

By
M. E.
Daniels

station wagon



SKIFF

YOU CAN build this family-size, 16-ft. skiff just as easily and inexpensively as a flat-bottom rowboat. Yet it has the wave-splitting, bump-smoothing bow of a true semi-V, readily converts to a sailboat and can be carried in a station wagon!

And all of this is accomplished without any tricky plywood bends. The forward V-bottom contours are shaped from Styrofoam with saw and rasp and resorcinol-glued to a centerpiece. Then the job is skinned over with Dynel bonded with epoxy. The result is not only a smooth ride but built-in flotation and a tough, armored hide where it counts most when beaching the boat.

The use of Weldwood resorcinol glue in all joints and seams boosts strength enough to permit you to weight-trim framing parts in aircraft fashion and



makes possible a finished hull that weighs about 120 lbs.—light enough for two people to carry.

Total cost of materials for this boat was just \$80.

Its resin-bonded seams never need caulking and small, 3- to 5-hp outboard motors will push it along at 6 to 10 mph. A Mercury 110 (10-hp) motor was used with the prototype and speeds in the 20-mph range were achieved. The sailing version is simple to operate and adds another whole dimension to this attractive boat.

Let the lumberyard start the job for you. For your side planking you need four 16-in.-wide strips ripped length-

wise from $\frac{1}{4}$ -in. exterior plywood panels. Most yards have a panel-cutting rig and can do this job easier than you can. There may be a nominal charge but if you give them your materials list first and tell them you're buying only if you get those ripping cuts free you'll probably win.

One other tip on the materials: do a



FASTEN SIDES to stem, mid-frame, transom. Spot mid-frame $\frac{1}{2}$ in. ahead of butt joint.

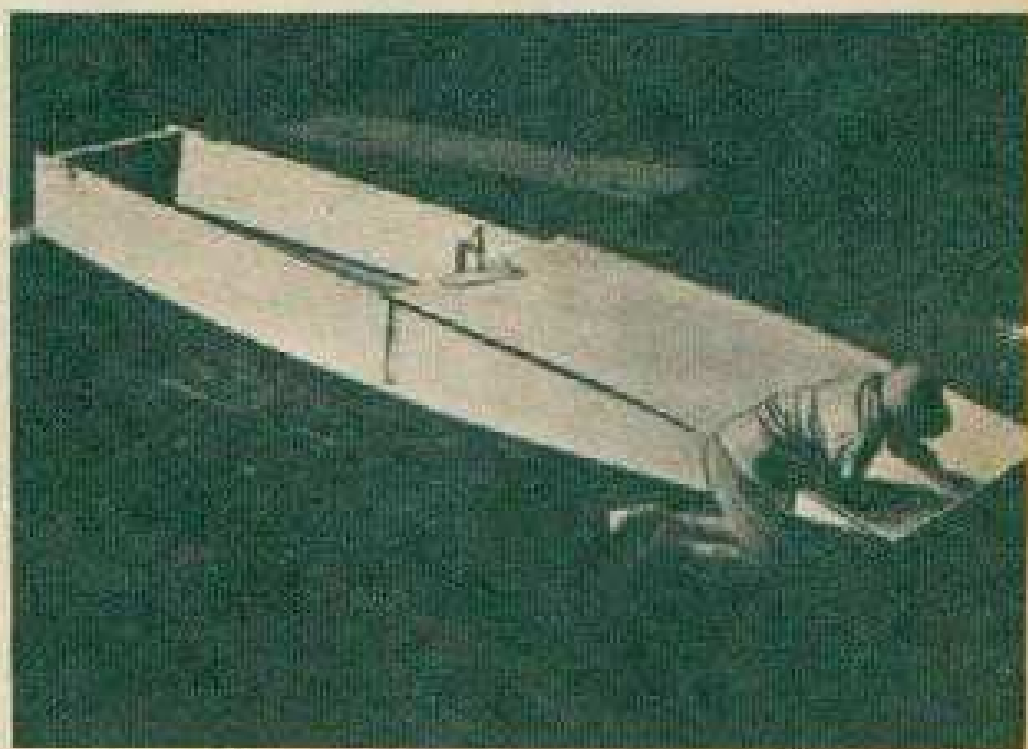
little phone shopping in advance. The plywood planking for the original hull, for example, was bought at a cash-and-carry yard for \$3 a panel, though prices elsewhere ran from 30 to 80 cents higher per sheet.

No construction mold or form is required if you assemble the parts in the proper sequence. First, join the 8-ft. x 16-in. side planking strips end-to-end with butt pieces 10-in. long cut from the same thickness plywood. The butt pieces don't extend all the way from edge to edge at the joint but stop $\frac{3}{4}$ -in. short of the bottom edge to allow space for the chine.

