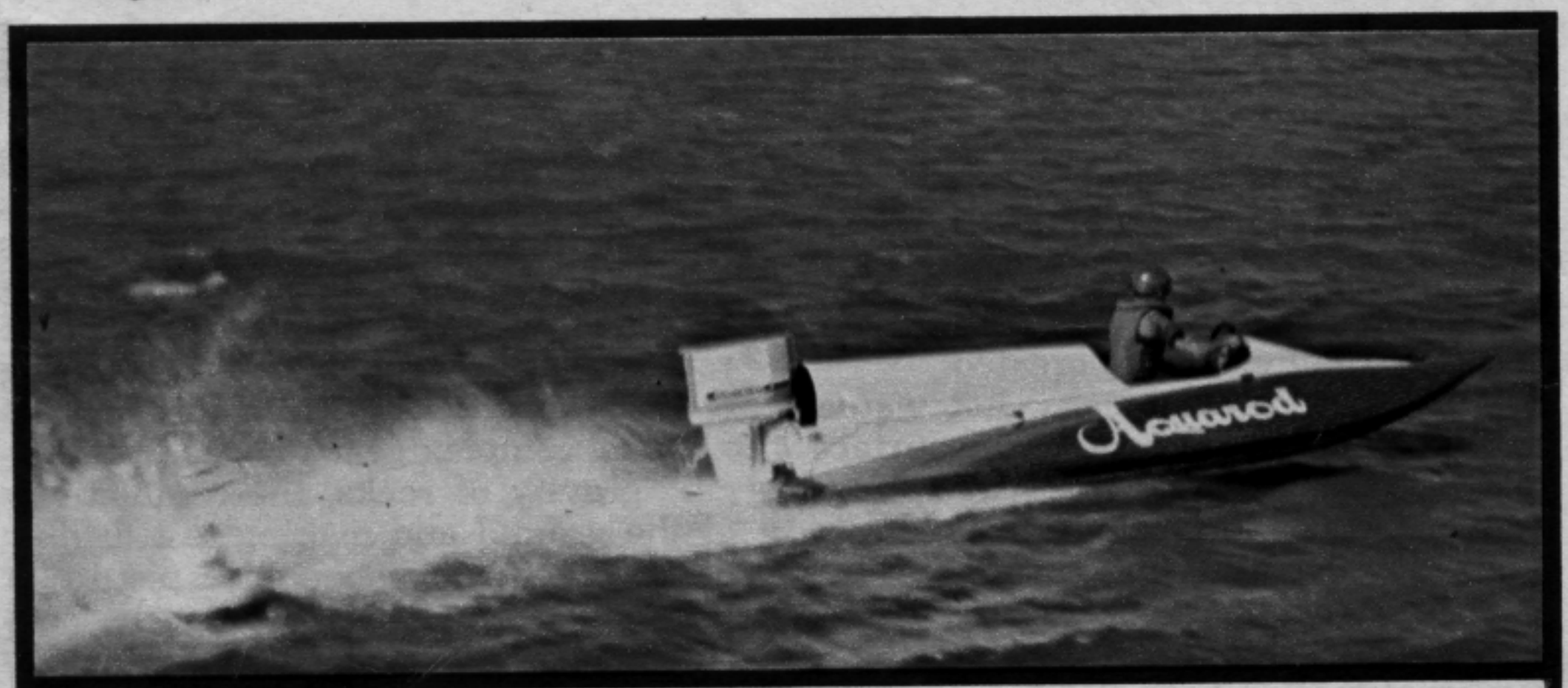


Aquarod

By Hal Kelly

Our mile-a-minute racer has key fun ingredients: speed, safety, easy construction.

IF YOU are interested in having the most unique and certainly the fastest boat on the old river (or lake or bay or sound) this summer, our Aquarod is the answer. What's an Aquarod? Well, it's a hotrod for the water, that's what.

