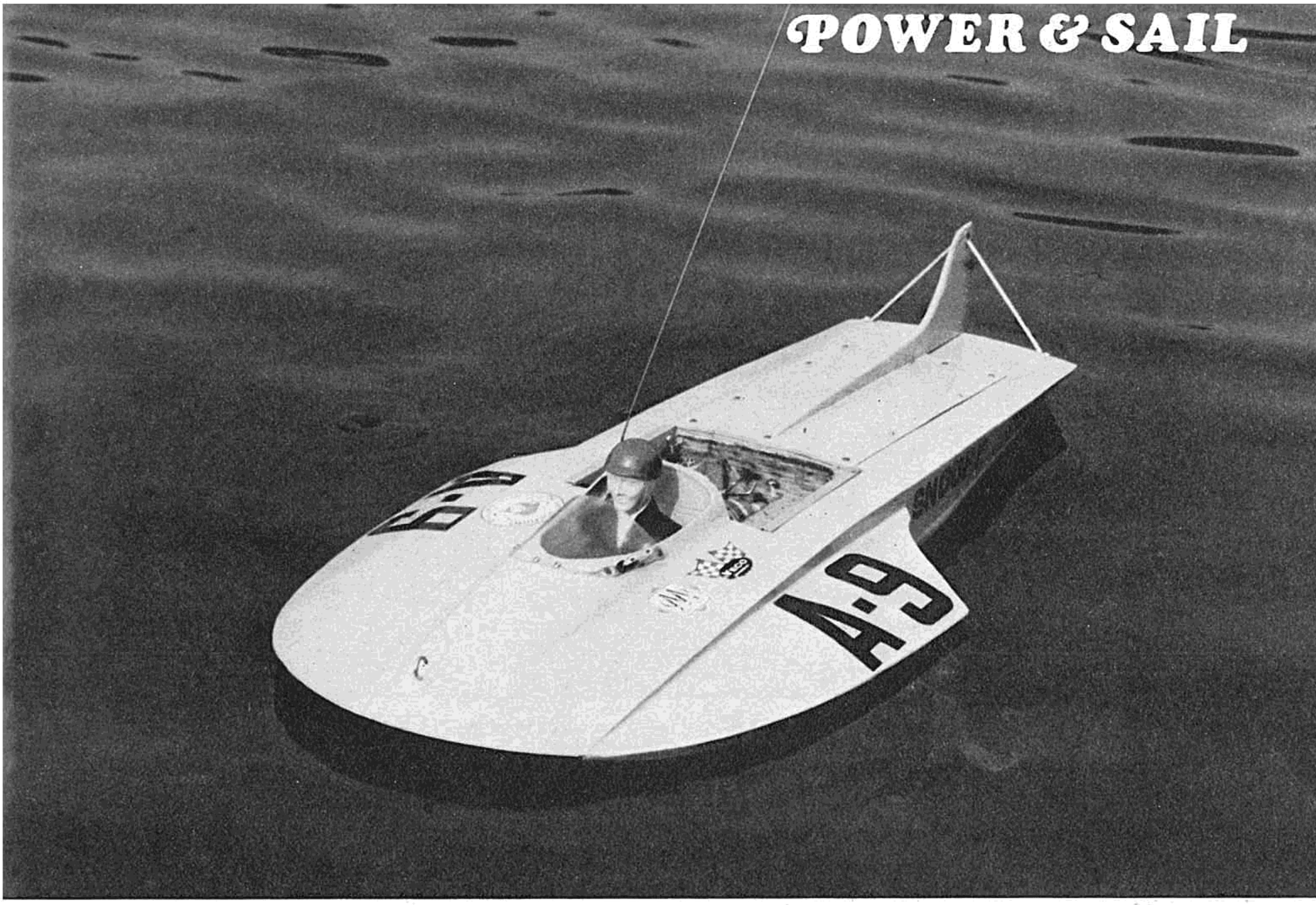

SNOOPY

Like to collect trophies? Dick Hanson's .19 powered, quarter-mile record breaking hydro will really bring home the hardware!

