

Cobra

Fin-Tailed 15-ft. Outboard Runabout

Craft Print
No. 298

By WILLIAM D. JACKSON

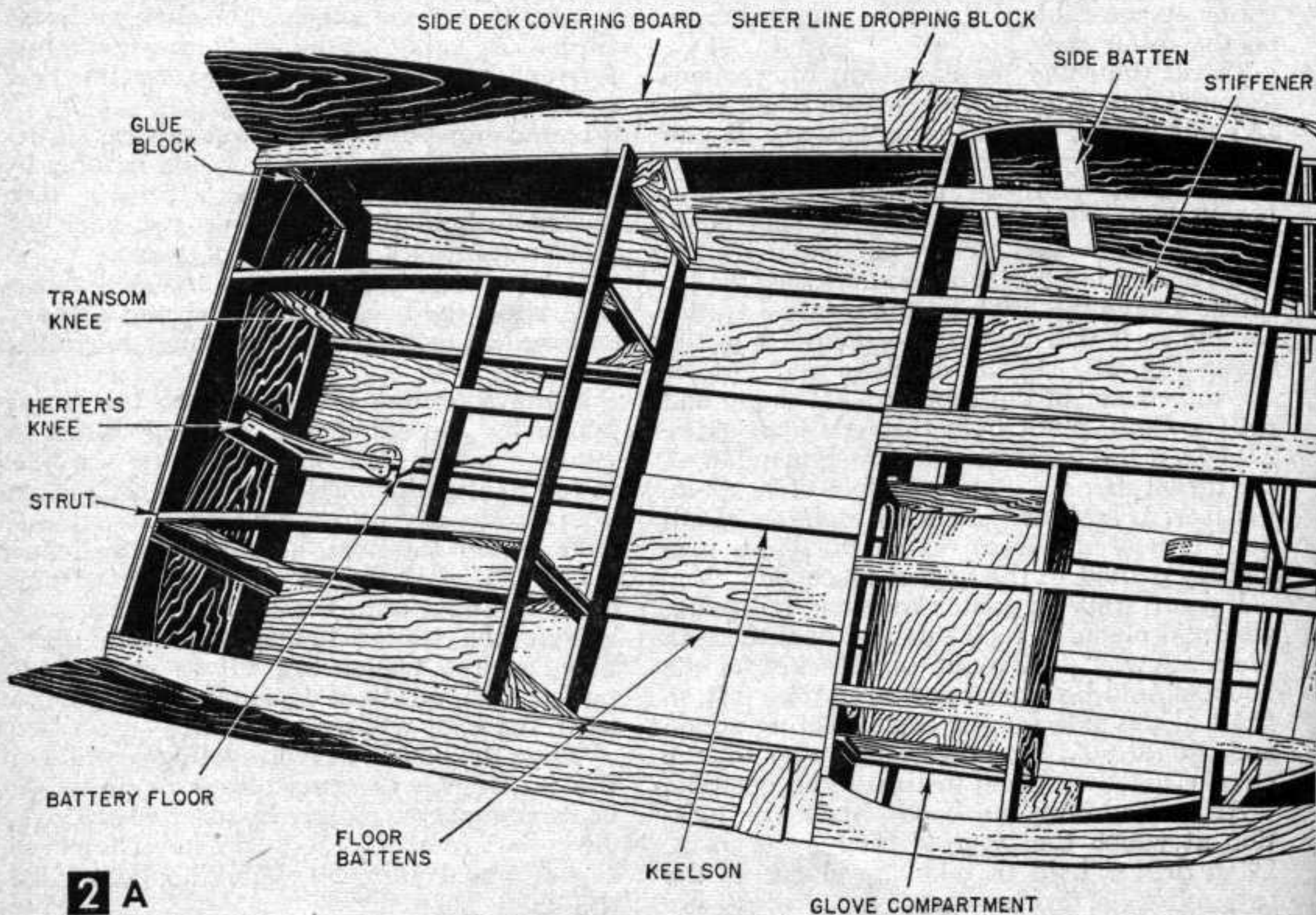
USED with any outboard motor from 10 *hp* to 50 *hp*, Cobra will achieve speeds of from 20 *mph* to 45 *mph* and will leave most kit or factory-built boats well in its wake. At wide-

open throttle, this craft rides on top of the water with a minimum of disturbance and, because of its beveled chines and trim tabs, it can make abrupt turns safely and without waste-effort spray.

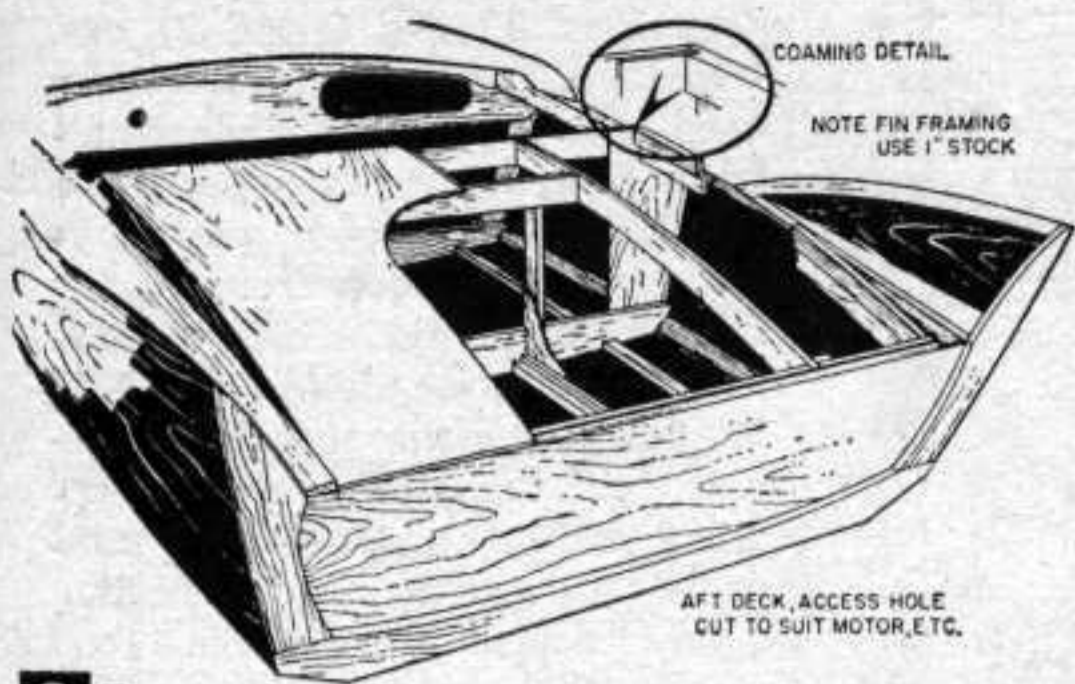
Cost to build will vary with wood used—fir or



1 A



2 A



2 B

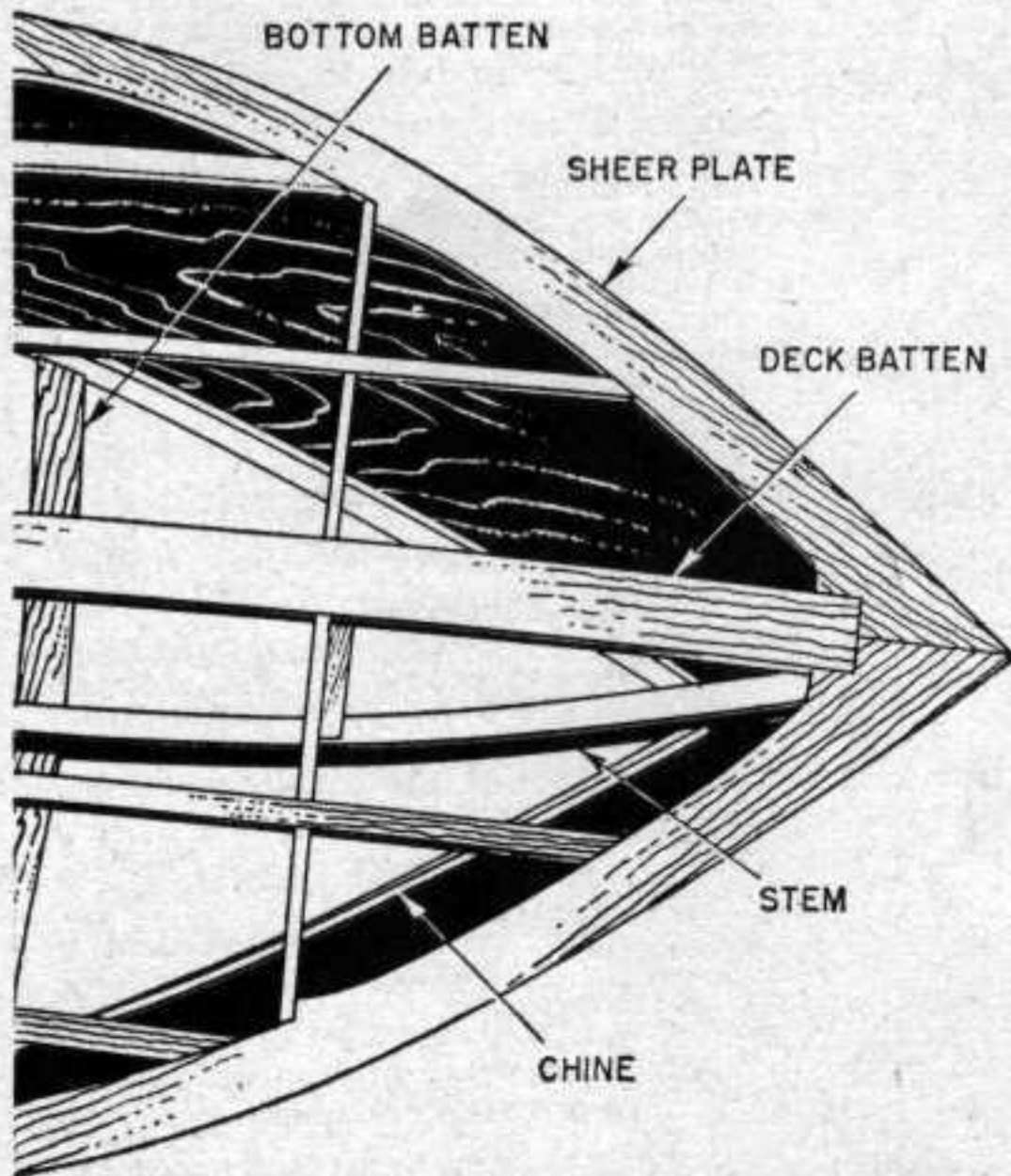
mahogany—and equipment utilized, but will average around \$150. Time to build will vary with individuals, anywhere from two weeks to two months, but the more time and care you take, the better boat you're going to have.

Construction. For a two-tone metallic finish, use plastic-coated fir plywood for sides and bottom (see Materials List); for decking, use African mahogany (Okoume, Gaboon, or Utile); for framing, use red or white oak, or mahogany, or fir, or Sitka spruce—for best performance, use oak or Philippine mahogany for all framing be-

Outboard motor throttle wide open, Cobra will ride on top of the water with a minimum of disturbance and will hit speeds up to 45 mph.



1 B



STATEMENT OF USES

USES: Deluxe outboard sports runabout. Combines superior performance with modern styling.

LENGTH: 15 ft.

BEAM: 6 ft.

DEPTH: Fwd.—28 in.; amidships—21 in.; aft—17 in.

WEIGHT: 275 lbs. bare hull, oak bottom frames, hemlock side and top frames.