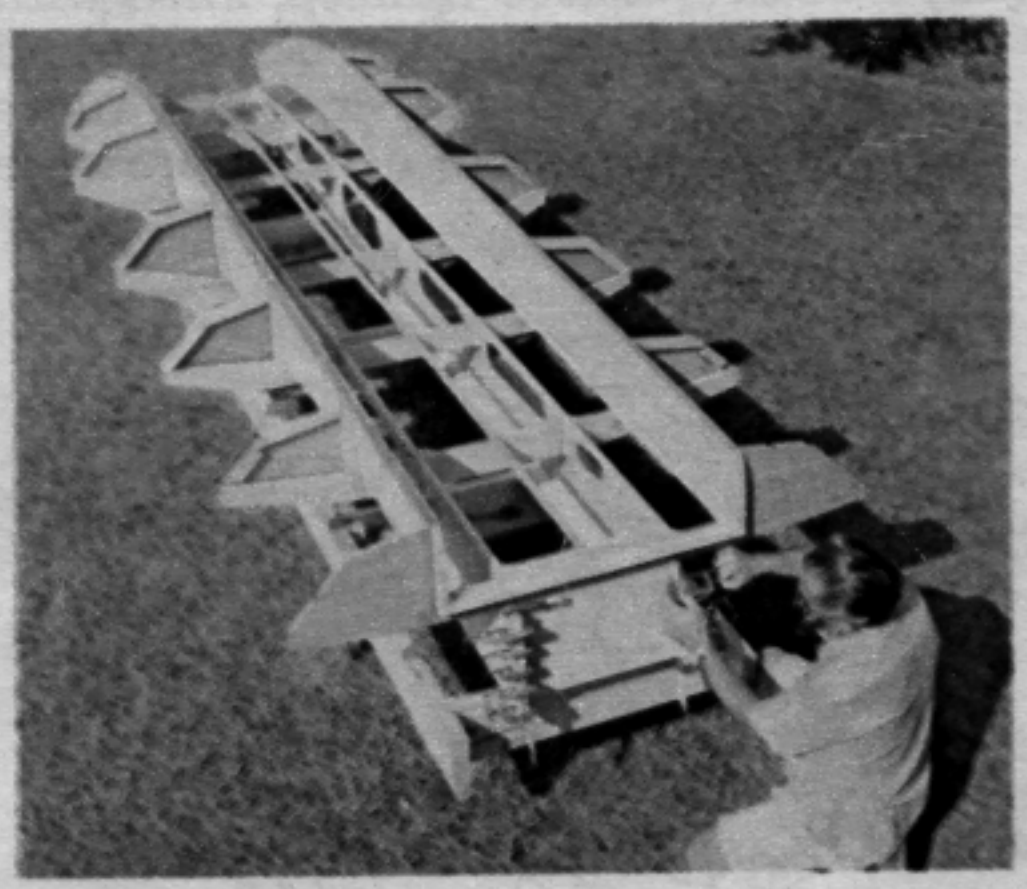
Say *racing hull* to an amateur water-speed buff and you're sure to get one immediate response. Try it on an off-shore race driver and you'll hear the same thing: *tunnel hull.* This configuration is not only fast—nothing can touch it except hydroplane designs—but it also has won the admiration of boaters for its excellent handling qualities in rough waters and its overall safety.

Now there's a word for you—safety. If you really want to be safe, of course, you'd never go out on the water at all and Columbus never would have left Spain . . . and so on. But if you want to go on water and you want to go fast the tunnel hull is the best way.

The Aquarod's tunnel hull is one of the longest we've seen. The extra length puts the lift more under the driver and prevents the bow from becoming too-suddenly airborne.

Our Aquarod's 225-lb. tunnel hull is set up for solo running but a seat for one passenger can be installed behind the driver.

