

Control Windward Helm - And go Fast!

By Patrik Forsgren (1993 World Champion, two time Swedish Champion and bronze medalist at the 1997 World Championship)

All of us want to go fast. But all of us, even we who sail a lot, have a limited amount of time to spend on speed training. Therefore, it is important to concentrate on those factors which, for the particular type of boat we are sailing, have the most impact on speed. For the 2.4mR as well as most other boats, the windward helm is definitely one of those factors. The difference between the 2.4mR and other yachts is that it is much more difficult, on the 2.4mR, to feel when you have the right windward helm, especially if you steer with your feet. It is very easy to go upwind with up to twice as much windward helm as optimal. Therefore, it is very important to keep control of the windward helm. You can easily spend many days, speed training with a 2.4mR, trying to find the best adjustment of outhaul, cunningham, or shroud tension, for example without acquiring hardly any extra speed at all. However, you can almost immediately acquire significantly better speed by decreasing your average windward helm from, for example, 8 to about 4 degrees. The ideas presented here have helped me keep the 2.4mR better "in the groove", especially in choppy, puffy/ windy conditions.

How to Get Ready for Going Fast

In order to always know how much windward helm you have, prepare your boat as follows, on shore:

1. Set the rudder in the centerline of the boat. Then make a mark at each steering line in a place where you can see at least one of the marks, all the time.
2. Then, straighten the steering ropes, and put fixed marks on the inside of the hull or on the inner module, exactly at the marks located on the steering ropes.
3. Measure, in centimeters, from the top of the rudder, the horizontal distance from the rudder axis to the stern-end of the rudder, and multiply this distance by 0.07. For example, if the length of the rudder is 20 cm, you get: $20 \times 0.07 = 1.4$. Let's call this product y .

4. Finally, turn the rudder to the right until its stern-end is y centimeters from the centerline of the boat. Straighten the steering ropes, and, using another color. Put new marks on the hull, exactly at this new position of the marks on the steering ropes. Then, turn the rudder to the left, and repeat the procedure.

On each side, you now have one visible mark on the steering rope and three marks on the boat. When sailing with the mark on the steering rope just by the middle one of the fixed marks, your boat has no helm at all. When the mark on the rope is just by one of the other marks, your boat has about 4 degrees of windward (or leeward) helm.

How to Go Fast

For most yachts, about 3-5 degrees of windward helm gives the best windward performance, in most conditions. I therefore continuously keep an eye on these marks to try to sail the boat with about that helm.

A lot of things can be done to increase or decrease the windward helm, but in medium and heavy air, the most efficient way to keep the helm under control is to continuously adjust the backstay. As soon as more than 4 degrees rudder is needed to keep the boat on course, immediately de-power your mainsail by tightening the backstay, and vice versa. In light winds you will probably find it difficult to get as much helm as you want. For this reason and under this condition, I always sit on the leeward side. By doing so, the boat heels, at least a little, and gets a little more windward helm.

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