Downwind Technique by Lars Johan Brodtkorb

Key elements in a downwind:

- **wind;** direction and strength

- **waves;** direction and speed as well as length between each wave crest

- **trim;** sail, centerboard, elastic (JC Strap)

- **technique;** body movement, steering, sheeting

- **mental;** cohesiveness between sheeting, steering, heel and body movement. Understanding of where to move and where to steer. Balance.

- **tactics and strategy;** where to go, with and without other competitors

- **physical;** muscle memory, agility and general ability to perform the needed movements.

If you nail these down you, will become a great sailor.

Some pointers for downwind sailing.

1. Surfing is top priority. *'Of course it is' you say! 'Not so fast' I say...*

The goal is **continuous** surfing, every time the bow goes up (meaning you fell off the wave) you have something to improve! The waves usually determine the downwind potential. You want to follow the speed of the waves, going higher angles is not a problem as long as you stay on the wave surfing. The lighter wind strength the harder this becomes.

For each athlete the critical surfing conditions are different. A very light sailor will more easily catch a wave, but a heavier sailor has more mass to move around. This gives the heavier sailor a benefit when a quick moment transfer is necessary to stay on a wave (pushing to leeward with all your mass for instance). The reason for technique work is to lower the condition of surfing to the minimum. On the downwind everyone is closer starting out. Good technique trumps all.

2. Stay calm, work with the boat.

Every time the boat starts to heel you want to work with this heel to generate more force and accelerate. If fear of capsize creeps in it will most certainly work against the goal of speed. Feel the boat and let it do it's thing. The boat is more stable than you think, even heeling 45 degrees will not cause a capsize as long as you are balanced, sometimes this is the way to go, in fact! A useful tip here is to follow principle 4 below! If you get a big windward heel the correct rudder movement is to pull it towards you! Pushing the rudder away exaggerates the problem and will capsize the boat!

3. One right movement at the right time can be enough.

Looking at a fast sailor it may seem like they are not doing anything, and at other times it looks like they

are doing way too much. This is almost certainly because of the great feel for the elements they are working with. A small nudge of the foot or pull of the sail can be enough to stay surfing for the next 5 seconds until a new action is required.

4. Leeward heel means **heading up** and **sheeting in**. **Windward heel** means **bearing away** and **sheeting out.**

The windward roll should be a smaller heel than the leeward because the windward deck will hit the wave while you are crossing, creating turbulence. It should also be initiated only once you are sure you are on the wave, to keep the wind in the sail as long as possible.

If you follow this principle you can steer the boat with your feet and heel of the boat. The rudder is only a foil, any excessive movement results in turbulence and is a deal-breaker for speed. You want to look out for turbulence when you are sailing downwind as well as upwind. Look behind the transom and try to minimize the turbulence.

5. Any pump should start with a leeward heel.

The reason for this is that it allows you to transfer the force you generate through the boat when you flatten it.

6. Directional change is inevitable for maximum speed.

Working endlessly (meaning no breaks, not that it is hard work) is necessary. Much higher force production is created by being active on the downwind. Rolling the boat certainly accelerates the boat. With free pumping it is allowed to do basically anything, whereas with R42 on you have to be cohesive with movement. As long as you follow principle 4, rule 42 is almost surely no problem. Often you want to take angles that are closer to a wide reach on the downwind since they ensure the highest chance of maintaining a high speed.

7. If you have a choice of direction while surfing, choose the 'hardest' angle.

This is extremely important for competitive racing. If it is easier to surf to the right compared to to the left you want to steer left when you can. At the end of the run the biggest difference will be because of time spent sailing the hard angle since this is where most will fail to surf continuously.

8. If you try new stuff and go slower, do not despair!

Often the reason you are not going faster is that you do actions that work against each other, working against principle 2. Once you sort out how to make the new technique work better huge gains will be had. Evolution comes from trying.

9. Focus on using proper technique *(where the "right" muscles are doing the work).*

An injury due to overuse or twisting body parts (ankles, wrists, knees) can be prevented by focusing on moving soundly. Knees do not belong on the floor, stay on your feet! Being able to use proper technique

often comes down to putting in some effort for balance training, and building muscles.

10. Enjoy