Tests over a measured mile with a

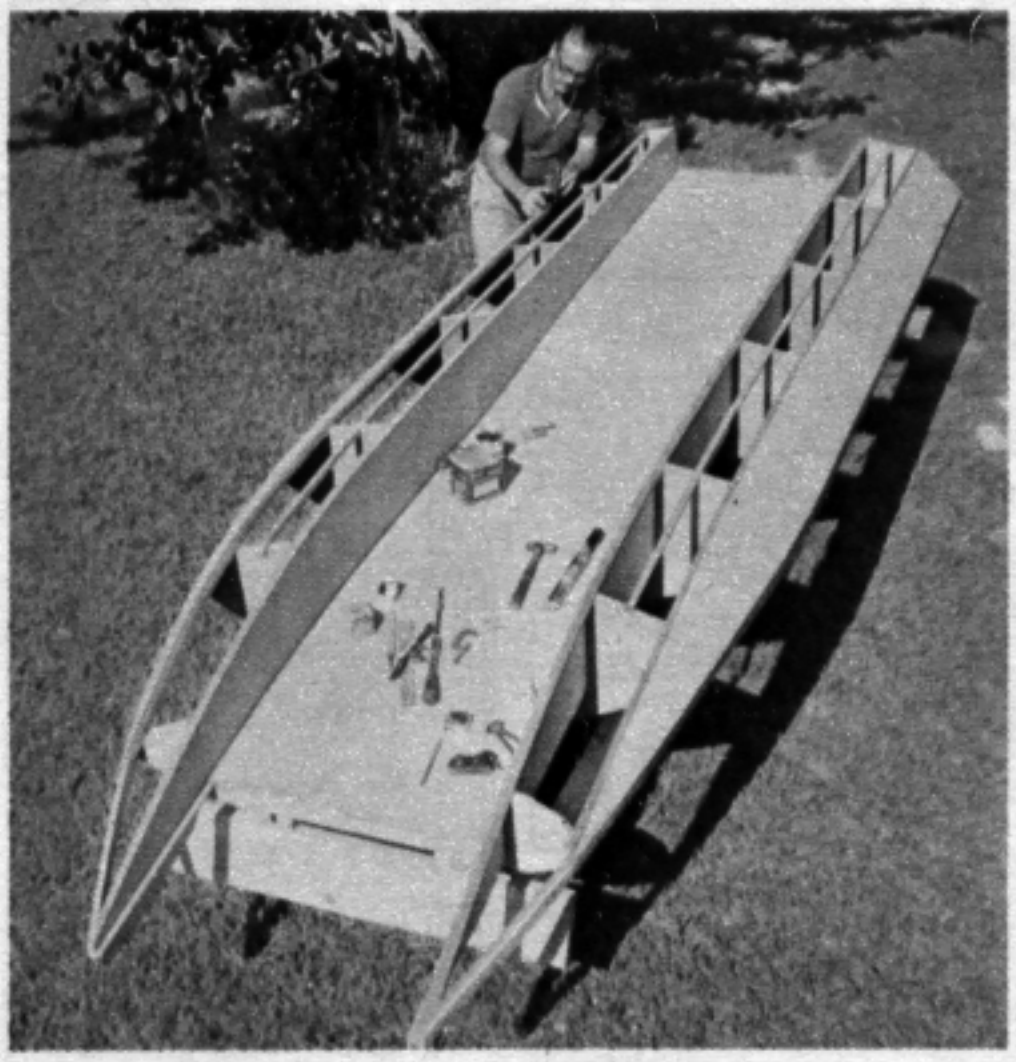


PORTABLE jig holds main girders with all ribs in place as author glues on braces.

35-hp Chrysler gave us an average of 45.361 mph. A 75-hp Chrysler pushed Aquarod to 63.236 mph. These speeds were achieved with standard props.

The transom height accommodates a regular or short-shaft motor. Aqua-rod will handle a 125-hp Chrysler and with a high-speed short shaft you can expect close to 100 mph. Better have plenty of experience before trying that combination.