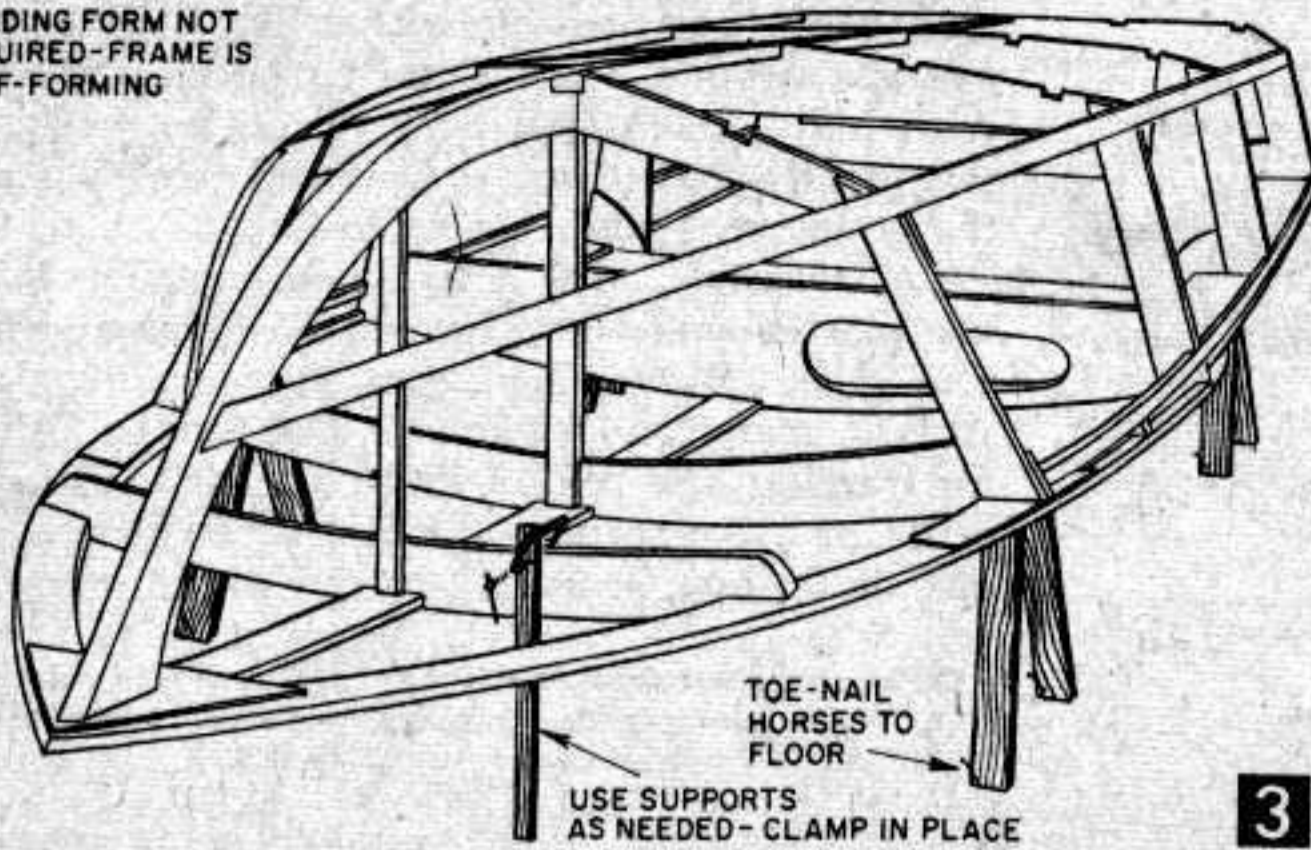
SEATING CAPACITY: Three persons.

CONSTRUCTION: 3/8-in. plywood bottom with 1/4-in. sides and deck. Has bevel chines for safe, high-speed turns; bevel chine trim tabs aft for sprayless, slideless maneuverability; hydro-dynamic lift-type bottom.

SPEEDS: Between 20 and 45 mph with Evinrude or Johnson 35 or Scott-Atwater 40. For utmost speed, use 10 x 15-in. two-blade bronze propeller and jack motor up on transom to 17 in. or to where cavitation is absent. An electric starting unit will reduce maximum speed by 3 mph. Speed will also be reduced if boat is built of heavier materials than specified.



BUILDING FORM NOT
REQUIRED—FRAME IS
SELF-FORMING



low and including the chines, hemlock or spruce for framing above to distribute strength and weight correctly.

Bottom plywood should be AA or AB exterior, three-ply fir, not five-ply. Plywood can be jointed, but if you can afford to pay the premium asked for plywood longer than the standard 8-ft. lengths, get full-length sheets and use it.

Cut out patterns of the sheer plates and stem

(see Figs. 13 and 6 and 7) and transfer directly to lumber to be used for them. To make these patterns, place heavy wrapping paper on panel of plywood, mark layout lines (distance from center line for sheer plates and vertical upright lines for stem), tack 1½-in. finishing nails at points indicated and then spring a 5/16 x 1-in. wood batten around nails and draw curve along edge of batten.

Saw sheer plates from 1 x 8 stock and secure joints at sides with 3/8-in. plywood gussets, daubing all contact surfaces with Weldwood or Elmer's glue and fasten-

ing with either #6 x 1-in. fh wood screws or 1-in. annular threaded nails. Make one left and one right side sheer plate, with the gusset on the underside of each. Cut the 3/8-in. plywood stem gusset to shape and fasten it to underside at fore ends of plates as with other gussets. The after ends of the sheer plate assembly should measure exactly 6 ft., 1/4 in. from edge to edge.

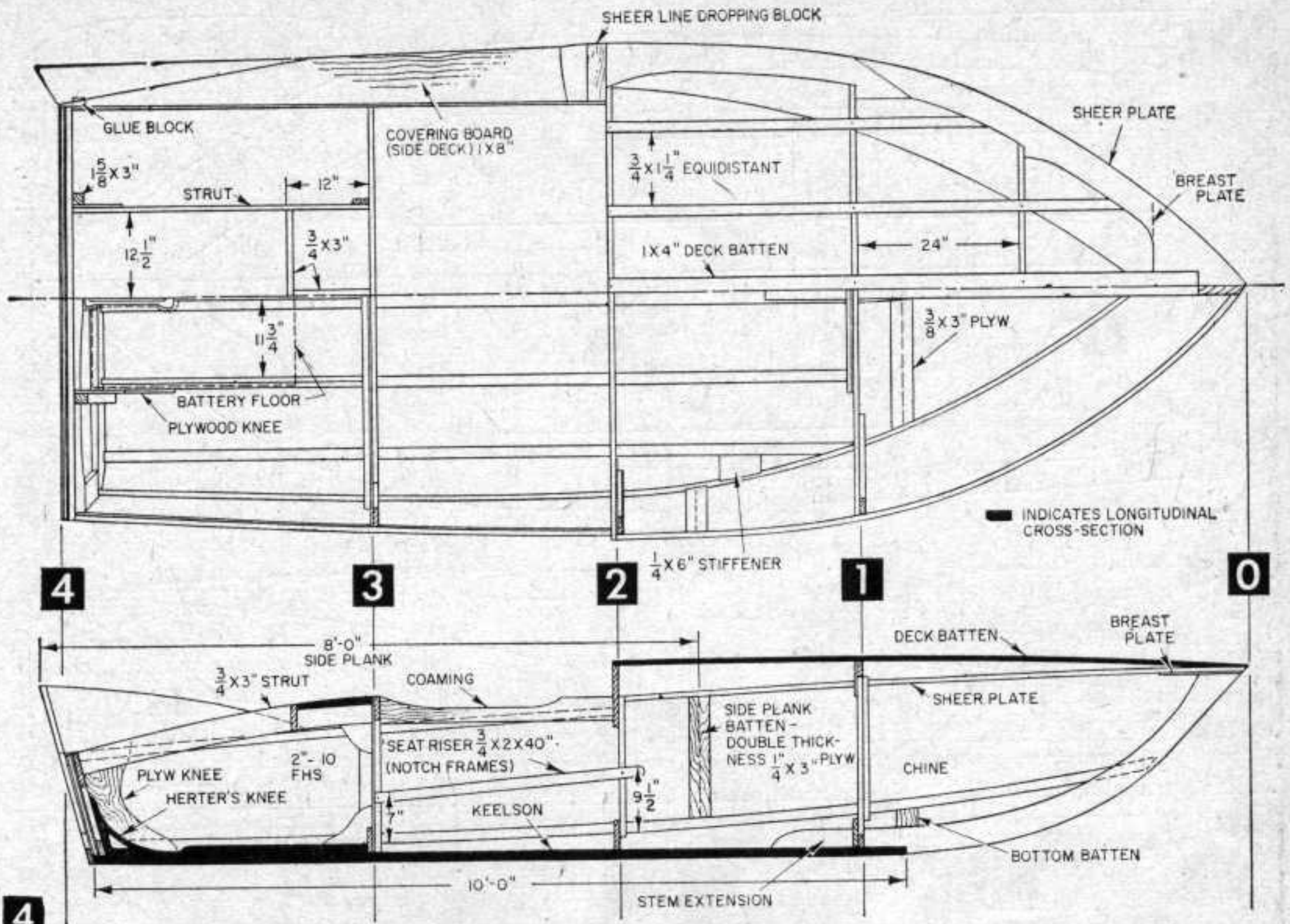
Make the stem by sandwiching a core of 1 5/8-in.

MATERIALS LIST—COBRA

No. Req'd	Size and Description	Use	No. Req'd	FASTENINGS
1 pc	1/4 x 3 5/8" x 10' (2 x 4 planed to 1/4" thick)	keelson	6 gross	Size and Description
1 pc	1/2 x 1 1/4" x 8'	outer keel-stem	4 gross	#6 x 1" fh screws
2 pcs	3/4 x 2" x 14'*	chines	1 gross	#8 x 1 1/4" fh screws
2 pcs	3/4 x 1 1/4" x 8'	aft clamps	2 doz	#8 x 1 3/4" fh screws
2 pcs	3/4 x 7 5/8" x 10' (1 x 8)	fore sheer plates	2 doz	#10 x 2" fh screws
1 pc	3/4 x 3 5/8" x 14' (1 x 4)	side frames	1 lb	#12 x 24" fh screws
3 pcs	3/4 x 5 5/8" x 12' (1 x 6)	bottom frames	1 lb	1/4" galv. wire nails
2 pcs	3/4 x 9 5/8" x 12' (1 x 10)	deck beams—also glove compt. framing	2 doz	1/2" galv. wire nails
1 pc	1 5/8 x 7 5/8" x 6' (2 x 8)	stem—inner core	6 doz	#8 x 1" fh screws
1 pc	3/4 x 11 5/8" x 4' (1 x 12)	after deck supports		#5 x 1" oh nickel-plated screws
4 pcs	3/4 x 1 3/4" x 10'	bottom battens	5 lbs	GLUES—PAINTS—UPHOLSTERING
1 pc	3/4 x 1 3/4" x 12' (makes two 6' pcs.)	deck battens	1 pt	Weldwood glue or comparative quantity of Elmer's
1 pc	3/4 x 1 1/4" x 14' (makes two 7' pcs.)	deck battens	1 qt	Kuhls Bedlast for planked seams of plywood
1 pc	3/4 x 5 5/8" x 8' (1 x 6)	center deck batten	1 qt	that will not be glassed
2 pcs	1/2 x 3/4" x 8'	aft railing	1 pt	Vynlon
2 pcs	3/4 x 7 5/8" x 8' (1 x 8)	after deck planks	2 qts	Vynlon red for sides
1 pc	1 5/8 x 7 5/8" x 2' (2 x 8)	drop sheer blocks	1 qt	Clear Firzite
1 pc	3/4 x 5 5/8" x 12' (1 x 6)	seat framing	1 1/2 lbs	Condon's plastic clear varnish or #1100
2 pcs	3/4 x 2 x 40"	seat risers		Dolphinite Super Spar
2 pcs	1/2 x 3/4 x 44"	hydro lift rails		Mahogany paste wood filler
1 pc	1 5/8" sq. x 5'	seat back ledge		spackle compound
				sponge rubber, seat back 1 x 15" x 5'
				seat bottom 2 x 15" x 5'
				Upholstering plastic fabric—2 yds. 36" width
				FIBER GLASS
			12 yds	4" glass tape—covers chines and transom
			1 pt	liquid resin, required for above RESINOTE
			2	teaspoonfuls Lamiset
			1/4	teaspoonful accelerator A
				FITTINGS—EQUIPMENT
			2	"Snorkel" Radio Antennas, Whitney, Chicago
			2	step plates #818, Kainer Wesco Corp., 761 Lexington St., Chicago 7, Ill.
			1	steering wheel—15" dia. #940-Kainer-Thunderbird Design (or Aluminum Marine, Auburn, N. Y.)
			1	bow handle
			1	wrap-around Plexiglas windshield 12 x 62"—Taylor
			2	aft lifting handles
			1	Speedometer #707-Dolphin 0-45 mph (Airguide Instrument Co., 2210 Wabansia Avenue, Chicago 47, Illinois)
			1	Herter's aluminum knee #PKIJ
			2	(Herter's, Waseca, Minn.)
			1 pc	12' lengths aluminum molding
				1/16 x 16 x 16" aluminum for streamlined motor plate side motifs and motor well motifs

PLYWOOD

1 pc	3/8" x 4 x 10' AA ext. DFPA—fir—3 ply	bottom panel
1 pc	3/8" x 4 x 8' AA ext. DFPA—3 ply—fir	bottom fore ends—transom knees, stem sides
1 pc	3/4 x 20 x 72" fir-ext. 7-ply AA or AB	transom
1 pc	1/4" x 4 x 8' plastic surface, fir or use mahogany instead	sides—fore
1 pc	1/4" x 4 x 8' 3 ply, KHAYA African mahog.	side plywood—aft
2 pcs	1/4" x 4 x 8' 3 ply, KHAYA African mahog.	decking—fore and aft
1 pc	1/4" x 4 x 4' fir or mahogany—3 ply	glove compartment, bulkhead #3 and fins—inside part of fins
1 pc	3/8 x 12" x 7' 5 ply—fir or mahogany	raised aft deck coamings
1 pc	1/8 x 20" x 5' plywood or fiber board	deck scoring pattern
1 pc	3/8 x 16" x 10' fir, ext., 3 ply AB—AC	seat bottom and backing
1 pc	3/8 x 14 x 56"—3/8" fir AC	floor boards
1 pc	3/8 x 26 1/2 x 30"—3/8" fir AC	floor boards



hemlock or fir between two $\frac{3}{8}$ -in. plywood facings. Using paper scaled from Fig. 13, cut component parts to shape, glue-coat all surfaces and then tack facings to lumber core with five or six nails to a facing.

