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Keeping control of your Optimist in high winds

If you are lightweight and the wind is blowing white caps, sailing upwind and holding the boat flat can be difficult. Healing the boat going to windward is slow, the boat will not point high, it's hard to control and can be just plain scary. You also risk capsize which is reeeeeally slow. Beginners associate healing with speed because a gust or higher wind produces both. But if you can harness that healing energy and redirect it to forward driving energy your speed will always increase and give you more control.

Why does the boat heal?

There is a point at which the force of the wind not only drives the boat forward, but causes it to lean over (heal). Wind energy is converted to forward driving force and to healing force. If you can change that healing force to driving force it makes sense that you will be sailing much faster. You will also have much better control. To accomplish that you need either the weight or the strength and skill to keep the boat flat.

At the Optimist Worlds there are always several skippers in the 70 pound range. Even in the strongest winds they are still competitive. How do they do it?

First there is no substitute for good hiking technique. That involves strength, endurance and perfection of proper skills. Sailing well in heavy wind takes many hours of practice, "tiller time" to hone the skills, and to get your body in condition mentally and physically. We'll leave that to another article, but you can reduce healing, de-power the boat, and gain more control while increasing speed with the rigging and other adjustments as well. Here's how...

Healing makes it hard to steer your boat. The force you feel on the tiller is caused by weather helm. It forces you to use a lot of rudder which creates drag and slows the boat. A flat boat will require much less effort to steer.

- **Tighten sail controls** – It is assumed that all sail ties, especially corner ties are properly tied and that none are missing, especially in heavy air. Tighten your sprit halyard so there are wrinkles from peak to tack (in line with sprit). The wrinkles should disappear when on the wind if properly adjusted, otherwise, readjust tighter or looser. Tighten the outhaul which is easy to do in a blow. Raise the daggerboard at least half way which will allow your Opti to slide sideways and not heal or head up. Tighten the vang, but be sure the boom preventer (bling line) is adjusted. When you are having difficulty hiking the boat flat there should be no twists in the bling, but it **MUST** be

over the bling peg and never left off. After tightening your sail controls you are still overpowered see next step.

- **Lower the sprit 1 to 1.5"** - Many coaches recommend you try this first when overpowered. This spills some of the wind out of the sail and lowers the force that causes your boat to heal.
- **Raise the daggerboard 3 to 6"** - This is the next step after loosening the sprit.

You might ask: Won't my boat slide sideways? Yes and no. Raising the daggerboard, helps reduce weather helm thereby making it easier to steer and with less "braking action". This results in more effective surface area compared to a healed boat with the board fully down. The raised daggerboard boat does slide a little but not nearly as much as a healed boat.

Being able to keep the boat flat increases your speed and control. With greater speed there is also an increase in a force called "lift" which allows you to point higher helping to overcome some slippage.

- **Keep your boat dry** – This is one of the most overlooked problems affecting healing, lack of boat speed and lack of control. When the boat heals you take on more water (Saltwater weighs about 8.5lbs per gallon, freshwater about 8.34lbs). The water goes to the low side of the boat away from you. Bailing is impossible going to weather when healed to leeward. The more water in the boat the harder it is to hike and keep the boat flat. Yep, it's a vicious cycle! KEEP IT BAILED DRY!!!

Other things you can do.

Hike, Ease, Trim - When a strong puff hits you hike hard, steer into the wind a little (feather) and last let the sail out a little to dump the strong wind. As the gust subsides, trim back in over the corner. The way to remember the order, which is important, is "hike, ease, trim".

Get your head out of the boat / read the wind - To tell when a strong gust is about to hit watch the boats to windward and also look for dark spots on the water in front of you. The dark spots are puffs soon to hit your sail causing you to heal. **Remember: it is better to have your sail flap a little then to let the boat heal.**

Use a flatter sail made for your weight range weight. A flat sail will spill the excess wind and reduce the force that makes you heal. It can help you point, but won't give you as much power.

Use a smaller diameter boom that bends more as the forces on the sail increase. When a puff hits the boom bends, this flattens the pocket on the sail and decreases the forces that make you heal. At the same time bending the boom makes the outer tip rise slightly. The distance from the boom to the tip of your sprit gets closer. The leach of the sail opens up and spills the wind again reducing healing.

Use a centerboard that bends easier. If you are heavier and stronger you want the centerboard as stiff as possible. But if you are having trouble keeping the boat from healing you want the board to be less effective when a puff hits. When a puff hits force is transmitted through the rig to the hull and down to the daggerboard. A stiffer daggerboard absorbs that force and transfers it to driving force while a more "bendy" one "spills" the force reducing

healing. Up until the spring of 2009 all New Rule Epoxy foils bent very little and were all about the same. At that time N1 Foils in Spain brought out their N1-XR Light to go along with their standard N1-XP Heavy. According to the manufacturer this board can be helpful to sailors 99lbs and under. TEB also manufactures such a “bendy” blade called the “Flex”. They meet the weight and lay-up requirements of the rules but allow the board to bend 18.5% more than standard boards.

Sailing off the wind - In real heavy conditions a lightweight skipper should leave the vang and outhaul to the same adjustment as going to weather. In other words do not change settings when you round the upwind mark. Concentrate on boat control and getting the boat on a plane. The sail will not be quite as fast off the wind but your light weight will make up for any loss in speed. If you “submarine” check your vang... it’s probably too loose!

Again, there is no substitute for hiking hard and with good technique. Hiking hard requires exercise and muscle building. Yes, the top world Opti sailors, as well as our US national Team, workout specifically for sailing!

Try a few of the ideas above in strong winds. Try lifting the board up, you’ll be surprised how much easier it is to control the boat and stay close to or beat your heavy weight friends.

Team Mclaughlin