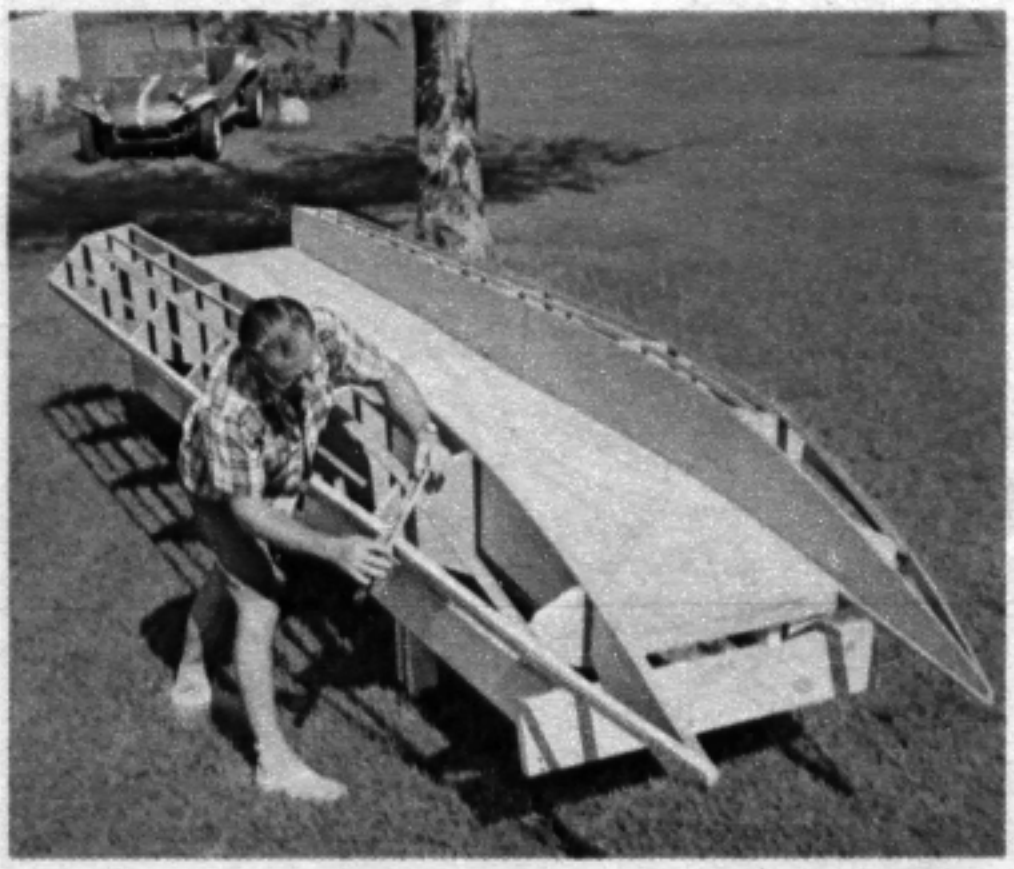
Study the drawings and photos before ordering materials. The planking is ¼-



BOTTOM battens and chine are faired prior to nailing ⅜-in. bottom planking in place.