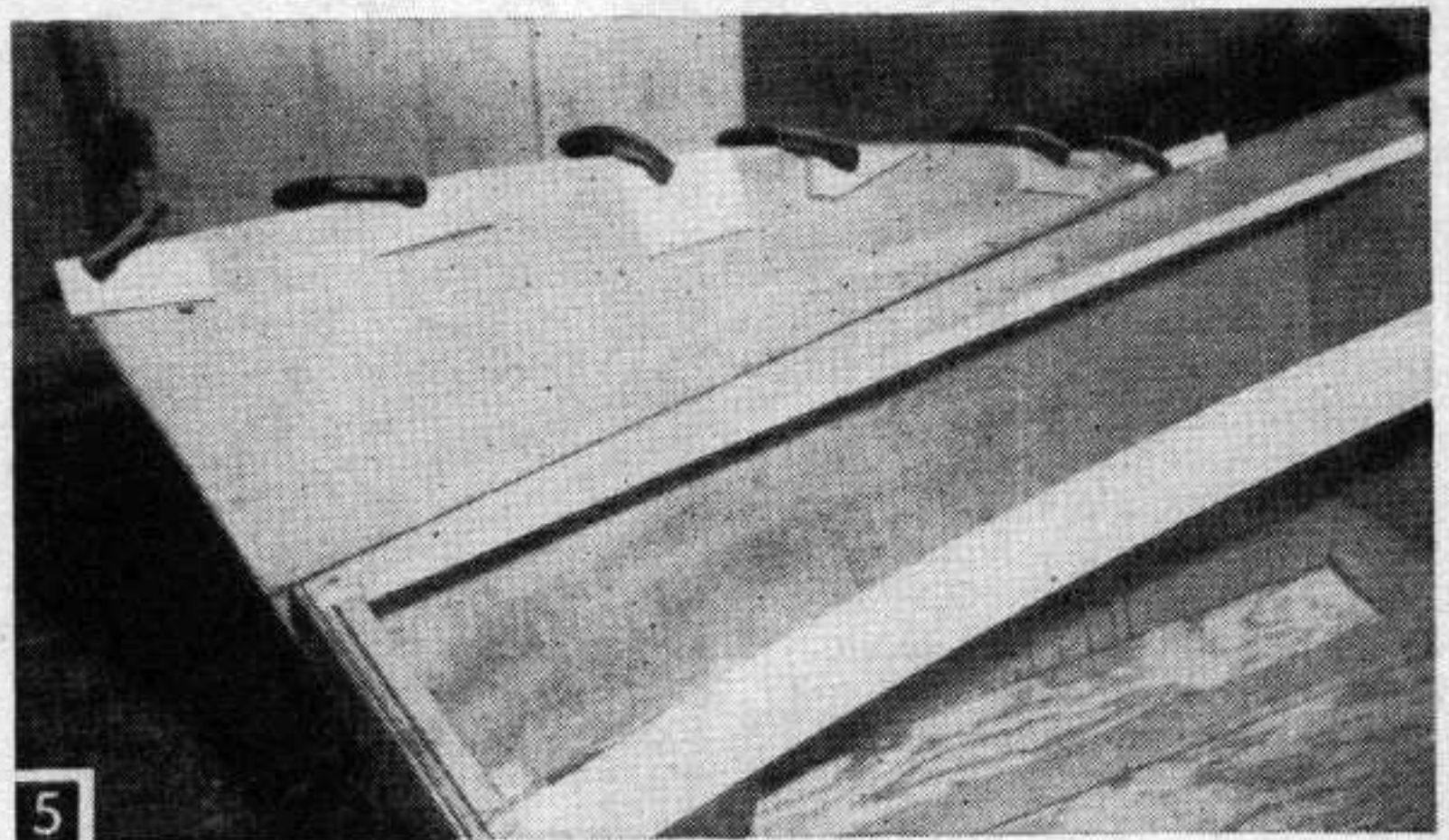
When you clamp, use six 6-in. Jorgensen C clamps, with scrap blocks under clamp pads to prevent marring and to distribute holding area of clamps. (Place old newspapers between facing surface and scrap block to prevent blocks from being glued to stem, sanding off paper and excess glue with a disc sander when assemblage is dry.) Finish stem by cutting notch for keelson and trimming top to fit sheer plate assembly. Don't fasten yet. First bevel both sides of stem down to point just below where chines attach. Remainder of this beveling is accomplished more easily when framing of entire boat is finished.

Framing. For all frames (see Fig. 10) except the transom, full-size outline patterns are required drawn on heavy wrapping paper. The outline of the transom is drawn directly on $\frac{3}{4}$ -in. fir or mahogany

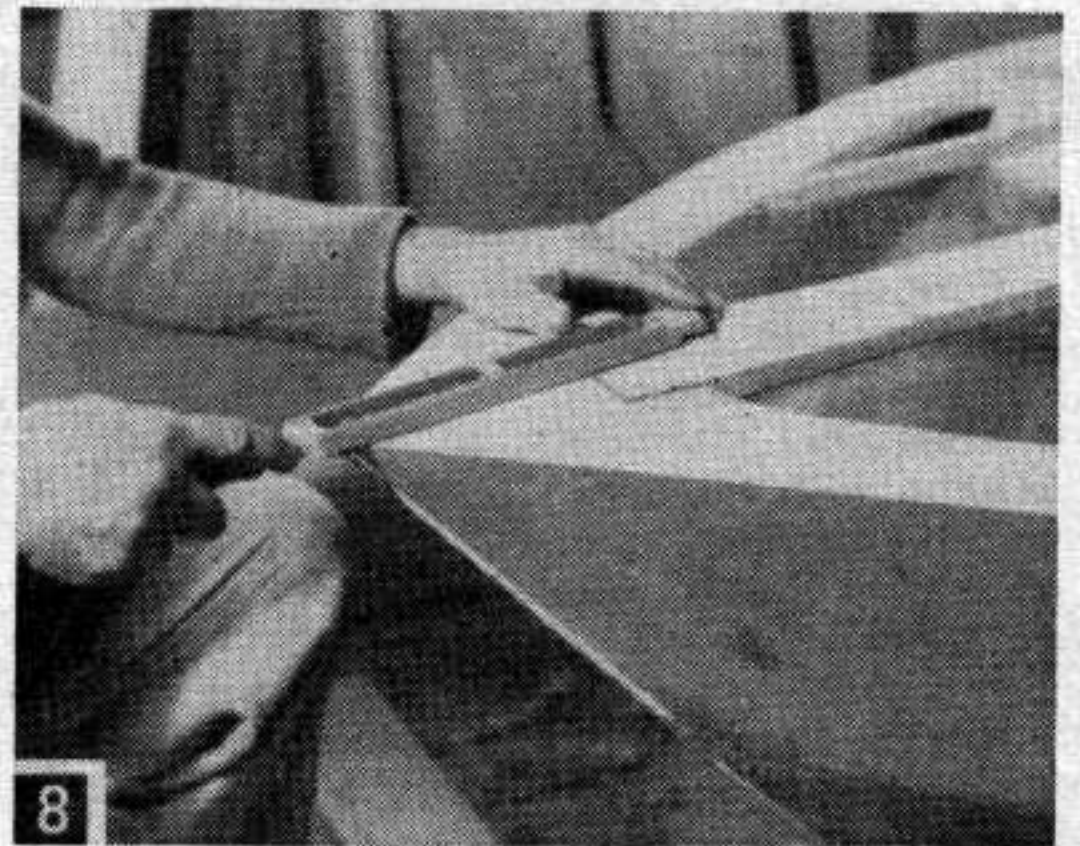
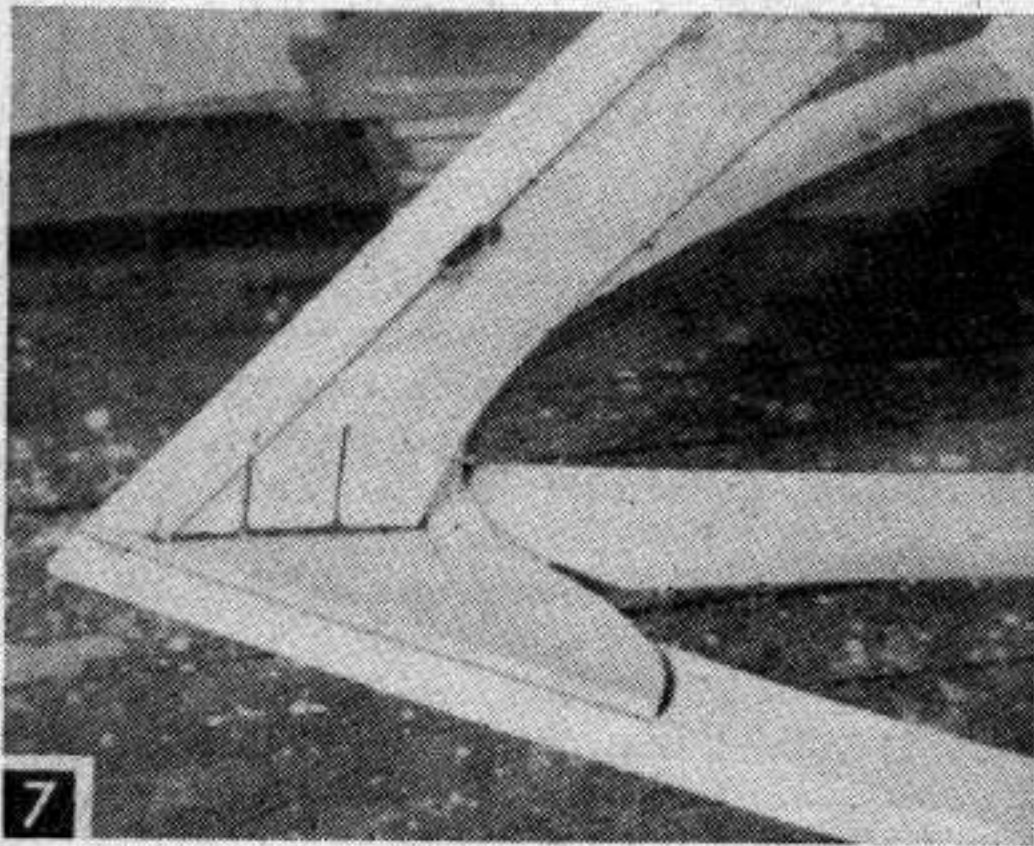
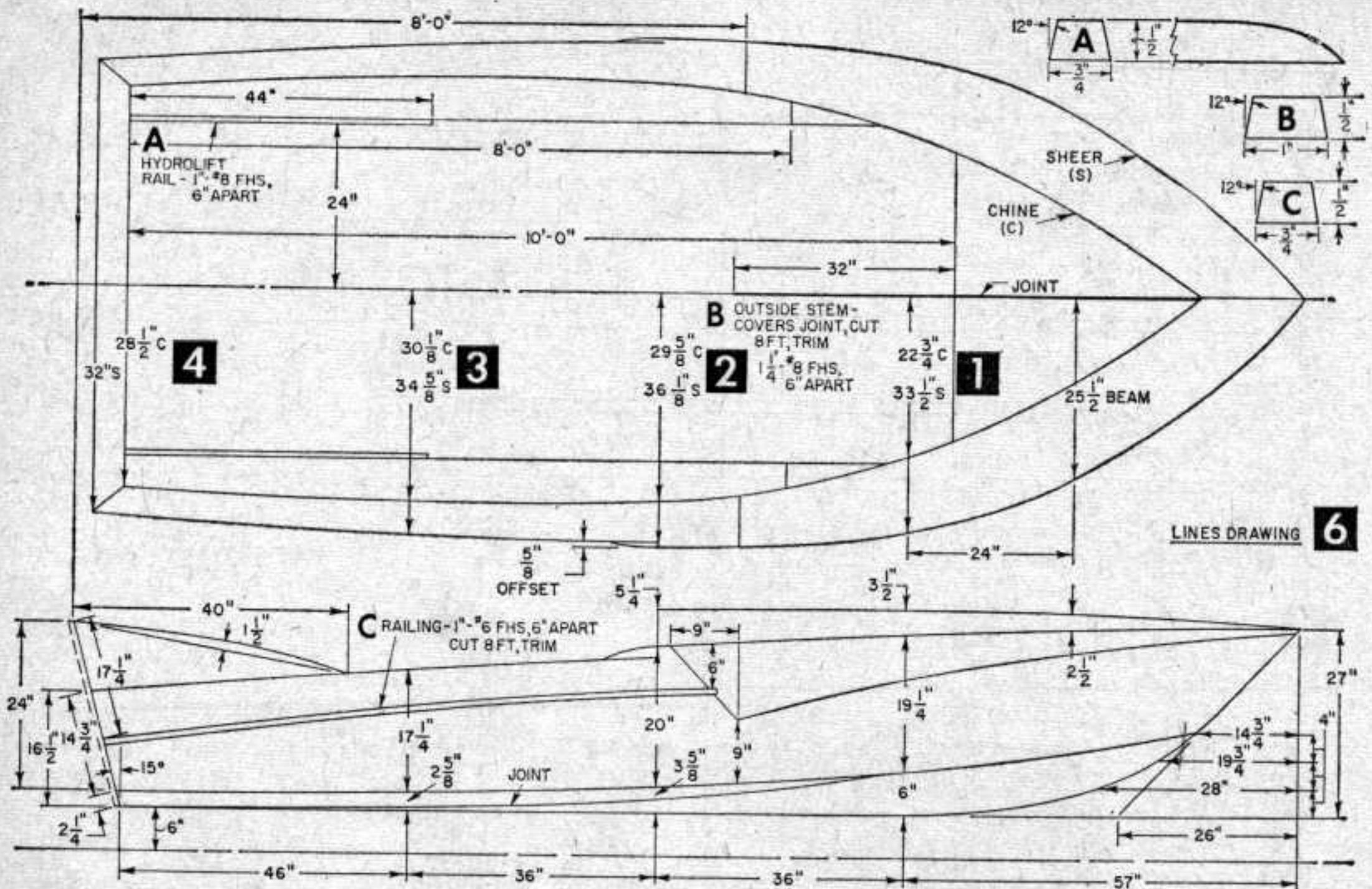
plywood and this frame is then sawn to size. Leave patterns for frames #1, 2, and 3 intact and assemble component pieces upon the outlines, mark, saw to shape and assemble per outline.