Incidentally, while still at the lumber yard make sure all your side planking strips are the same width. Because of the thickness of the saw blade some may be a trifle narrower than others. Have

the wide ones run through the saw to make them match the narrow ones.

Assemble each joint dry (without glue), using about five $\frac{1}{2}$ -in. #6 flat-head brass screws on each side of the seam. Be sure you're making a left and a right side—not two of a kind! After dry assembly, back out the screws, coat



AFTER CHINES are installed, flip hull, bend forward bottom section into place.

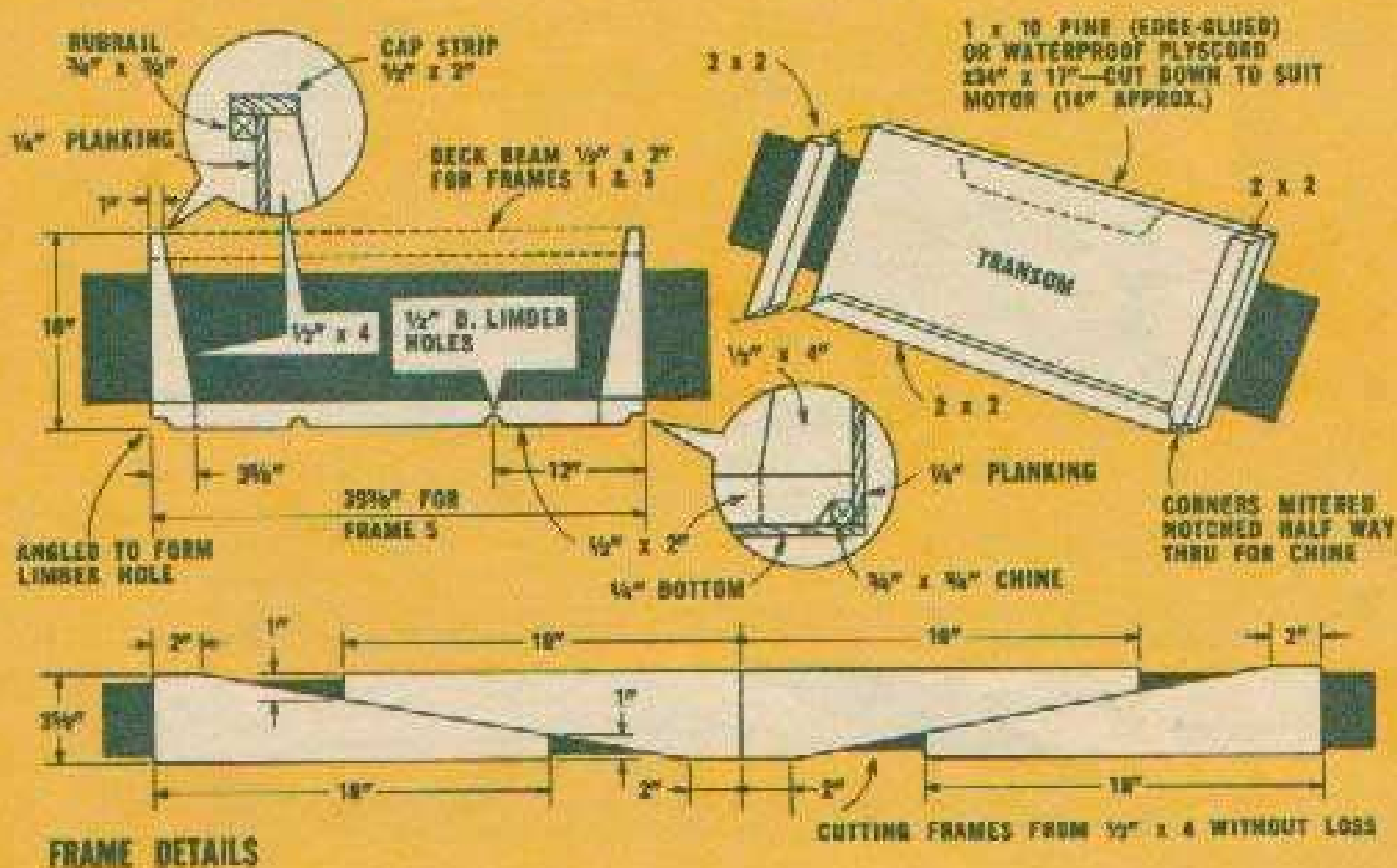
all mating surfaces with resorcinol resin glue and reassemble.

Squeeze-out should be about even all around if the surfaces have been coated properly. Lack of squeeze-out means poor contact. Add extra screws where this is apparent.

Cut the stem and glue up the midship frame and transom next. The frame and transom can be tacked together lightly with copper nails for dry assembly.

Since only the back section of the stem is involved at this stage, it doesn't require glue. Unless you're in a rush it's best to do the foregoing gluing the day (or night) before all-out construction begins. Leave the joints overnight at 70 degrees and they'll be good and solid in the morning.