CRAFT is right side up on jig with several coats of varnish applied prior to decking.



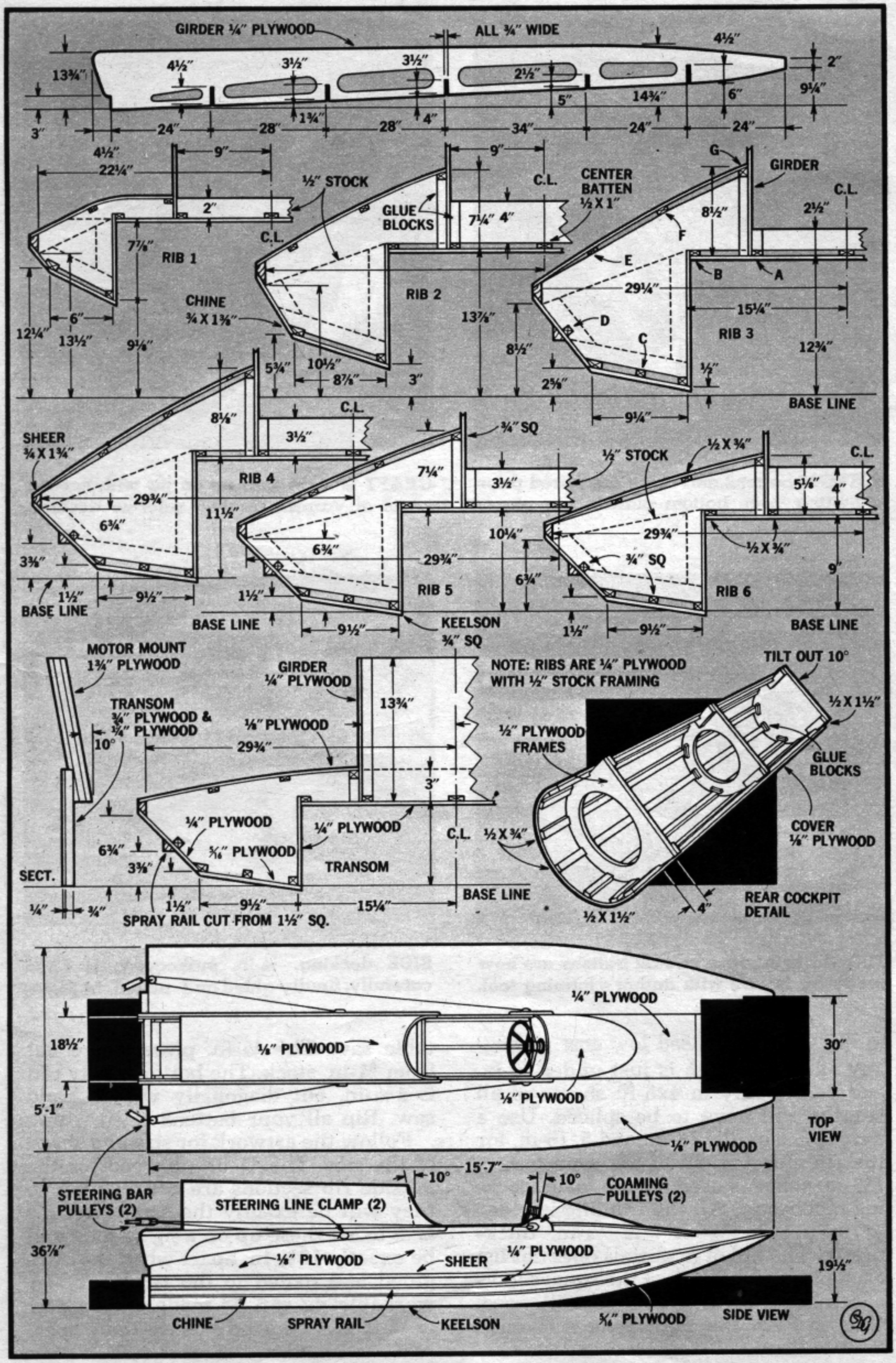
TUNNEL is in place and all battens are now ready for fairing with author's forming tool.

