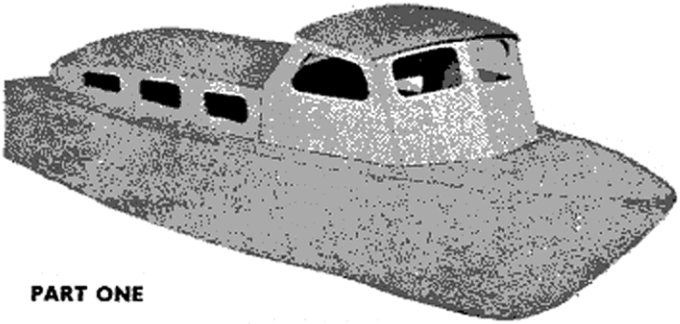


PART ONE

SPARKLER

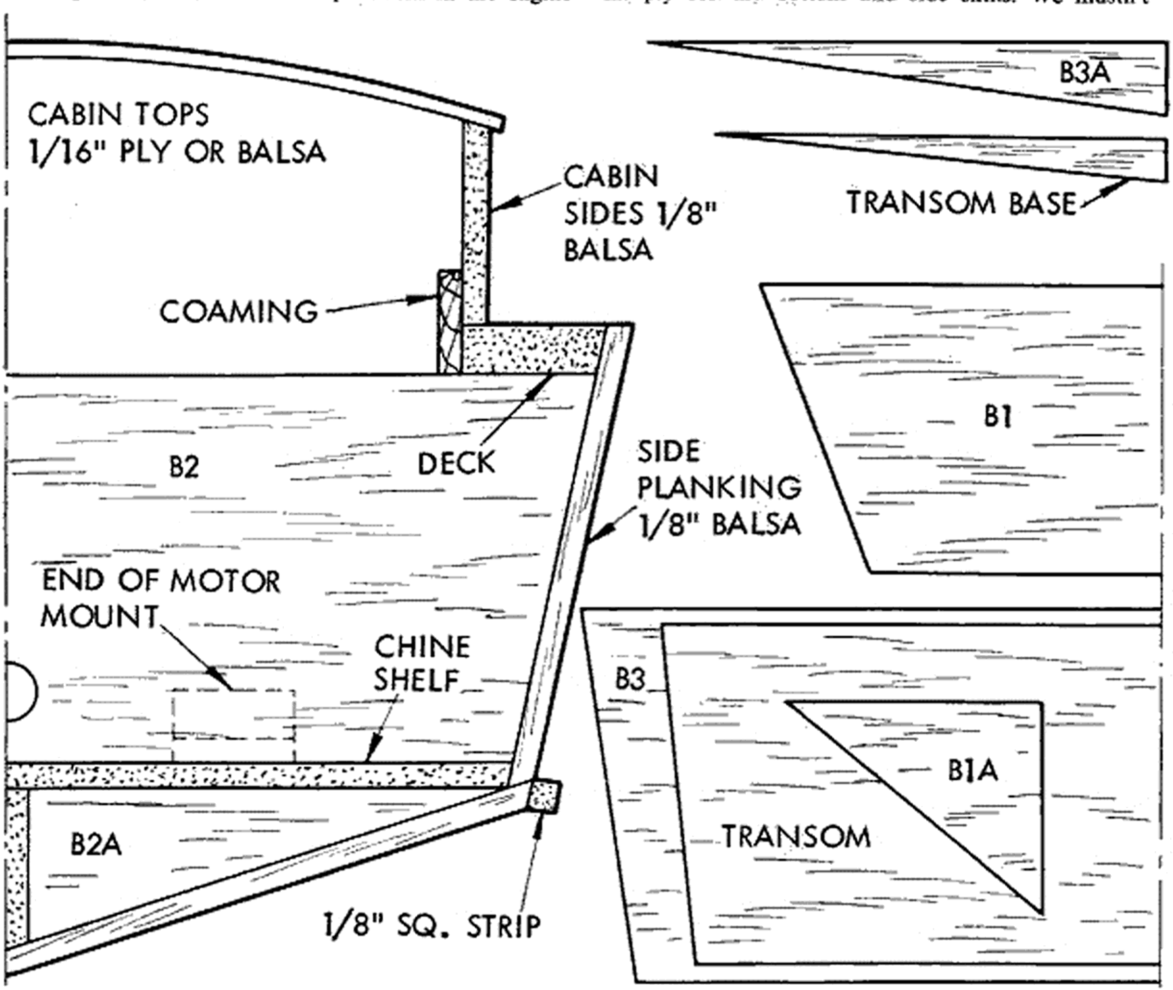
A PERKY 21 IN. CUSTOMS-TYPE LAUNCH FOR 1½ cc. OR ELECTRIC.

DESIGNED BY VIC SMEED

THERE is no doubt that fast miniature R/C boats have an appeal all their own, and we ourselves had as much fun with the prototype of *Twinkler*, published in *Radio Control Models* some three years ago, as any boat we've run. This was the 20 in. model which ran round the speed course at Poole in a time which a year or two previously would have won against all comers.

Sparkler is similar in some respects to *Twinkler*, though is rather more sophisticated in having a more graceful hull of more efficient shape, which has to be paid for by construction being just a little more involved (less uninvolved might be truer!) though still within the scope of the beginner. Most motors of up to 1½ cc. will have ample room in the engine bay, or electric motors will fit easily; there is an almost unobstructed 10 x 6 x 2 in. space for radio plus, if electric, suitable accumulators or even dry cells. The freeboard has deliberately been made on the generous side, both for a drier boat with diesel or one capable of carrying a fair load of electrics, etc., without having the decks awash.