To plot the bow's up-curve, clamp or temporarily screw-fasten one of the



chines along the lower edge of one of the sides, setting the last clamp or screw (from the stern end) just 4 ft. 3 in. from the bow end. Then spring the free portion of the chine upward so its bottom edge is 7 1/4 in. from the bottom edge of the plywood and clamp or screw the chine in this position.

Then draw a pencil line along the entire curved run of the chine's lower edge. This gives you the fair curve your bottom planking will follow later—along the area where the foam contours will be. Use a saber saw to cut the plywood along this line after the chine has been removed.

Actual hull assembly comes next. Start by fastening the forward ends of the plywood sides to the stem with a couple of 3/4-in. #6 brass flatheads on each side. Then set the mid-frame in place 1/2 in. forward of the midship butt seam so the two screws you'll use on each side won't go through the seam. Use a scrap of 1/4-in. plywood under the midship frame to allow for a butt-joint piece between bottom sections.

After the mid-frame is screwed in place (with screwheads slightly above

the surface to allow some play), spring the aft ends of the plywood sides inward and screw them to the rim of the transom. The transom angle should be marked on the inner surfaces of the sides beforehand. This entire assembly is made dry and is easiest if the sides are in inverted position.

The chines are fitted in next along the straight run of the hull and the upcurve at the bow, held by 3/4-in. #6 brass flatheads 18 in. to 24 in. apart. Space them closer only at points where chine and plywood fail to draw together snugly.

Once the chines are in, turn the assembly right side up. Then fasten the rubrails in place along the outside of the planking at the top edge.

Check over the stem and transom joints in case any plane-trimming is necessary (not likely). Also, measure the diagonal distance from each transom corner to the opposite planking mid-frame joint. If these match to within 1/4 in., that's good enough. If they're off by more than that, use twine in crisscross pattern to pull them as required to match.

After this the parts are disassembled,



EFFICIENT but simple sail rig moves this light hull along even in lightest breeze.

it extends all the way down to the full 16-in. depth of the hull.

It's glued to the original stem and also held by a 2-in. galvanized screw (#12) driven into it from inside the existing stem. Once this false stem section is in place, you can fit the skeg-like forward section of keel behind it.

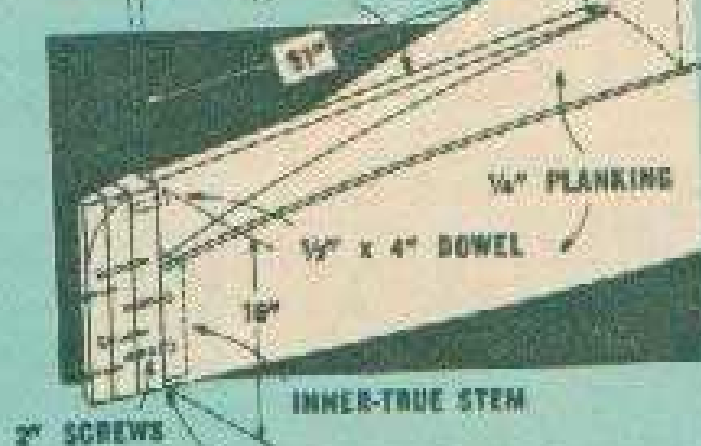
By holding this against the side planking along the up-curved section and rocking it around the side planking curve as you pencil-mark it, you can draw a pretty accurate cutting line. Allow a little waste at each end for trimming.

Bore through the stem into the forward end of [Continued on page 148]

DETAILED PLANS

Include additional details for sailing rig and a Bill of Materials. To order, send \$5 to MI Plans Service, Fawcett Bldg., Greenwich, Conn. 06830. Please specify Station Wagon Skiff, Plan SW-3-67.

FOAM CUT TO FIT HULL BOTTOM
LOCATE WASTE PIECES UNDER STERN SEAT
FOR FLOTATION



BRASS BAND STRIP
FLUSH WITH PLANKING
1/4" x 1/2" KEEL

BOW DETAILS



FOLD DYNEL AROUND STEM
(OUTSIDE OF DYNEL)
EXTEND DYNEL 8"
BEHIND FOAM-TRIM DYNEL
ON LONG TAPER AND STAPLE

SHAPE BOW Styrofoam sections with Stanley Surfform tool, finish off with sandpaper.



SPAN INSIDE HEM
1 1/2" CLOTHES POLE 14' LONG

DOUBLE-BED SHEET
CUT FOR SAIL

BOOM
1 1/2" C.P. 18' LONG

KICK-UP
RUDDER
& TILLER

MAST
1 1/2" C.P.
18' LONG

PULLEY

1/4" BOLT

LEEDARDS



SAILING RIG