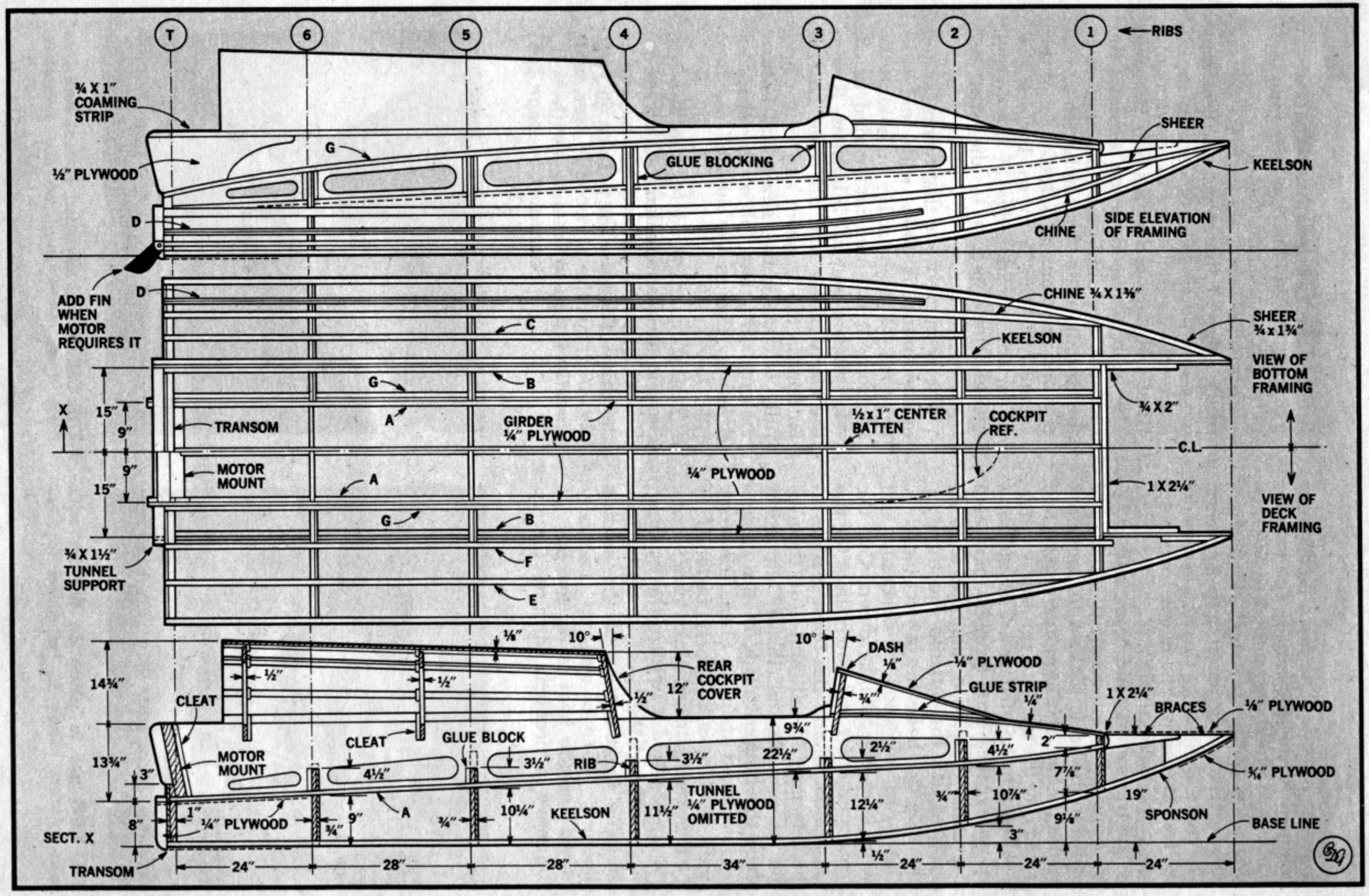


SIDE decking, ⅛-in. mahogany, is fitted carefully, finally glued and nailed in place.

in. plywood. We used low cost mahogany exterior which is just under ¼-in. and comes only in 4x8-ft. sheets so all lengths will have to be spliced. Use a 2-in. splice on the ½-in. and 5/16-in. for the running bottom of the sponsons. A 1½-in. splice is used for the ⅛-in. decking mahogany. All the framing is cedar or spruce in ½-in. and ¼-in. thicknesses. The bill of materials does not list each piece of wood, just the square footage in the thicknesses you will need. You can rip the battens to size on a table saw. The ½-in. pieces were cut from ¾-in. stock. The bottom spray rail is 1⅝-in. cut diagonally with a band saw. Rip all your battens to size first.

Follow the artwork for size and shape of the ribs. The ¼-in. plywood for the outside rib sections are cut together so they will be exactly the same size. It's best to set these up on a jig so they will be exactly 18½ in. apart when they are glued and nailed to the rib beam. (A workable jig can be made with a pair of 15-ft. 2x4's spaced exactly 18-in. apart


GIRDER ¼" PLYWOOD
ALL ¾" WIDE
4½"
2"
13¾"
3½"
2½"
9¼"
5"
14¾"
6"
3"
24"
28"
1¾"
4"
34"
RIB 1
RIB 2
RIB 3
½" STOCK
GLUE BLOCKS
CENTER BATTEN ½ X 1"
GIRDER
C.L.
CHINE ¾ X 1⅜"
BASE LINE
RIB 4
RIB 5
RIB 6
SHEER ¾ X 1¾"
¾" SQ
½ X ¾"
KEELSON ¾" SQ
MOTOR MOUNT 1¾" PLYWOOD
TRANSOM ¾" PLYWOOD & ¼" PLYWOOD
GIRDER ¼" PLYWOOD
⅛" PLYWOOD
¼" PLYWOOD
SECT.
SPRAY RAIL CUT FROM 1½" SQ.
NOTE: RIBS ARE ¼" PLYWOOD WITH ½" STOCK FRAMING
TILT OUT 10°
½ X 1½"
½" PLYWOOD FRAMES
GLUE BLOCKS
COVER ⅛" PLYWOOD
REAR COCKPIT DETAIL
18½"
30"
5'-1"
15'-7"
STEERING BAR PULLEYS (2)
STEERING LINE CLAMP (2)
COAMING PULLEYS (2)
36⅞"
19½"
SHEER
CHINE
SPRAY RAIL
KEELSON
TOP VIEW
SIDE VIEW