Fit inner transom framing to plywood, glue-coat all contact surfaces and screw-fasten with #8 x $1\frac{1}{4}$ -in. fh screws inserted from plywood side, spaced 4 in. apart, a double row top and bottom and staggered, the outside framing does not go in place until entire hull is framed.

Glue-coat contact surfaces of #3 frame and fasten partial bulkheads with either 1-in. nails

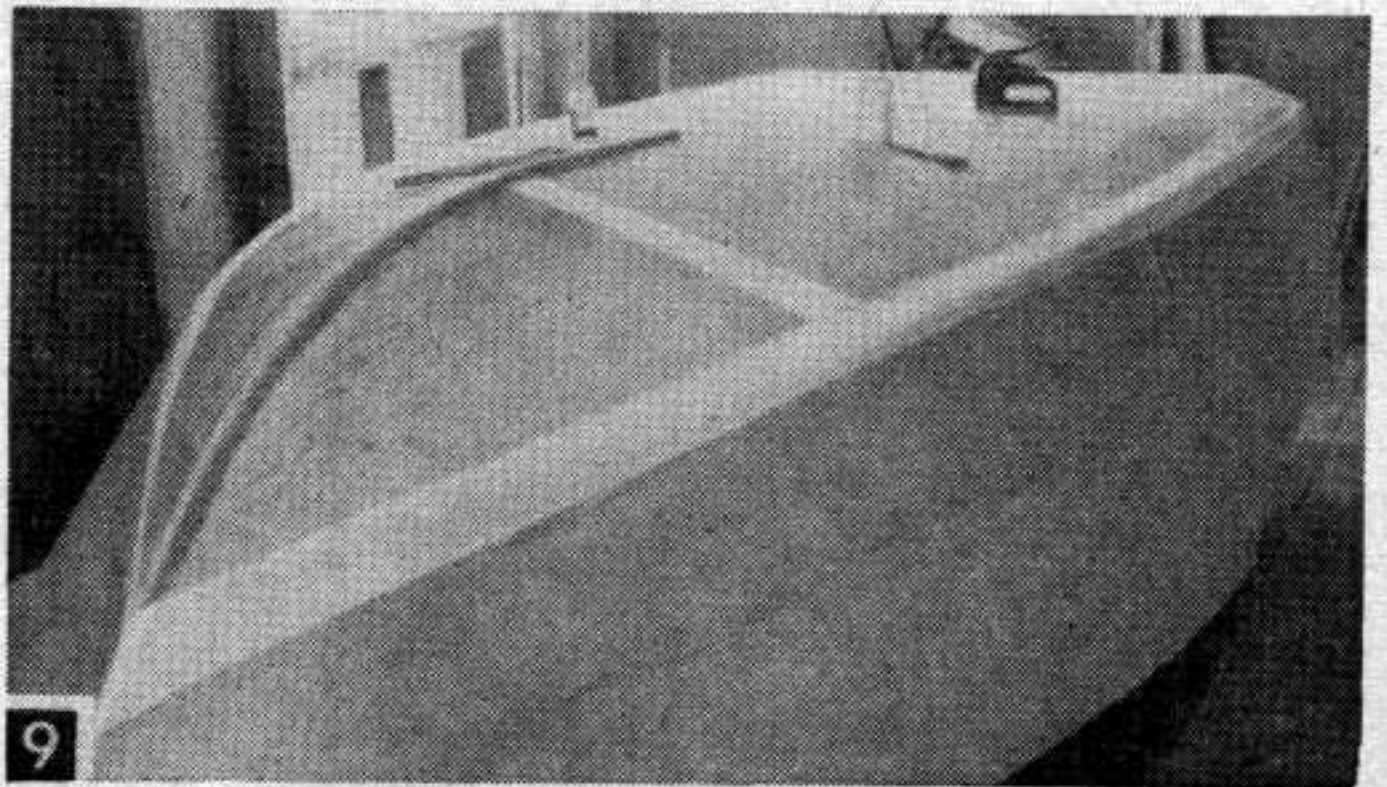


Fin framing is simply clamped along top until glue hardens.



Stem is screw-fastened to sheer plate after glue-coating (Fig. 7). Then forward deck beam is similarly fastened and rasped flush (Fig. 8). Screw-fastening from stem to sheer plate is up through stem gusset.

or screws, using two #8 x 1 $\frac{3}{4}$ -in. fh screws to each side joint at the juncture of bottom and side members. The #2 frame is similar to #3 except that a deck beam is attached with a cutout for glove compartment. Cut deck beam (see Fig. 15) to shape, glue-coat contact surfaces of it and of the #2 frame and fasten to frame with two #8 x 1 $\frac{3}{4}$ -in. fh screws per joint. The #1 frame—the bottom part of which is made in



Fiberglass tape can be used over chines.

two pieces joined with a plate—also has an attached deck beam. Glue and screw-fasten as with the #2 frame, using six #8 x 1 3/4-in. screws from plate to bottom members. Now, with sheer plates, stem, transom, frames and deck beams, including beam that attaches to sheer plate completed, you're ready to assemble framework.

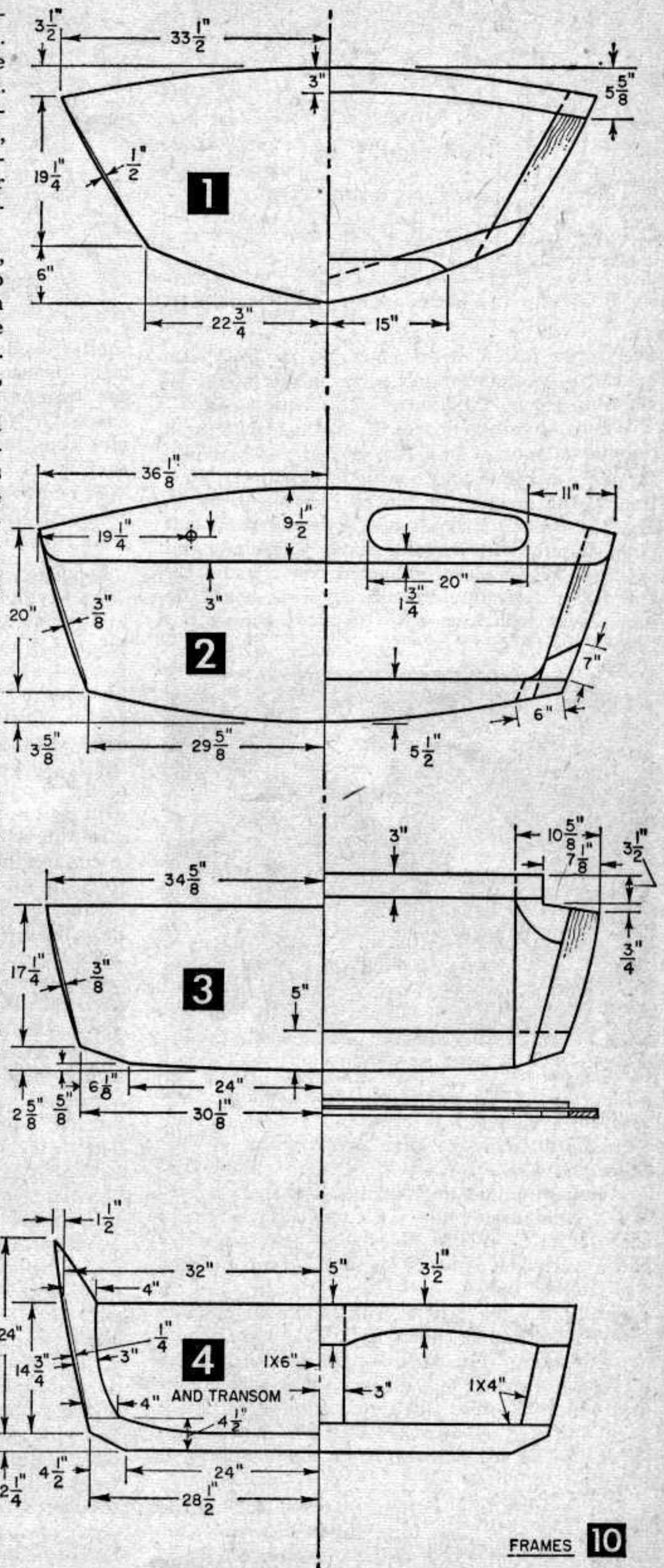
A building form is not necessary, since the keelson is stiff enough to support the hull during construction and the frames maintain hull shape very well during the initial stages. With the exception of the chines, then, the framing is self-forming.