EVER since the first time I saw an unlimited hydroplane go skimming across the Detroit River, some five years ago, I have felt that this is the way my racing boats should run. It took about three years before I caught on how to make them three point. The only deviation I made from the full size hydro was to run the water surface line through the upper half of the propeller. This was from the results that I tried with different depth settings of the propeller, coming to the eventual conclusion that the first half inch of water does not have enough tension to cause a biting force on the prop. This problem only occurs in the smaller diameter props, since one half of the blade is only one half to three quarters long. An additional modification included widening the hull for better stability.

One of the pictures shows the trophies that this hydroplane has won over the past two years of racing. On September 2, 1967, at the Marquette R-C Boat Club meet, it broke the I. M. P. B. A. quarter mile oval record. Snoopy is a real steady runner, and can take winds into the high twenties without flying. Last year it had a tendency to take-off, but I broke up the smooth contour of the top deck by putting in steps. (Picture of this hydro appeared in the February, 1967, R/CM) This year I also changed the engine, although reluctantly, from a horizontal to a slightly tilted position. The horizontal engine lowered the center of gravity, and made the hydro hug the turns, but it was very difficult to service. In competition, when given only three minutes to start your engine, it was a little disheartening to find out that you have a burnt-out plug! I just about had to take the engine out, so I settled on pust tilting the engine about ten degrees from the perpendicular. In this position, the exhaust fumes are shot upward and away from the interior of the hull.

A hydroplane that is operating at near peak performance is not exactly the most reliable or steady thing in the world, whether it is a model or the real thing. They have a tendency to curve right when they start to plane. This is due to the torque which pushes the right sponson down in the water and this, in turn, acts like a brake. A counter force acts upon the torque when a slight left rudder is given, then the right sponson comes up and the hydro accelerates very quickly. You can only get this special acceleration with a proportional because it's mostly a "feel and visual" effect. You move the rudder stick slowly to the left until the hydro is moving at maximum speed, then continue with that slight pressure to the left, but the boat will be running true down the course. With reeds or relay systems, you will have to put a slight left trim in the rudder to make the craft run a straight line. This condition applies only if you are surface "proping" and mov-

ing at record speeds. I like to use a self-neutralizing throttle servo, because you have a quick response in case it starts to fly or to be used in the turns when conditions become rough. It has to be held in high, and then when released, it will return to a speed which has been set to run fast, but safely.

One of the things I tried this year, with success, was to pack the servos with styrofoam, instead of bolting them to the hull. It was the first year that I went through the whole season without sending servos in for repair!

Before starting the construction text, there are a few things about prop riding hydroplanes that must be understood. First, the finished model must be as light as possible. This is why I use balsa wood with 1/32" plywood along the sides on the sponson. In multi-boat races, I have survived some pretty good hits without being knocked out of the race. Balsa, covered with silk, is extremely strong, so spare the hard heavy wood! An aluminum ring embedded in the nose will make an indestructible bow. A couple of years ago, I hit a boat dead on the course and my bow impaled itself through the sides of a fiberglass boat, without any damage to me. Secondly, all surfaces that come in contact with the water must have sharp corners. Try lightly touching the back curved side of a spoon to water coming out of a faucet, you will see it being sucked in toward the center of the stream of water. This will happen to a hydroplane if there are any rounded corners or curved surfaces. As the hull picks up speed, it will be sucked down and never will fully come up to plane.

And so, on to the construction.

CONSTRUCTION

Cement and pin ribs 6 through 9 to the main rails, parts 10. Lay assembly on a flat surface, and make sure rib 10 is perpendicular to parts 10, then place a weight across parts 10 and over the ribbed area. Cement the two halves of part 12 together. When assembly has dried, glue remaining ribs 2 through 5 to the main rails. Glue parts 13, 14, 15 and 21 into place. Glue bottom plate 12 into place. If you plan on putting an aluminum ring in the bow, do so now, if you can make it in one piece circling from rib 2 to the other side of rib 2. Glue parts 20 into place. The dotted lines on the parts indicate rib 5 position. Glue parts 19 into place. Glue parts 17 into place. See detail A and sand as shown in order to glue parts 16 into place. See detail B and sand as shown. Glue parts 18 into place. (Cover parts 18 later with 1/32" plywood.) Coat inside of hull with HobbyPoxy paint.

Glue on 3/32" plywood transom and mount the rudder post. Glue a piece of 3/32" plywood to hold strut between ribs 8 and 9. The engine and drive assembly can be put in. Mount the strut true center and cut a slot in the bottom of part 12 and a hole in rib 6 to receive the stuffing box and

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