

Hull Prep by Pete Thorn

Proper hull preparation is essential for a fast boat, especially in light air conditions where the effects of drag and skin friction are pronounced. At least once per season, it is a good idea to turn your hull over and give it a good cleaning and repair any surface defects that may be visible. For the racing enthusiast, the frequency and extent of hull work is often greater to ensure as fast a hull as possible. The following are some helpful pointers:

1. To turn your hull over, find a level grassy spot in the yard and "launch the boat". It takes two people to pick it up and roll it over on one side. Use a couple of 2 X 4 timbers to get the hull off the ground- position timbers to protect the shroud plates when you roll the boat over. If you are planning just a one afternoon work session, consider rolling the hull against the side of the house or a tree for easier access.
2. Thoroughly wash the hull with a good cleanser to remove stains and road grease-remember that fiberglass is porous and soaks up stains.
3. Repair surface defects with a good grade fiberglass putty such as "marinetex". When it hardens, sand the putty with coarse paper or work with a rasp to match the surface.
4. Sand down the rough spots with #220 paper, but go easy- the gel coat is thin and delicate.
5. Finally, wet sand the entire hull below the waterline with #400 and #600 paper- the smoother the finish, the faster the hull.
6. Post-sanding treatment can consist of buffing or the application of a marine silicone wax such as "Star Brite".
7. Also, don't forget to remove the centerboard and rudder for smoothing. It is desirable that each has a rounded leading edge and tapered trailing edge for maximum reduction of drag. After filing down to achieve the

proper shape, wet sand with #400 paper and then buff with steel wool for smoothness. It is worthwhile after each regatta weekend to rub the rudder and centerboard down with steel wool to keep it smooth.

Skin friction accounts for the largest portion of drag counteracting the lift forces from the sails at low speeds. At higher speeds, frictional resistance from the hull has less affect on drag, and the wave-making resistance of the hull becomes the determinant until planing is achieved. For a Tanzer 16, at 2.8 knots speed, skin friction accounts for about 85% of the drag; at 4 knots about 74%; and at 6 knots (flying), it drops to about 45%. To ensure that you have as fast a hull as possible, keep it smooth!