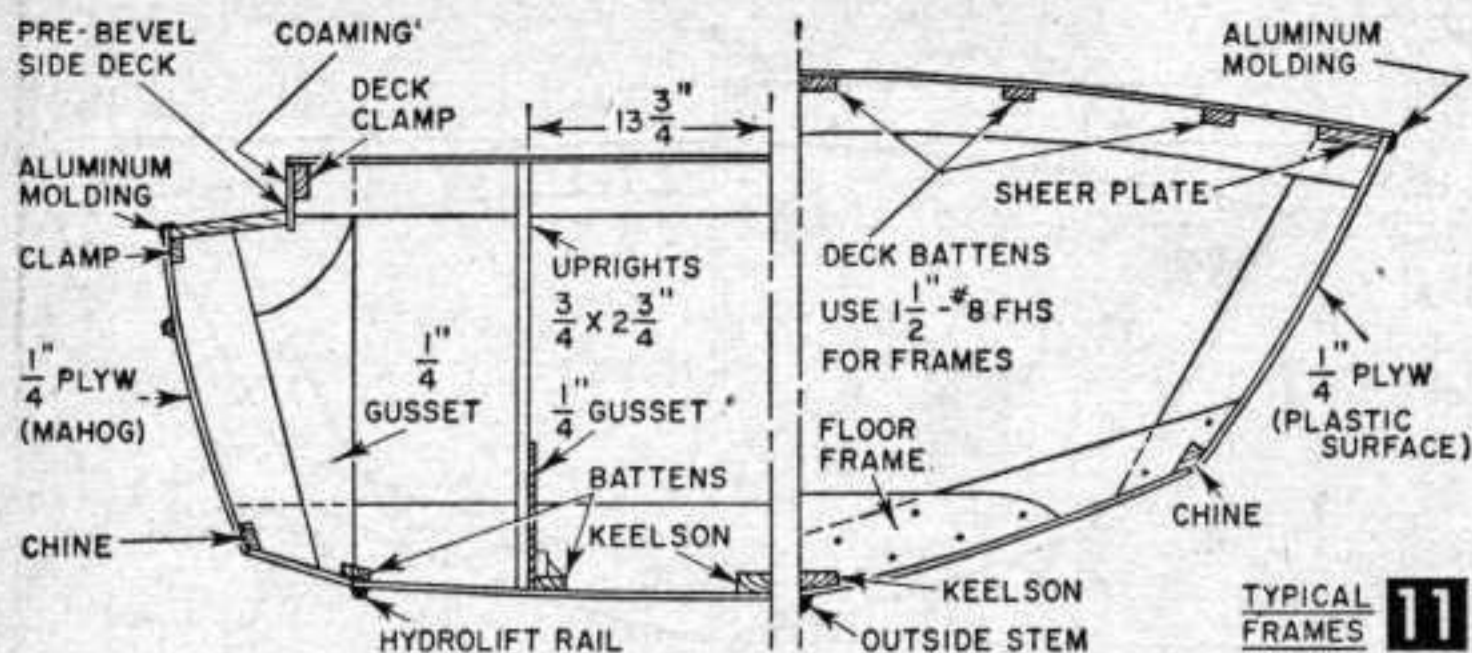
Begin by notching stem and all frames, including transom, for keelson and chines, notches for chines cut undersize, and then, as chines are fitted in place, custom-cut for a perfect mate by running a saw alongside chine and framing notch. Next, mark keelson for proper location of frames (see Figs. 4 and 6) and pre-assemble them and stem to keelson, securing transom with aluminum knee (see Materials List), with frames clamped bottomside up to keelson at marked locations, the entire assembly set on sawhorses.

Drill lead holes for fastenings, countersink for screw heads and fasten with two #8-#10 x 1 1/4-in. fh screws at each joint including stem. Check for squareness against keelson with a framing square as you proceed and then, with keelson, frames and stem assembly fastened, turn it right-side up on sawhorses. Then prop frames to floor with 1 x 4's (see Fig. 3), glue-coat contact surfaces and screw-fasten sheer plate to stem and frames with two #8 x 1 3/4-in. fh screws to each joint. Then clamp forward deck beam in position on sheer plate and fasten in the same manner.

Continue aft, notching frames #2, 3 and 4 for 3/4 x 1 1/4-in. clamps and fasten these clamps in position with a single #8 x 1 3/4-in. fh screw to a joint. Leave clamps extending at a #2 frame, to be trimmed later.

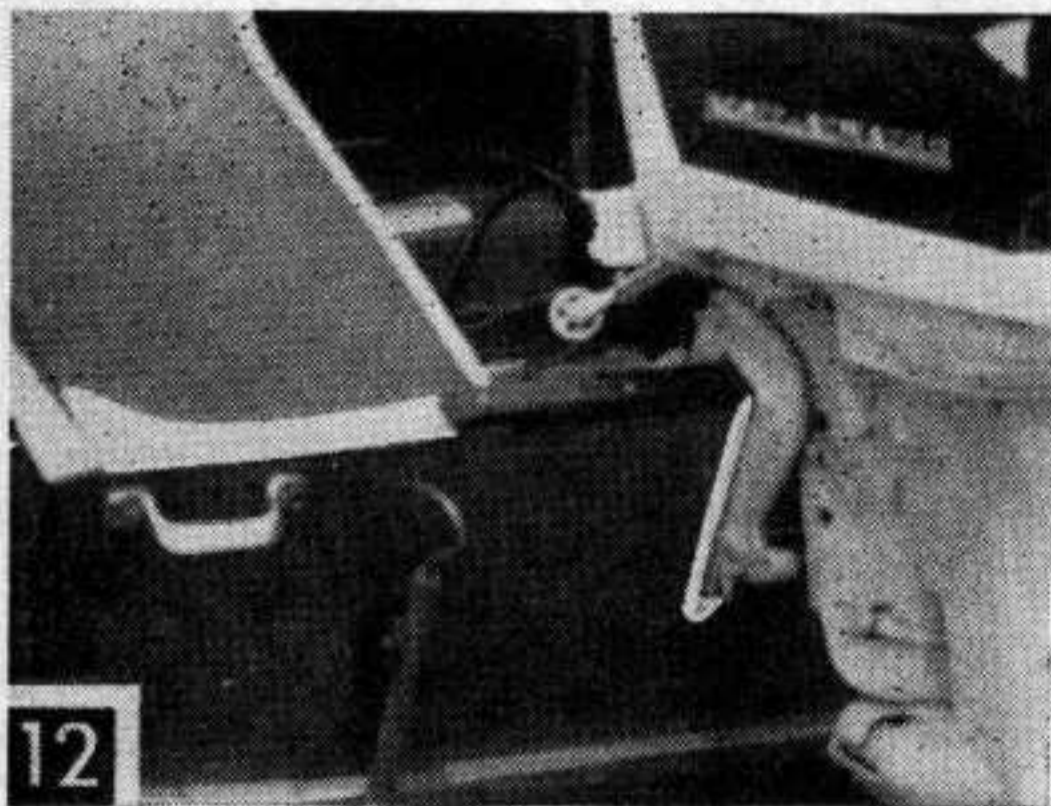
Next, install the after covering boards (see Figs. 2A, 2B and 6). These boards are clear 1 x 8's, spruce, mahogany, red cedar or pine; and you'll need a piece for each side. Pre-bevel them at 6° (allowance is made for the later insertion of 3/8-in. coamings). With covering boards marked to shape, saw to size, return to hull, glue-coat contact surfaces





and screw-fasten with #8 x 1 $\frac{3}{4}$ -in. *fh* screws spaced 6 in., countersink screw heads about $\frac{1}{16}$ in., filling heads flush later with plastic wood.

Where covering boards fit against #2 frame, provide supports (see Fig. 4), screw-fastening supports to frame and boards to supports. Now, fashion the drop sheer blocks (see sheer detail, Fig. 15) that fit just aft of #2 frame from soft pine, shaping with a spoke shave, jack plane and sanding. Fit in place, glue-coat contact surfaces and fasten from underneath covering board up into blocks with four #8 x 1 $\frac{3}{4}$ -in. *fh* screws per block.



12 Detail of motor mounting on transom.

Place chines in previously sawn notches and with both clamped to transom, spring to bow stem simultaneously. Then run a saw along side chine and frame for a perfect mating fit. Bevel fore ends of chines to fit against stem and screw-fasten chines with one #8 x 1 $\frac{3}{4}$ -in. *fh* screw at each joint. Drill lead holes for these fastenings and countersink $\frac{1}{32}$ in to $\frac{1}{16}$ in. deep since chines will later be faired.

Now, place the center deck batten in position (see Figs. 2 and 4), mark deck beams for it and notch it flush into beams, fastening with two #8 x 1 $\frac{3}{4}$ -in. *fh* screws to each joint. The fore end of this batten fits into vee notch formed by sheer plate and is glued and screw-fastened into place, three #6 x 1-in. screws from stem gusset to batten.

Before installing bottom battens, fair entire framework. For this, turn hull upside down on sawhorses. You'll find that from stem aft to #1

frame along the chine it will be impossible to make a uniform fairing job with the sheer plates—there is so much more curve to plates than to chines—and you will have to add softwood filler pieces to glue to chines in order to make perfect contact surfaces.

Now, notch bottom battens flush into frames and fasten with one #8 x 1 $\frac{3}{4}$ -in. *fh* screw at each joint. Then position bevelled chine batts and fasten

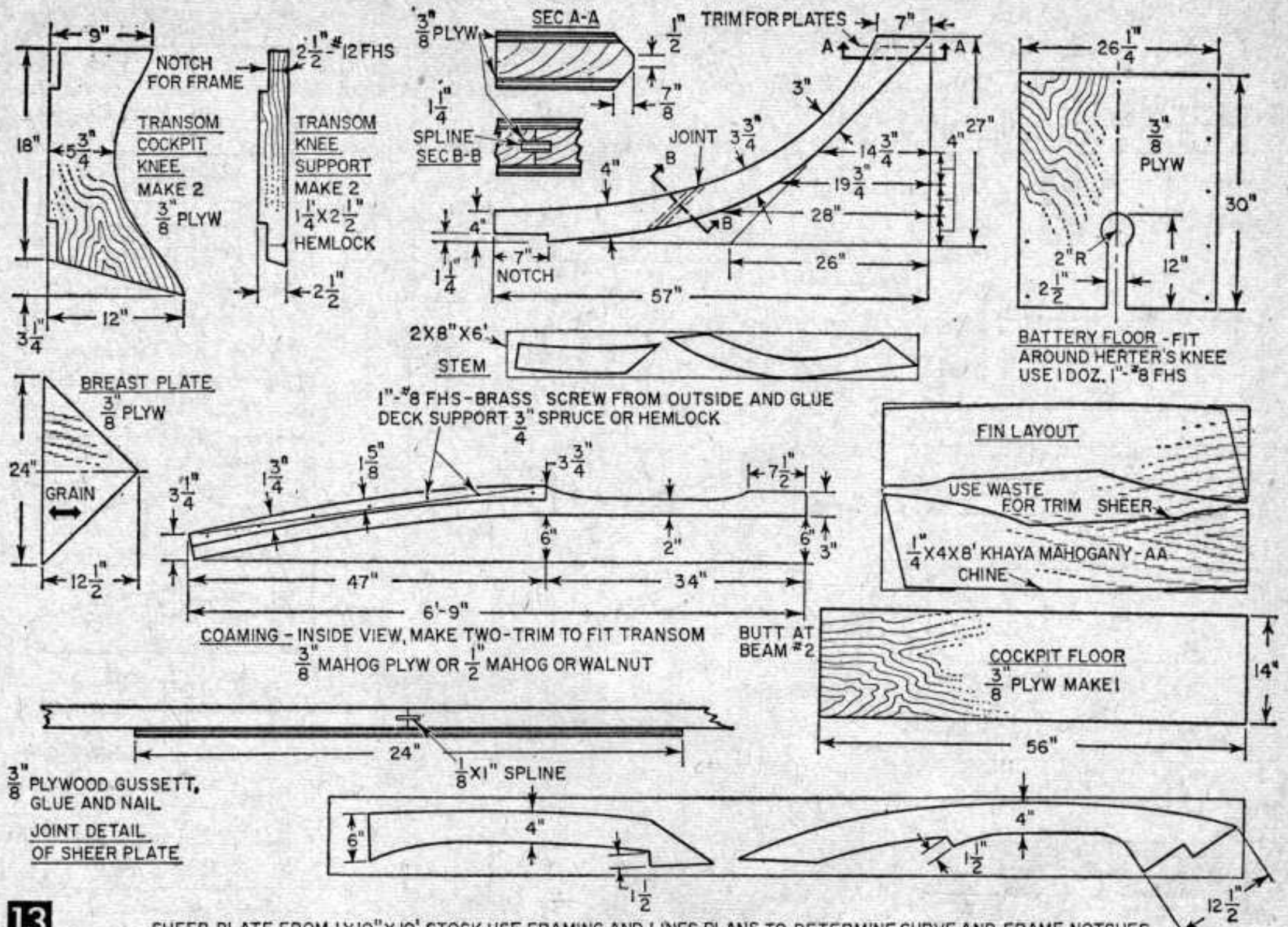
similarly. Next, glue $\frac{1}{4}$ -in. mahogany outer facing to transom clamping through 1 x 4's, and cut the transom's outer framing (see Fig. 10) to shape. If you intend to fiberglass the bottom, glue contact surfaces of outer framing and transom, but if bottom and sides will be painted only, then bed this outer framing in Kuhls *Bedlast*. In either case, screw-fasten framing to transom with #8 x 1 $\frac{3}{4}$ -in. *fh* screws spaced at 4 in.

