

# *Starting in a Big Fleet*

Obviously the most important part of the race is the start because this determines your race strategy, especially on the first beat. The priority is to get clear air, have good speed and most importantly, go the right way up the first beat. If you get it all right the chances of a good position around the first mark are greatly increased making the rest of the race a lot easier. You should try and work the hardest for the first 100 metres in an effort to get clear of all the boats around you. In light winds this means concentrating extra hard, in the strong winds it means really working the boat hard.

## **Starting Points to Remember:**

- Get there early.
- Check wind and tide.
- Check start bias.
- Take a starboard and a port tack from line, check transit, watch for shifts of line after you have taken the transit.
- Decide where on the line to start (consider wind shifts, tide, other boats).
- Be prepared to protect your water during the final two minutes.
- Especially if in the middle of the line check your transit (generally there is a large sag).
- Do NOT end up on the second or third row.
- Clear air is more important than being at the favoured end but in the second or third row (the bias is generally small).
- If over the line 3-5 seconds before the start (especially at the port end) be prepared to bail quick and dip boats to get to clear air.
- Never start to windward of a boat you know points higher or to leeward of a boat you know is faster.
- Try and sheet on with about seven seconds to go otherwise it is often difficult to get clear air.
- It is usually better to start just to leeward of the bunch as this reduces the level of risk in getting a good start.
- Don't get caught too close to the pin - it is better to get a safe start then no start at all.
- Remember that if you get buried at the pin end of the start you must dip a lot of sterns to get clear air.
- Defend your space on the line HARD!!!

# *Sailing Upwind*

The most important part of a yacht race after the start, is to pick the first two wind shifts correctly then to settle into the longest tack on the upwind leg of the course, this will generally position yourself with a loose cover over the bulk of the fleet and will leave you closest to the top mark.

To sail this part well you have to reach your best boat speed for the wind and sea conditions, note this can only be achieved in clean air. To reach your best boat speed there are a number of adjustments that can be altered "on" and "off" the water to make your boat go faster and

also easier to sail. It is very important that all these controls are easy to use and strong enough that they will not break under load.

### **These Include**

- Batten weight.
- Boom vang tension.
- Mainsheet tension.
- Traveller position.
- Cunningham.
- Outhaul.
- Mast rake.
- Centreboard position (movement fore and aft).
- Mast bend (stiffener), hounds height.
- Sail size/shape.
- Gooseneck position.
- Hiking.

The most important part of making the boat go fast upwind comes back to the person holding the tiller. It's all very well coming in after a race and blaming your sail/mast/rudder, where nine times put of ten it's your fault! The minute you realise that you are at fault, you will begin to improve.

*"Realise you are at fault, you will begin to improve."*

### **Points to Remember**

- Sail the shifts.
- Remember tidal influence.
- Play the middle unless one side is **clearly** favoured (remember one side gives a 50% chance of leading or losing).
- If possible avoid lee bow tacks. Dip if you can't, this keeps your options open and avoids potential protest situations.
- Clear air is vital.
- Do not get to the lay lines too early (you lose the option to tack on wind shifts and you lose clear air as boats tack on the lay line ahead of you).
- Do not leave your approach on port tack to the windward mark lay line till the last 2 or 3 boat lengths also be prepared to dip, losing a few is better than losing 20, 30 or 40 if you don't lay the mark.
- If in front stay between the opposition and the top mark.

## *Sailing Downwind*

You need to spend many hours racing competitively to develop the skills in reaching and running in an effort to get an edge on your competition off the wind.

To be fast off the wind requires you to develop a "feel" for the yacht and what makes it go. A lot of off the wind sailing cannot be taught by a coach it requires you to go out and find out

for yourself. A coach can help you with pumping, body position, vang tension, mainsheet position and the height of your centreboard. It is very hard to teach the skill of steering your yacht correctly, by making the most of the wind and the waves.

## **Body Position**

Body position is very important because if the boat is trimmed properly it will always be travelling the most efficiently. This means moving backwards and forwards in the boat as the wind increases and decreases. As soon as the bow begins to drop or the stern drags too much the boat will not be driving at its full speed. Unless the boat is planing you need to try and keep the boat as level as possible fore and aft. As soon as the boat gets up on the plane you can move your body weight right back quickly so there is less wetted surface.

