get into luffing matches - the following boats will catch you up.

The Wing Mark

- **Overlapped Inside Boats**
Allow overlapped inside boats mark room
- **Better to Follow a Boat**
It is better to follow a boat round the wing mark, than round the mark abreast of it.

Running Downwind

- **The Right Gybe**
When running downwind, make sure you are on the favoured gybe. Look at other boats around you if you're unsure. If your jib is flapping you are on the wrong gybe.
- **Goose Winging Quickly**
Practise getting goose winged after gybing. Proficient gybing and goose winging enables a much straighter course to be sailed. Use the sheets to flick the mainsail over.
- **Tacking Downwind**
Wind shifts continue to happen downwind. Don't just let your sheets out and point at the next mark. Advantages can be gained on bigger courses by sailing slightly out to one side of the run, gybing and then sailing slightly over to the other side. Doing this with the shifts and sailing a course slightly closer to the wind will increase your speed.
- **Keeping Your Wind Clear**
It is hard to do but try and sail in clear wind.

Approaching the Leeward Mark

- **Establishing an Overlap**

When approaching the leeward mark, if you think you have an overlap at 4 boat's lengths, clearly call the outside boat for room to avoid any doubt.

- **Deliberately Slowing Down**

If you find yourself on the outside of a large group of boats, slow down so that you follow that group around the mark. You will end up closer to the mark and often well to windward of some of the other outside boats when you start the beat.

- **Leeward Gate**

At a leeward gate where you have a choice of marks to round, establish which side of the course is favoured as you come down the run and sail to that side of the gate. Plan ahead to make sure you can go to your chosen mark.

Leeward Mark

- **Go in Wide**

At the leeward mark, Go in wide and come out as tight as possible, in order to start the upwind leg in the best possible position - pointing high and sailing fast with no other boat to windward.

- **Behind Another Boat**

If you do find yourself behind another boat when you turn upwind consider tacking into clear air - but don't overlook that the course may be heavily advantaged on one side.

- **Beware of Following Boats**

You can't tack in their path but you will have right of way once on starboard tack.

The Finish

- **Always Sail Towards It**

As you approach the finish; always make sure you sail towards the line. A common mistake is to sail too far on a tack parallel to the finish line while other boats sail directly to the line. Many places can be lost at this point.

- **Finish on Starboard Tack**

Try to finish on starboard tack.

- **Which End to Aim For**

As a general rule, on a course with a steady wind, if the place to start is on starboard at the far end then the place to finish will be on starboard at the near end. This shortens the distance that you need to sail to reach the finish.

Do

- **Let the Sails Out**
Do Let the sails out when in doubt.
- **Inside Overlap**
If possible obtain an inside overlap at the mark
- **Rhumb Line**
And dig back in towards the rhumb line

Don't

- **Over Stand Marks**
Don't over stand marks
- **Luffing Matches**
Deviate too far in luffing matches
- **Outside Boats**
Round marks outside other boats, especially gybe marks and leeward marks.
If at all possible slow down, drop astern and round behind them
- **Cross Sterns**
Bear away to cross too many sterns
- **Downwind Sailing Angle**
Deviate from the optimum downwind sailing angle