T
6
5
4
3
2
1
RIBS
¾ X 1" COAMING STRIP
½" PLYWOOD
G
GLUE BLOCKING
SHEER
KEELSON
D
CHINE
SIDE ELEVATION OF FRAMING
ADD FIN WHEN MOTOR REQUIRES IT
CHINE ¾ X 1⅜"
SHEER ¾ x 1¾"
C
KEELSON
VIEW OF BOTTOM FRAMING
B
A
X
15"
9"
9"
TRANSOM
GIRDER ¼" PLYWOOD
½ x 1" CENTER BATTEN
COCKPIT REF.
C.L.
¾ X 2"
MOTOR MOUNT
¼" PLYWOOD
1 X 2¼"
VIEW OF DECK FRAMING
F
E
¾ X 1½" TUNNEL SUPPORT
⅛"
10°
10°
DASH
⅛"
⅛" PLYWOOD
GLUE STRIP
¼"
REAR COCKPIT COVER
12"
½"
½"
½"
14¾"
CLEAT
1 X 2¼"
BRACES
⅛" PLYWOOD
9¾"
CLEAT
GLUE BLOCK
13¾"
MOTOR MOUNT
3"
3½"
RIB
3½"
22½"
2½"
4½"
2"
7⅞"
¼" PLYWOOD
4½"
TUNNEL ¼" PLYWOOD OMITTED
8"
1"
¼" PLYWOOD
9"
¾"
10¼"
KEELSON
11½"
12¼"
¾"
10⅞"
19"
SPONSON
9⅛"
3"
BASE LINE
SECT. X
TRANSOM
½"
24"
28"
28"
34"
24"
24"
24"

from the outside. The main girders are clamped to these beams.) The smaller pieces are glued and nailed to the outside edge of the plywood rib section. The battens are fastened to these pieces. The more accurately the ribs are made, the less fairing will be needed when set up on the main girders.

The transom is solid ¾-in. with a ¼-in. plywood reinforcement glued and nailed to the back. Make a 10° angle cut in the bottom of the motor mount and fasten it to the transom (glue and nails)

Although the girders are essential to assembly, they aren't relied upon as a strength factor. With this boat, as in an airplane, it's the outside sheathing or planking that holds the project together. The ¼-in. plywood is adequate and helps keep the weight down. Cut the girders together and notch them for the rib beams. Clamp the main girders to the 2x4 jig and nail and glue them to the transom. As the ribs are slipped in place the bottom inside of the girders are glued and nailed to (1-in. finishing) ½x¾-in. blocks similarly fastened to the ribs and transom. Make sure all ribs line up to avoid a twist in the framing. Now construct the ½-x1-in. center batten. The front section of the outside sheer is bent in and up (actually "down" as the boat is on the jig). If you have a problem forming the up bend, make two lengthwise cuts about 5 ft. long. Spread the cuts with glue then bend into shape and clamp.

Form the ¾ in. sq. battens on the inside edge of the sponsons. You may have to renotch some of the ribs so this piece follows the shape in the drawing. Glue and nail to the ribs and transom. The ¼-in. plywood on the inside of the sponsons are now glued and nailed to the bottom inside sponson battens, to all ribs and the transom. Glue and nail this assembly to the ¾ in. sq. battens that go on the outside edge of the tunnel. Fasten these pieces to the ribs and transom.