Planking. Glue and nail glove compartment (Fig. 15) in place, and you're ready to plank the hull, joints to be bedded in *Bedlast* if hull is to be painted, glue-coated if it is to be fiberglassed. Lay a 4 x 10-ft. sheet of $\frac{3}{8}$ -in. plywood (three-ply fir exterior) in place so that it lands centered on center of bevel battens, and slit fore end as necessary. Clamp the sheet in position and from under the framework mark with a pencil the outlines of the framing on the sheet. Remove sheet and drill lead holes at 15-in. intervals through marked locations of framing and then it is an easy matter to connect lead holes with a pencil line in order to locate all fastenings locations.

Now, glue-coat (or *Bedlast*) all contact surfaces, clamp sheet in place and screwfasten with #8 x 1 $\frac{1}{4}$ -in. *fh* screws spaced at 2 in. With sheet completely fastened, climb underneath hull and wipe off all excess glue; it will be easier to remove now than later, and it should be removed for appearance's sake, especially if interior of the hull is to be varnished as was the original's.

Provide two thicknesses of $\frac{3}{8}$ x 3-in. plywood for joint battens forward, fastening with #6 x 1-in. *fh* screws, then make a heavy paper pattern of the two fore ends of plywood to be placed at bow. (Simply press paper in place and then scissors to shape.) Transfer pattern to $\frac{3}{8}$ -in. plywood and saw to shape. Soften fore ends of these pieces by soaking in tub of hot water for 15 minutes, or by wetting them down and "ironing" with an electric iron, then glue-coat contact surfaces and clamp fore ends in position, one side at a time. Fasten with #8 x 1 $\frac{1}{4}$ -in. *fh* screws.

Trim plywood evenly along stem and make the plywood juncture joint between bottom plywood and side plywood (to be applied). Cover the bevel chines aft with a $\frac{3}{8}$ -in. plywood piece (making a paper pattern to arrive at a fair shape), glue-coat contact surfaces and fasten sheet in position with #8 x 1 $\frac{1}{4}$ -in. *fh* screws. Finish bottom by trimming plywood at transom.



13 SHEER PLATE FROM 1 X 10" X 10' STOCK, USE FRAMING AND LINES PLANS TO DETERMINE CURVE AND FRAME NOTCHES

Plywood for the sides, aft, should be 1/4-in. African mahogany. By positioning it carefully, one 4 x 8-ft. sheet can be made to cover two sides, including fins. Cut out two sides and glue and secure with #6 x 7/8-in. fh screws spaced about 2 in. Provide battens for forward joints with two thicknesses of 1/4-in. plywood, to be glued and nailed in place.

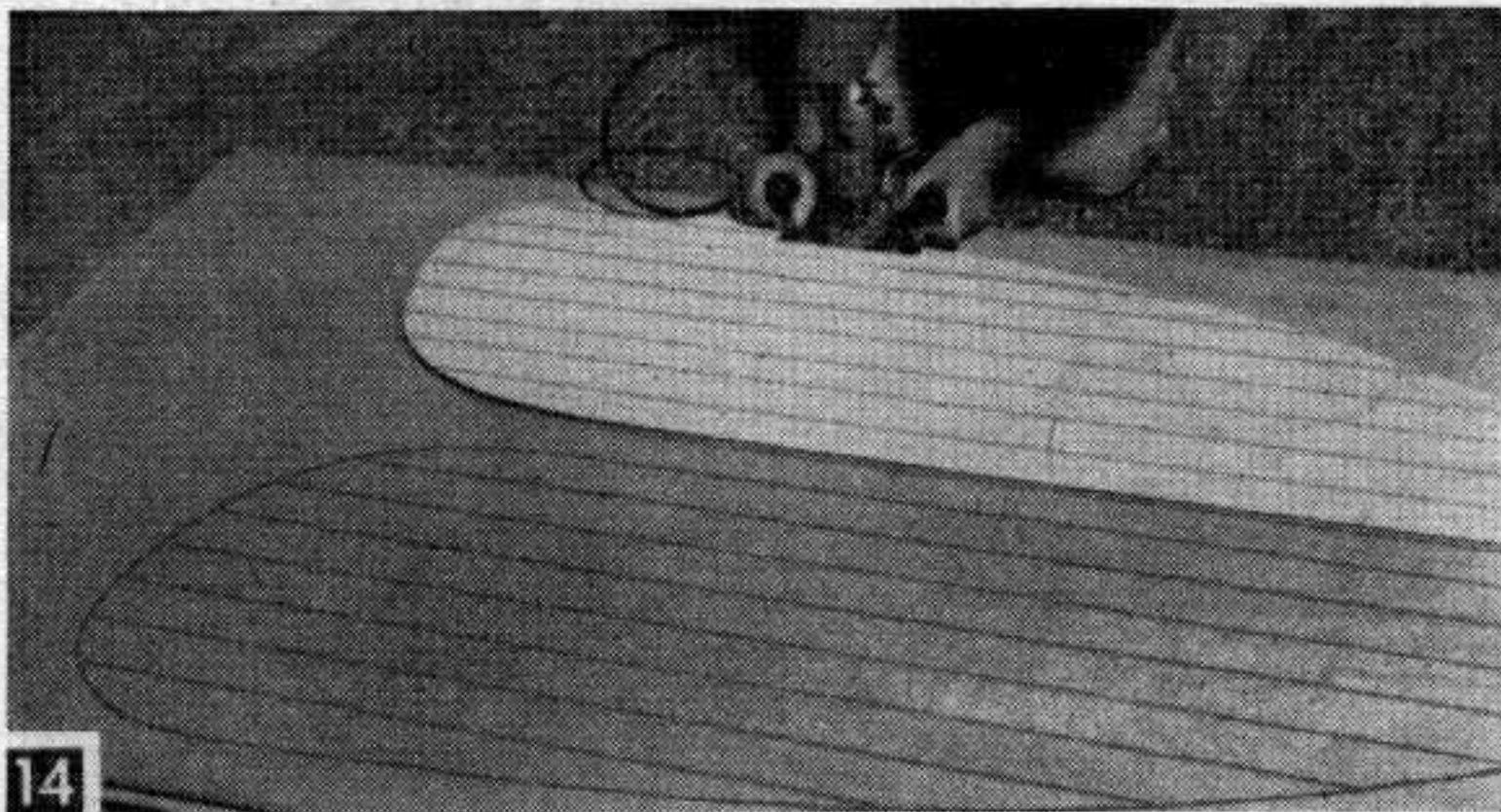
Forward side planking should be plastic-surfaced 1/4-in. plywood. Clamp a 4 x 8-ft. sheet into position, mark, remove and cut to shape, using the cut piece for one side as a pattern for the other side. Glue coat all contact surfaces and screw-fasten pieces with #8 x 1-in. fh screws.

Trim all edges evenly and apply outer stem, first softening it with hot water. Screw-fasten with #8 x 1 1/4-in. fh screws spaced at 5 in.

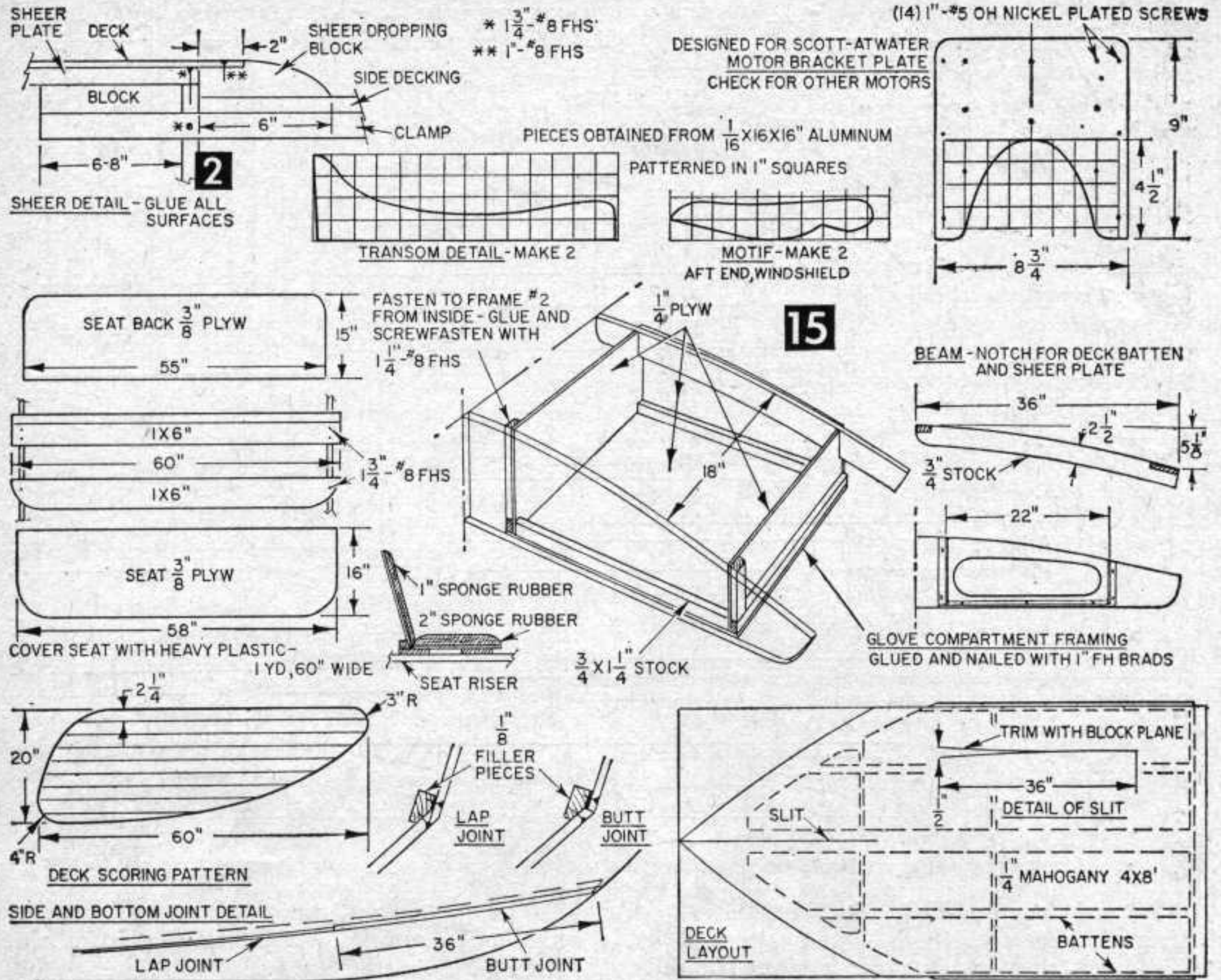
Now, if you are going to, is the time to fiberglass the hull. You can either use 4-in. tape around chines only (see Fig. 9), or glass the entire bottom. Complete instructions for application of fiber glass are included when the material is ordered from Herter's, Waseca, Minn. After fiberglass hardens, feather the rough edges.

Now, starting aft, install keel and batten struts, plywood knees, after-deck assembly and fins. Details of fin assembly are shown in Figs. 13 and 2B. Framing for them is scrap. Deck framing is

glued and then screw-fastened with #8 x 1 1/4-in. fh screws. Top-side frames of fins are cut to wedge shape from a 1 5/8-in. piece of stock, and then kerfed at 6-in. intervals so that they will bend edgewise. Coat saw cuts and mating surfaces with a heavy glue solution and clamp pieces to after sides of plank fins — no fastenings — allow to harden, then fair fin framing and cut inner portion of fin to fit from 1/4-in. plywood. Glue plywood and fasten with



14 When cutting deck panel motifs with hand router, use scoring pattern full-size from Fig. 15 and be sure to go no deeper than first ply of deck plywood.