The model length is 21 in., the extra inch over *Twinkler* mostly going towards a sharper bow, and the model can, quite categorically, be made from one sheet of ¼ x 4 in. and four sheets of ⅛ x 3 in. balsa, plus whatever is used for the cabin tops. The prototype was, easily. Economy (at under ten bob for the wood?) could be effected by using $\frac{1}{16}$ in. ply for the bottom and side skins. We mustn't



forget the ⅛ x ½ in. coaming, one length, and the ⅛ sq. spray strips, also one length, and the odd piece of ¼ in. ply for the engine mount. Throw in an 8 in. stern tube assembly, a rudder, if you buy one, and the materials cost, less radio, engine, cement and paint, hardly exceeds a pound.

Having removed the appropriate pages and taped them together, the first step is to trace the deck half on to the ¼ in. balsa. Cut two, and remove the hatch area, which will provide all the bulkheads. The fore and aft keel pieces come from the remainder, and if in difficulty, cement the machined edges of the pieces together to provide a big enough area from which to cut the fore keel.

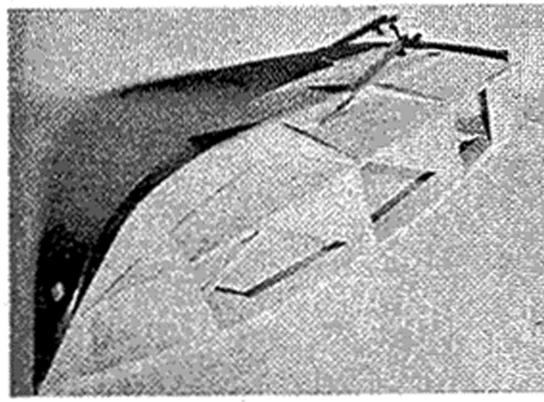
The chine shelf is similarly traced and cut in two halves from an ⅛ x 3 in. sheet, and the bulkheads, stem, etc., from the remaining ¼ in. pieces. The centre of B3 can later be removed, so you may wish to cut most of the line before assembly, leaving only two small cuts through the top edge to remove the entire centre. One point in cutting the chine shelf —extend it about ½ in. at the stern to allow for the extra length produced by the curvature; you can trim the excess away later.

Probably the simplest method of assembly is to pin down the deck, erect the bulkheads on it, then cement the chine shelf in place, adding the keel pieces as a check on the curve. The motor mount can be cut and slid in place later. An alternative is to cement the chine shelf to the keel parts and install the bulkheads, motor mount, and prop shaft before fitting the deck, but this is a less certain way of going about it. Assuming the former method, then, when the cement is dry poke a wire and a rat-tail file through and insert the propeller tube and shaft. Cut the ply mount to suit your engine, fit the coupling, then slide the ply in place, align motor and shaft, and cut ¼ in. packing to position the ply plate. The packing fits beneath the plate, against the faces of the bulkheads. When everything fits, firmly cement packing and plate in place, leaving the motor in position and checking for perfect alignment from side and top. An additional fillet strip cut and glued above the plate at each end is a further measure against pulling it all out if the motor locks.

When dry, sand the edges of deck and chine shelf, using a long sanding block resting on both at the same time, to produce a chamfer on which the side skins will seat firmly. Be careful when sanding over the edge of a bulkhead, as the chine shelf will sand away quicker than the bulkhead, giving a wavy edge to the shelf. When sanded, begin sheeting with short lengths of ⅛ in. balsa, grain up and down, i.e., the short way of the side. Butt adjacent sheets neatly and use narrower strips at the bow if any difficulty is experienced. When dry, trim off any overlap top and bottom and sand smooth.

The keel and chine edge may now be sanded with the long sanding block to produce the appropriate bevels for the bottom skins. At B1A, the bottom sheets should change from an overlapping joint on the chine to a butt joint, so that the bevel on the chine edge should stop in a step at B1A. Make sure the stern tube is thoroughly epoxied in, then plank the bottom, again with short strips, grain across the hull, butting the strips neatly on the centre line of the keel. Again, narrower strips will make it easier at the bow.

When dry, trim off overlap and sand the hull smooth. The centre of B3 can now be removed and



the coaming strip cemented round the deck opening; we used ⅛ x ½ in. obechi, ¼ in. projecting above the deck. If you are using a conventional tissue/paint finish, cut a ⅛ in. sq. strip of spruce or obechi into two 18 in. lengths and glue along the chines from the transom forward, i.e., not quite up to the bow.

The superstructure is built by cutting the cabin sides in one piece each and scoring and cracking above B2. Check before cutting that the length matches the coaming—better a shade long than just short. Pin the sides to the coaming and insert the various cross-pieces, S1—S4. Use the wheelhouse front drawn as a template and trim the two pieces to a neat fit—this is always a matter of fitting to an individual model, as even 1/32 in. variation in construction can make a V front a long way out. When dry, and still in place on the coaming, sand the top edges to a fair seating and cut and fit the tops. These can be 1/32 or 1/16 in. ply, 1/16 in. obechi, etc., or even 1/16 in. balsa, though in this case an additional cross-member shaped to S4 should be fitted to prevent sag. We used 1/32 in. ply for lightness, the camber giving sufficient stiffness.

This is as far as we are going at the moment, as we are covering the hull with Monokote in our next instalment and this is of sufficient interest to devote reasonable space to it. We shall also be discussing fitting out. Naturally this does not prevent any keen builder from completing his *Sparkler* conventionally; a week of evenings should be enough to build the model from start to finish, and no doubt a good many will already be on the water by the time our next issue appears.