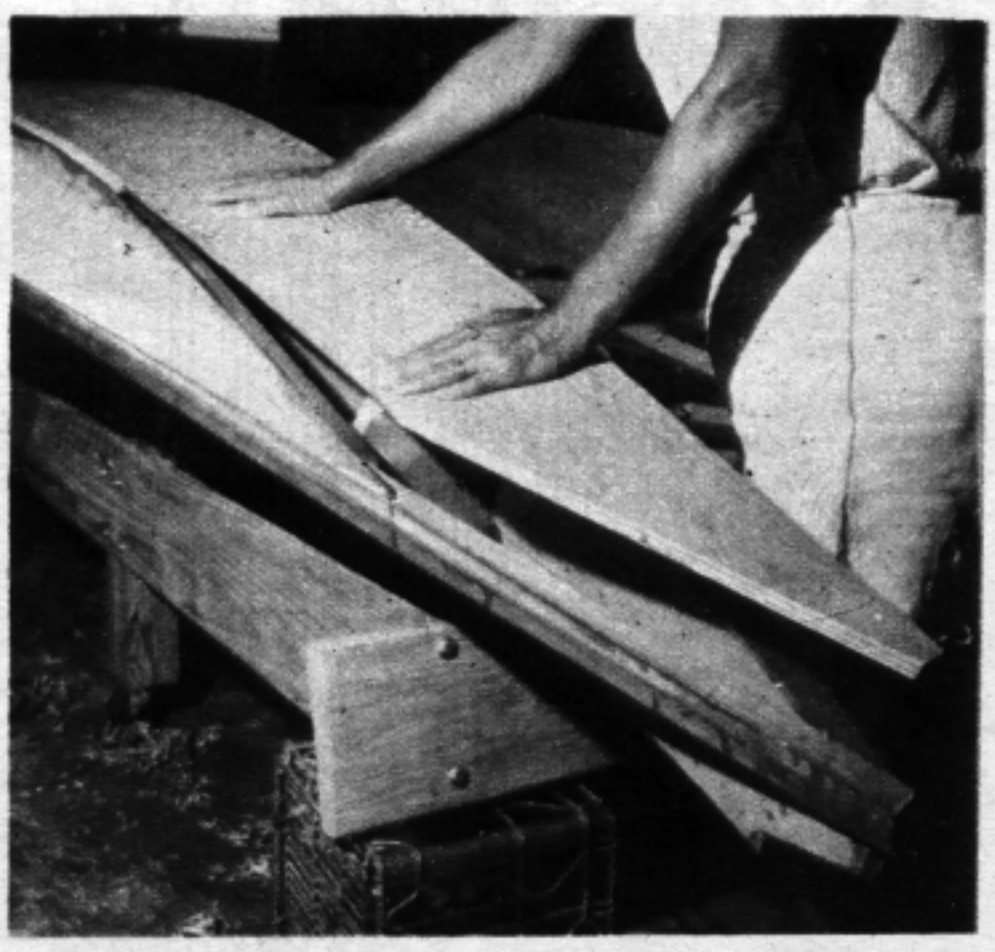
The ¼-in. plywood that forms the top of the tunnel is 30-in. wide and runs from rib #1 to about 1½ in. behind the transom. It is glued and nailed to rib #1, transom and all 5 battens. Fasten the chine, sheer and all other bottom battens to the transom and ribs. Carefully fair the chine, sheer and bottom making sure they follow the shape of drawing. This is the surface the boat rides on.

The ¼-in. plywood for the non-trip chine is glued and nailed to the framing. Use a cardboard pattern and trim to fit the chine. Then use the pattern on your plywood, cut the plywood to size, temporarily fasten to framing (with ⅝-in.

[*Continued on page* 146]



ALL RIBS are in place on the jig with main girders ready to be glued to ribs.



THE CHINE and plywood bottom butt less than 2 ft. from front of the sponsons.

Aquarod

[*Continued from page 70*]

#6 flat head screws). Trim with a plane to a near fit, mark on the inside where the framing will come in contact. Remove the pattern and drill pilot holes for your nails, coat both the frame and the plywood with glue and set in proper position (using screws, which are later removed) and nail in place. Use 1-in. #14 bronze boat nails. After the glue is dry fair the chine and double check alignment of all battens on which the bottom will rest. Glue and nail the planking in place.

Remove the boat from the jig and set it up right at a comfortable working height. Check alignment before you fasten the ⅛-in. decking in place. Fasten the front deck in place first. Carefully nail and glue the deck battens to the ribs and transom. You will have to do a bit of fairing on the ribs so the battens will take the required shape. Use glue blocks where indicated.

Start in the center at the girder and the sheer plane, using the small screws as temporary fastenings, until the decking is in place. Use ¾-in. #16 bronze boat nails and glue and nail the decking in place.

The cover over the rear section of the cockpit is framed according to the drawing. Wet the ⅛-in. plywood on the outside only and glue and nail in place.

With the clear under coat, two coats of Valspar Epoxy Marine Finish will cover nicely. A steering bar is not as touchy as direct steering and at the speeds this craft will do, a hard wheel is an advantage. This assembly and all other hardware is from Williams Mfg. Co., 6450 Olympic, Bremerton, Wash. •


Aquarod