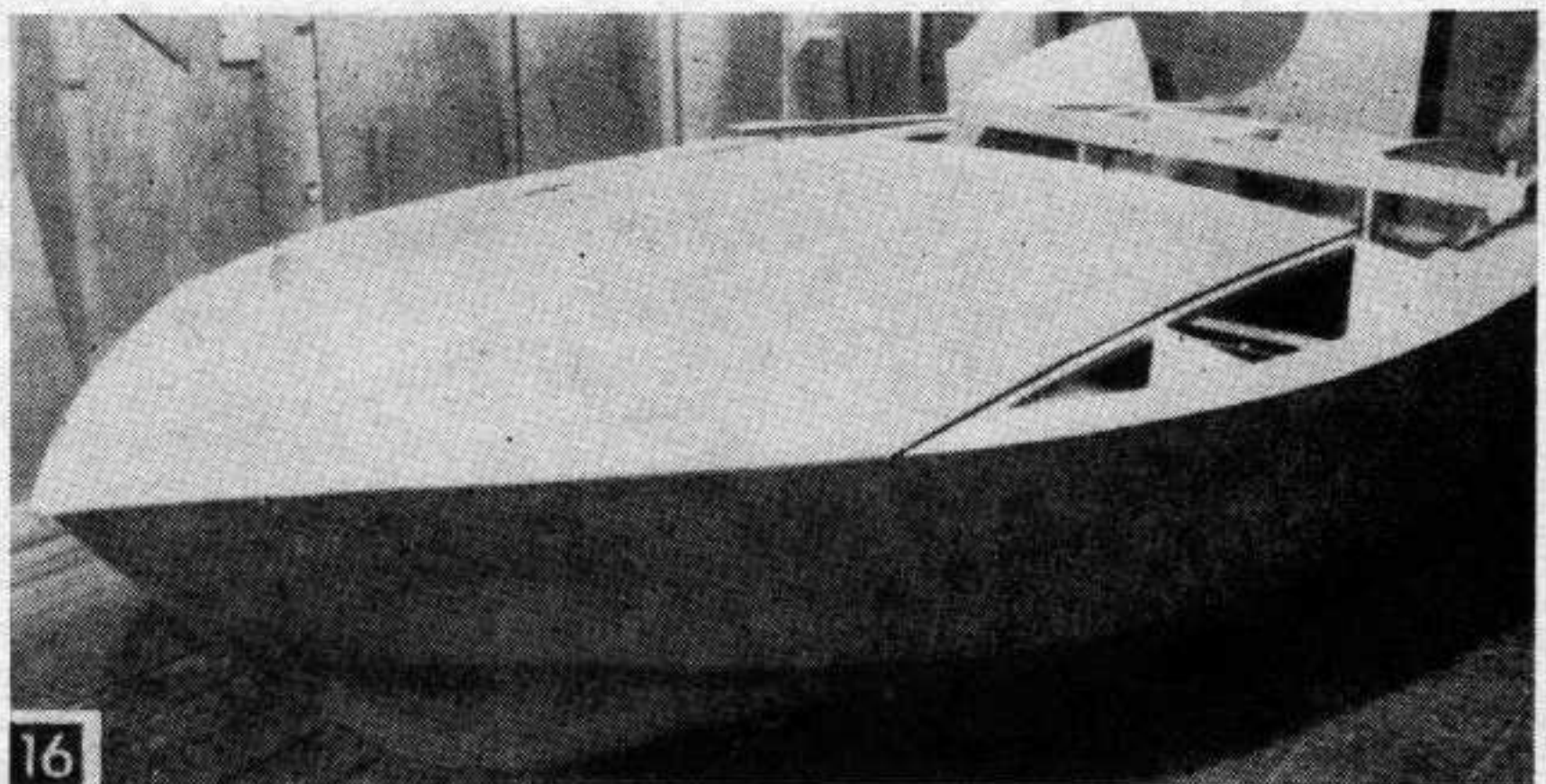
#6 x 1-in. fh screws along bottom; simply clamp along top edge until glue is hard (see Fig. 5).

Now glue and nail (with 2-in. galv. wire nails) keel struts between transoms #3 and 4, the transom ends of keel struts butting against the aluminum knee. Continue by placing struts as shown in Figs. 2A and 4 upon the next battens out from the keelson, gluing and nailing (1 1/2-in. galv. wire nails) the 45° fillets as shown.

Before working on the motor well or cockpit, saw coamings to shape (see Figs. 13 and 19), fit in place each side and remove them, and then, using them as patterns, mark and cut to shape the coaming deck supports (spruce or hemlock). Glue-coat contact surfaces and fasten through coaming into support with #8 x 1 1/4-in. fh screws spaced at 6 in. Provide a block, as

shown in Fig. 2A, for transom end of coamings and screw-fasten this combination in place to side decks with #6 x 1-in. fh screws, inserting screws at an angle so that they don't break out at either top or bottom of side decks.

The principal parts of the afterdeck framing are two curved beams which, at the transom end, land upon 3/8-in. plywood knees. These knees are secured to transom with two 1 1/4 x 2 1/2-in. uprights glued and screw-fastened (#10 x 2-in. fh



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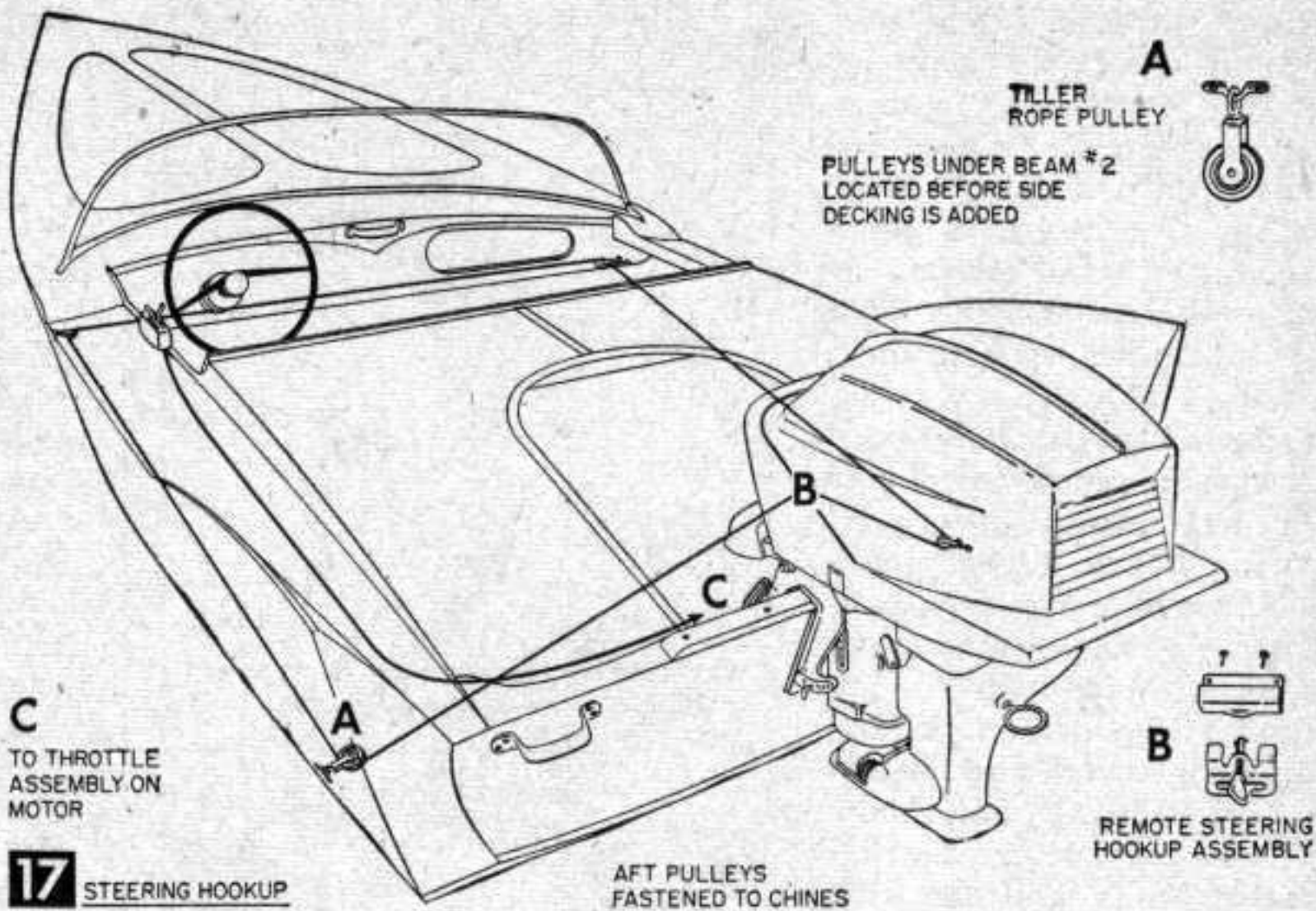
Give underside of decking three coats of Firzite before fastening it in place.

screws) to transom with four screws to each support, the knees themselves being glued and nailed (1¼-in. galv. wire nails) to uprights. Nail the lower ends of knees to batts along with fillets as shown in Figs. 2A and 4. Framing members for this after and fore decking should be spruce, hemlock or fir to reduce weight and still provide adequate strength. Deck beams are supported with ¾ x 2-in. uprights.

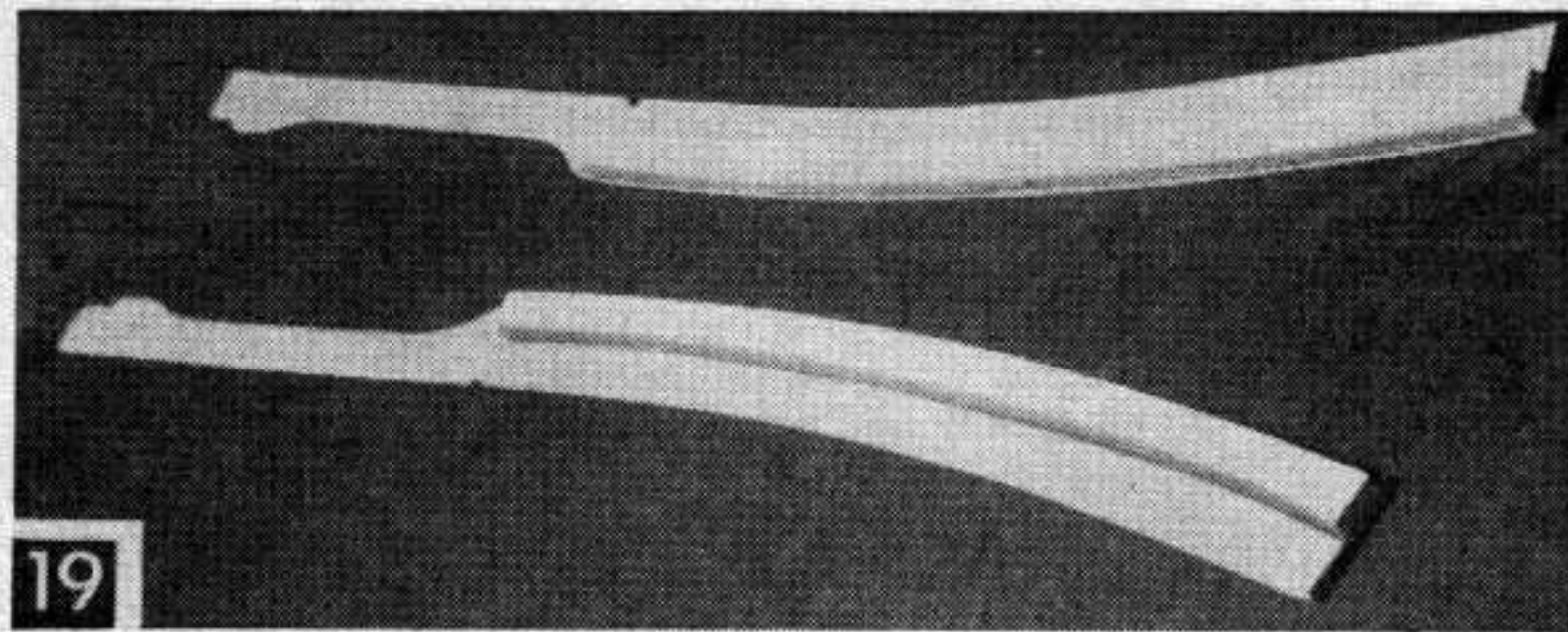
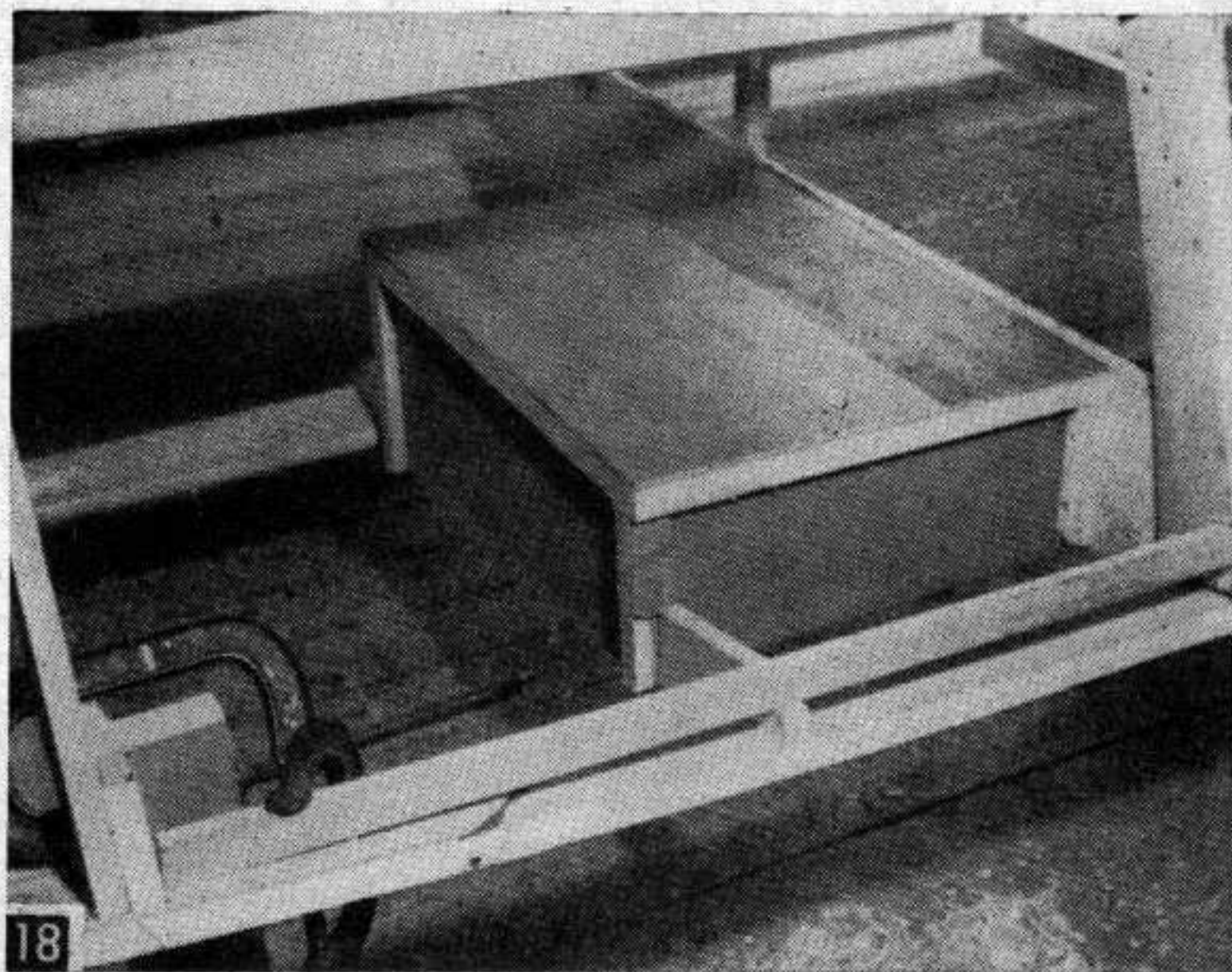
To varnish the interior of the hull, first apply one or two coats of *Fir-zite*, then follow this with two coats of spar varnish. Then fasten the ¾ x 2 x 40-in. seat riser's in place, one #10 x 2-in. *fh* screw to a joint.