## **Centreboard Height**

It is very important to pull the centreboard up off the wind to reduce drag. Flat off in light winds there should be no centreboard in the water at all.

## **Vang Tension**

Vang tension is vital off the wind to set up correctly and to prevent the boat from getting the death rolls particularly on the run. Flat off in strong winds and a lack of vang tension can often end up with a swim when the boat death rolls. The leech of the sail gets in front of the mast if there is not enough tension applied and contributes to the death rolls and makes gybing difficult. On the flat off the mainsheet can be used to stop the death rolls by over sheeting as the yacht starts to roll. Push your centreboard down further should the yacht roll around a lot. In light winds it is better to have twist in the leech so the wind can flow off the sail easily. As the wind increases you need to use more and more vang tension so that the leech does not open up too much.

## **Pumping**

Pumping is a good method of accelerating the boat down the waves or getting the boat up on the plane or pulling the bow out of a wave. It is most effective when there is the greatest pressure on the sail.

## **Strategically Downwind Sailing is Like the Beats**

- Maximise your speed.
- Sail the longer gybe first.
- Avoid the lay lines and corners.
- Sailing the puffs and avoid the lulls.
- Sail the shifts.
- Watch the current.
- Keep clear air.
- If boats spread out, if ahead check what following boats are doing.
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# *Finishing*

- Remember the race isn't over till the finish!
- Don't jam the boat (pinching, over sheeting) keep calm.
- Sail the shifts (don't get out of synch).
- Is the committee boat putting out a wind shadow? (take care if it's a large launch or yacht).
- The finishing line can be biased just as much as a start line.
- Decide on the favoured end while sailing downwind.
- Try to push your opposition to the unfavoured end of the finish line.
- If in front: cover, stay between the competition and the mark. Cover hard if necessary.
- If behind, make those in front work for their place. Don't just follow them and hope something happens take a risk it may come off but even if it doesn't what have you lost.

## *Tactics - Golden Rules*

- Avoid being blanketed.
- Avoid the hopeless position.
- Avoid being lee - bowed.
- Start near the forward (upwind) end of the start line.
- Ignore the position of the windward mark when deciding where to start (provided the first leg is a beat).
- Keep in the front rank before the start.
- Take a transit so you know when you are on the line.
- Keep between your opponent and the next mark.
- Off wind, keep your wind clear and try to sail straight for the next mark.

## *Strategy - Golden Rules*

When it comes to which part of the race course to sail to there are some golden rules. Follow the below rules of thumb to maximise your chances of racing success.

- On a short beat keep to the right - hand side of the course.
- Find out which way the current or tide is flowing.
- Head for deep water and the outside of bends when the tide is with you (the opposite when the tide is against you).
- If everything is equal, tack up a 60 - degree cone.
- Stay well inside the lay lines.
- Tack on headers.
- Sail towards the centres of wind bends.
- On a one - sided beat, sail the long leg first.
- When sailing cross - tide, point into the tide and use a transit to sail a straight course "over the land".

- Gybe on wind shifts.
- Choose the gybe that takes you most directly to the leeward mark.
- Keep strong tides under your lee bow.
- Go for the downwind end of the finish line.

## *Sailing Techniques*

### **Body Position**

Your hiking position in the boat is important. Try to keep the boat level both fore and aft, as body weight too far forward causes the bow to nosedive and too far back creates turbulence off the stern, which slows you down. This applies up and down wind. In light winds it pays to sit as far forward in the boat as you can (i.e. on the deck), this reduces wetted area and thus less water surface friction is obtained.

### **Steering Over Waves**

Push your tiller away from you as you go up and over the wave and pull your tiller towards you when going down the other side. This can gain you a lot of ground over a full race.

### **Steering Downwind**

Downwind steering is just as important as upwind steering. As you surf down the wave face, steer towards the lowest part of the wave ahead.

### **Working the Boat**

You should never stop working the boat from the time the starting gun goes until the end of the race. You should keep working the mainsheet, steering over waves and moving your body to keep the boat flat. Also looking for wind shifts, tide movements and other boats around you. If you can do all that together and be efficient at it, you will become a winner, and that is what yacht racing is all about.

