

## Masthead Floatation by Ted Rosen (W8231)

The Wayfarer is a very stable sail boat and I have not capsized in 5 years of mostly solo sailing with the exception of three capsize practice drills. My Mark 3 (W8231) has a reputation for rapidly turtling should a capsize occur, and that has been my experience. A few years ago I intentionally capsized in Toronto's Outer Harbour, to see how difficult it would be for me to right the boat on my own. I found it impossible, even in light winds, and received assistance from a rescue boat from the Cherry Beach lifeguard station.

My second attempt at capsize recovery was at the 2013 CWA rally at Killbear Provincial Park, as part of a practice exercise with other sailors. Fully confident that my addition of an inflatable boat fender raised to the spreaders would prevent turtling, I was disappointed to find that the Wayfarer inverted itself immediately, once again requiring assistance from the crew of another boat in order to right the boat and sail it dry.

I felt the need to improve my chances of righting a capsized Wayfarer solo, either because I was sailing on my own or with crew who were inexperienced. I was seeking a flexible system, which could be raised or lowered independently of the main sail, and not dependent on inflation devices, which might fail. The method I decided to explore was to raise a foam swim pool noodle, as I had the materials at hand. I recognized that, other than mast floatation systems integrated into the sail head, any floatation object at mast head would reduce sail performance, but I accepted that I would only be using masthead floatation in wind conditions where a capsize was more likely, or when solo sailing significant distance off shore or away from other boats.

### Materials used:

- Pad eye screwed to mast head just below the wind vane
- Small block
- Length of light line slightly longer than twice the mast length
- Swim pool noodle cut to length between the mast head block and spinnaker halyard block
- Heavier line to form a connection loop within the inner length of the swim noodle

### Procedure:

- Lower mast and remove wind vane to protect it for initial testing
- Predrill and install pad eye and block at mast head
- Cut the pool noodle for length between the pad eye and spinnaker block
- Tie heavy line in a loop or with loops at each end so the total length is slightly longer than the pool noodle. Use a large knot such as a figure 8 to create end loops. The knot will jam within the central hole of the pool noodle to maintain its position. (Note- floating line may be a good choice, use of an aluminum tube insert may provide more rigidity) I used the materials I had at hand for the initial trial.

- Use a light line to pull the heavier line through the noodle core, and center it with a small bit of the loop extending beyond the end of the noodle.
- Loop the light line through the block and tie each end to the loops at the noodle (this allows the noodle to be raised and lowered from deck level)
- Attach the end of the spinnaker halyard to the bottom loop and use this halyard to stabilize the bottom end of the noodle. (I don't plan to use my spinnaker if I anticipate the needing mast head floatation, without the noodle attached the spinnaker halyard functions normally)
- Hoist the noodle to the top of the mast, tighten the spinnaker halyard, and cleat all lines snugly. Assure that the noodle is straight and aligned with the mast.

With the noodle resting at the top of the mast, the Wayfarer can now be put in the water, and main and genoa raised, ready to sail or to test the effectiveness of the system.

### **Testing**

I did not have a rescue boat and crew available for my first test, and did not want to rely on others to rescue me should the system fail, so I decided to test the new mast head floatation while the boat painter was tied to the dock of my sailing club. The water is shallow, with the risk of the mast sticking in the mud, so I removed the wind indicator to avoid damaging it. I also removed all gear from within the boat, excepting a large bailing bucket for the initial trial. I did raise both main and genoa to simulate the likely sail configuration of an offshore capsized. Fortunately a fellow club member and Wayfarer sailor was available to assist and photograph. Winds were from the North, gusty and shifty. Even in these conditions it took an effort to capsize the boat. Rather than immediately shifting to the centerboard to right the boat, I allowed the mast to sit in the water for some seconds, hoping the floatation would simply keep the mast afloat. Unfortunately that did not happen, and the mast slowly started to sink and embed itself in the muddy bottom. I believe that if I had immediately transferred my weight to the centerboard, I could have avoided this, to be confirmed at another time, and in deeper water.

Transferring my weight to the centerboard did bring the mast back to the surface, and with a bit of bouncing and leaning, the mast broke surface tension and the boat righted with only my weight. For the first time I had righted a capsized Wayfarer without the added weight of crew. (note - it is possible that use of two noodles would provide sufficient buoyancy to support the mast on the water-to be confirmed at another time-and at a cost of greater wind resistance while sailing)

Of course the boat was full of water, and still somewhat unstable. I pulled myself into the boat over the transom (the irregular motion of the boat due to shifting winds and being tied to the dock made access over the side unstable) and used the bucket to substantially empty the boat, improving the stability. It would then be possible to sail the boat, continuing to bail and using the hull-mounted venturi bailers.



Masthead pad eye and block below wind indicator fitting



Swim noodle and inner rope



Bottom of noodle at spinnaker block



Top of noodle attached to block



Masthead floatation before initial test



Capsize!



Mast returning to the surface



Applying additional force



Recovery completed