Decking for Cobra should be ¼-in. African mahogany plywood, three plies of equal thickness. Begin by laying a 4 x 8-ft. sheet in place with the fore and even with the bow stem. The after end will overlap #2 beam, but now center panel at or slightly ahead of this beam. Center by measuring in from edge of panel to sheer both sides, and clamp in position. A compound curve towards the bow which would prevent the decking from contacting deck beams is slit for by marking back 36 in. down the center of the panel from the bow stem and sawing (see Fig. 15).

Fair deck framing with a jack plane until slit lies flat and area contacts deck framing, then mark each beam along outer edge of panel so that battens to be installed will have outer edge of panel falling midway upon them. Remove panel and notch all deck battens flush into beams, fastening with one #8 x 1¾-in. *fh* screw per joint. Replace deck panel and trim off



17 STEERING HOOKUP



Glove compartment (above, Fig. 18), and coamings (below). Glove compartment is constructed as shown in detail in Fig. 15, then glued and nailed in place.

excess plywood forward (shape over sheer), remove panel again and—using deck scoring motif

excess plywood forward (shape over sheer), remove panel again and—using deck scoring motif

pattern shown in Fig. 15—cut through first ply *only* of decking to pattern with a hand router. Then give underside of decking three coats of Firzite, place panel in position and fasten to beams and battens with #6 x 1-in. *fh* screws, spacing them 3 in. to 4 in. apart.

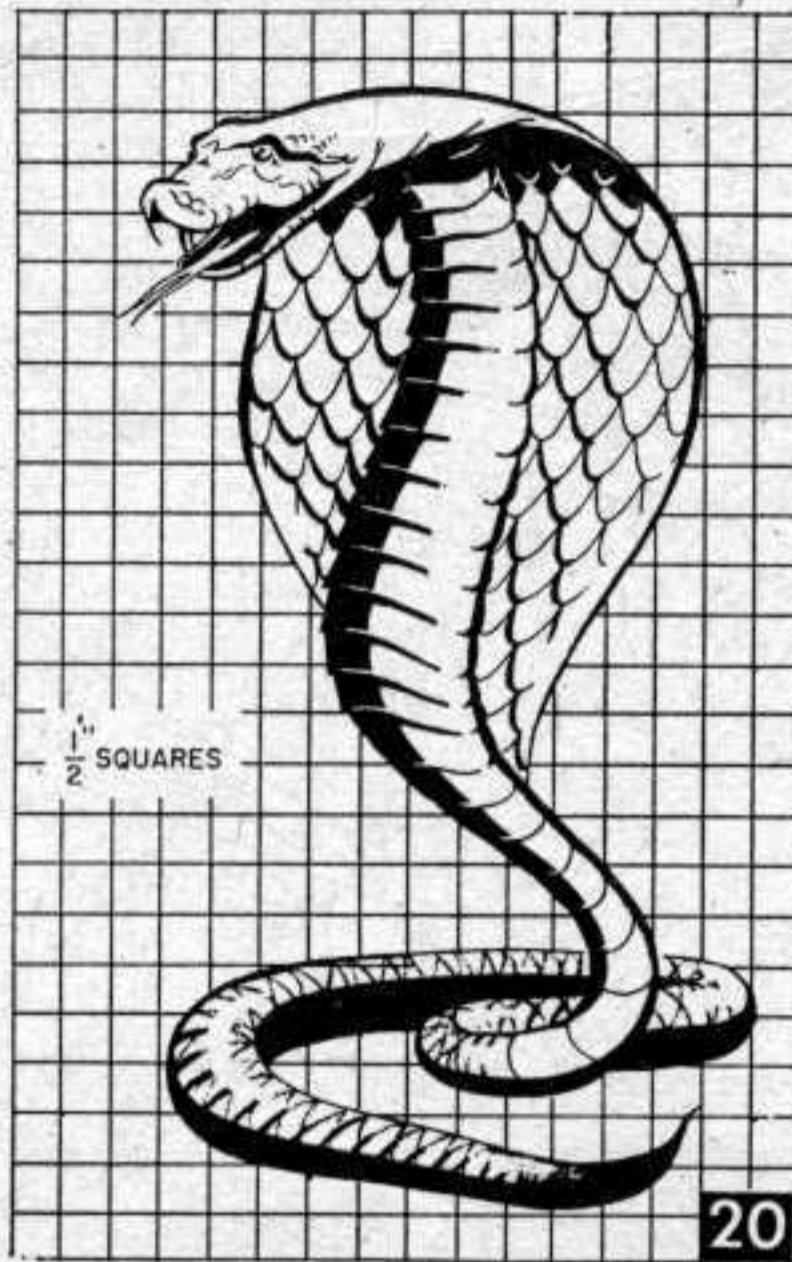
To use plywood to best advantage for remainder of side decking, make a pattern by placing heavy paper alongside edge of center deck panel and pressing against sheer edges. Cut out pattern, lay out one side on 1/4-in. mahogany, turn pattern end for end and lay out other side. Make patterns for after decking (motor well) and cut this from same 4 x 8-ft. panel used for fore side decking. Fasten remainder of decking in place as you did center fore decking.

Seat framing is cut from 1 x 6's and screw-fastened to risers with #8 x 1 3/4-in. *fh* screws, two to a joint, seat back butts against a 2 x 2 (1 5/8 in. square) and this piece is fastened to aft 1 x 4 cross piece with #8 x 1 3/4-in. *fh* screws spaced at 6 in. Apply two coats of spar varnish to seat framing, then cover 3/8-in. plywood back rest with 1 in. of sponge rubber, seat bottom with 2 in., covering with a waterproof plastic fabric. (We used a Saran plastic Dodge automobile seat cover.)

Sand decking and sides with 3/0 garnet cabinet paper, dust, and apply mahogany paste wood filler thinned with turpentine to the consistency of heavy paint. Try the filler on scrap first; you want a shade that gives a deep, rich red glow not just brown. Let filler dry only until sheen disappears, then wipe off excess across grain and let dry 12 hours.

Next, apply a thin coat (5-to-1) of #1100 Dolphinite Super Marine spar varnish. Let dry 24 hours, then fill routing on deck flush with spackle to which a small quantity of flat white paint has been added. A rag dipped in turpentine will remove excess spackle and depress seams nicely. Sand all varnished surfaces with 4/0-150 waterproof garnet paper, using water as a lubricant, and follow with two more coats of Dolphinite #1100, rubbing the first coat but not the last. Both coats can be applied in one day.

Sides of Cobra can be a combination of paint and varnish, while the bottom, as mentioned earlier, can be fiberglassed (with pigment included in the final coats of resin) or simply painted. Whichever method you have decided upon, the best bottom paint for Cobra is Vinylon (Racing Red, perhaps, or Golden Buff), three coats. Made by Surface Coating Engineers, 272 Duremus Ave.,



Newark, N. J., Vinylon prevents water soakage, is flexible, and can be applied on both bare wood and fiberglass. Or, if hull is fiberglassed, you can use Sudbury's #365 and apply a primer before applying paint. (Sudbury paint and primer is available from Sudbury Laboratory, Sudbury, Massachusetts.)

Aluminum moldings (1/8 x 3/4 in. with rounded edges and a concave inner surface) conceal and protect decks' sheer edges. Two pieces 9 1/2 ft. long are needed, fastened to sheer forward with #5 x 1-in. *oh*, nickel-plated screws spaced at 7 in. Cut these pieces from 12-ft. lengths, using the overage to make the streamline motif molding for sides. Aft side decking and tails are covered with thin gage aluminum

kitchen cabinet moldings.

The 1/2 x 3/4 in. railing located each side aft is screw-fastened at #2, 3 and 4 frames with #5 x 1-in. *oh* screws, at six other points each side (inserted from inside out) with #5 x 3/4-in. *oh* screws. An aluminum bow plate handle forward and two aluminum lifting handles aft are screw-fastened with #8 x 1-in. *fh* screws, aluminum step plates each side are secured with three #5 x 1-in. *oh* screws per plate. (Another aluminum accessory, *SkiVue* mirror, with 170° latitude of vision, will add safety to water-ski towing.)

Windshield for Cobra is a swept-back, molded, 3/16-in. Plexiglas design, with rubber deck seal, chrome plastic top edge seal, and chromed side wings. Easy-on-the-eyes green-tinted glass is optional.

Speedometer for Cobra is the Air-Guide, deck-mounting Dolphin #707 used with a #13 transom mount or pickup tube. Steering wheel is of swept-back design; steering blocks (pulleys) are nylon-sheaved, stainless steel. Steering cables (see Fig. 17) of plastic-coated stainless steel, 3/16-in. dia. (36 ft.), are required.

"Snorkel" radio antennas (available at auto supply houses) complete the nautical deck ensemble. Buy the so-called "falsies." They're less expensive and will work quite satisfactorily if installation of an auto radio is contemplated.

● Craft Print No. 298 in enlarged size for building Cobra is available at \$2. Order by print number. To avoid possible loss of coin or currency in the mail, we suggest you remit by check or money order (no CODs or stamps) to Craft Print Div., SCIENCE and MECHANICS, 505 Park Ave., New York 22, N. Y. Please allow three to four weeks for delivery. Special quantity discount! If you order two or more craft prints (this or any other print), you may deduct 25¢ from the regular price of each print. Hence, for two prints, deduct 50¢; three prints, subtract 75¢, etc. Now available, our new illustrated catalog of 212 do-it-yourself plans, 25¢ (refundable, first order).