## *Boatspeed*

Best speed is achieved by ones ability to find the right combination of the following variables

| <b>Variables Out of Your Control</b>  | <b>Variables You Control</b>   |
|---|--|
| <ul style="list-style-type: none"> <li>• Wind</li> <li>• Waves</li> <li>• Opponents action</li> </ul> | <ul style="list-style-type: none"> <li>• Course steered</li> <li>• Sail trim</li> <li>• Boat balance (including rudder/centreboard)</li> </ul> |

The key to boat speed is feel. Feel is achieved through a combination of sail trim, boat balance and course steered which results in the correct amount of weather helm feel for any given wind and wave condition.

### **To Increase Weather Helm Feel By(or decrease by using opposite of below)**

- Move body weight forward.
- Move body weight to leeward.
- Sheet boom further to windward.
- Sheet tighter on mainsail leach.
- Ease off outhaul for fuller mainsail .
- Ease off cunningham so draft moves aft.
- Straighten mast by reducing pre-bend for fuller mainsail.
- Move centreboard forward.
- Rake rudder more aft.
- Steer a course further away from wind than the sails are trimmed for or the boat is balanced for.

The key to top speed is how you use your natural feel to mix these ingredients in the right combination. Once out on the race course this mix of course steered, sail trim and boat balance is the difference between being fast or slow.

Natural feel can really only be learnt by time spent sailing (especially in small dinghies starting at an early age). A sailor with feel will automatically make adjustments without even knowing the reasons. The late starter may have to think why a certain adjustment is necessary.

For the best results you need to combine natural feel with a good understanding of what is fast and the reasons some combinations work better than others. What is obvious is that variables - course steered, sail trim and boat balance are all completely dependent upon each other for best speed.

### **Light wind Boat speed 0-5 knots**

**Upwind:** The key points are to increase weather helm and create efficient wind flow over sails. Body and helm movements must be super smooth so as not to disturb wind and water flow. It is critical to remain calm, both mentally and physically (this is not easy as you often have to remain in the same position for long periods).

1. Use mast pre-bend and outhaul to flatten mainsail.
2. Tighter rig tension will pre-bend the mast (for dinghies) or ease rig tension to power up head sail for racing keelboats.
3. Have both jib and main luffs eased to create a few horizontal wrinkles, allowing the draft to move aft for better light air sail shapes.
4. Sheet both main and jib with twist to leeward on leaches to help wind flow.
5. Be careful not to over sheet the boom. Use the boom well off the centre line in very light breezes and only when sure of your boat speed, attempt to sheet further inboard. Boom down for further drive.
6. Keep jib slot open and flowing, remember boom is further to leeward than usual.

7. Rake rudder aft and centreboard maximum forward to increase weather helm feel.
8. Position crew weight to leeward and forward to create more weather helm and reduce wetted hull surface. Crew should be careful not to disturb wind flow in the slot between the jib and mainsail.

Try to steer by watching wrinkles along the jib luff (on monotypes, the main) allowing them to be slightly back winding for best flow. Try to create correct weather helm feel by careful use of body movement. Don't allow the helm to go dead by flattening out leeward helm. Try to balance the boat for light airs using rudder and centreboard positioning, rather than having to use too much leeward heel to achieve the desired weather helm feel.

**Reaching:** The same principles apply as for upwind, i.e. best wind flow by having luff wrinkles slightly backing, combined with good helm feel. For double handed boats the key is your use of the spinnaker and pole height combined with course steered.

You need to position the pole higher when tight reaching as this opens up the spinnaker luff allowing you to point up higher into the wind. If your course is low then your pole height must also be low in order to keep the spinnaker filling. The helmsman must then decide just how low he can afford to steer and still fill the spinnaker. Good communication with the trimmer. The helmsman must be able to subconsciously feel the weight of the spinnaker sheet. The weight decreases to the point of the spinnaker collapsing, then the helmsman must steer a slightly higher course and maintain the balance between good speed and best course to mark. Using the variations in wind speed is critical to fast reaching legs i.e. pointing down in the puffs and up in the lulls.

**Running:** In very light airs running utilizes the same principles as broad reaching or low course reaches, finding the right combination of boat speed versus best course to mark. As wind increases your gybing angles should become smaller, allowing you to steer more directly downwind.