

Minimost

Five evenings building - \$50 for materials – and then comes the real thrill of owning and running your own 8-ft. outboard sports hydroplane.

By William Jackson



High, dry, and stable at 30 mph, Minimost responds willingly to the push of a Merc 110, 9.8-hp engine and a near-open throttle.

Minimost was designed as a low-cost playmate for the Minimax, Science & Mechanics most popular sport boat (Craft Print Project No.

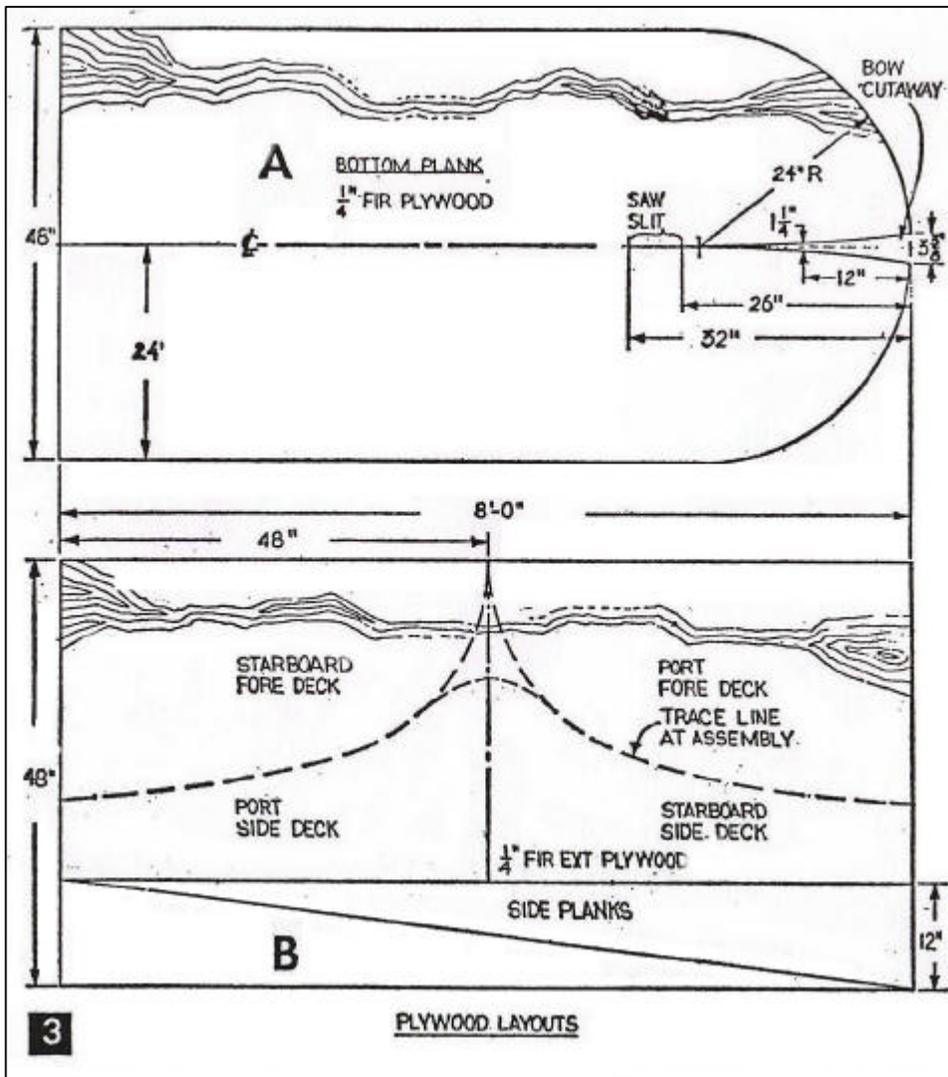
255). By using stressed-skin construction and advanced under-hull design, however, it's been possible to wring more speed out of the same size hull. When fitted out with any of this year's lightweight outboard motors in the 10 hp class, you've got speeds well up into the 30-mph range.

Needless to say Minimost's record low cost and construction time means more hours and money that can be used to show off your new hydro.

Unlike most boats you have built or read about, Minimost's construction begins with the shaping of the bottom plank.

First layout the 24" radius (Fig. 3A) on one of the two sheets of 1/4" fir exterior plywood, using a beam compass or pencil and string.

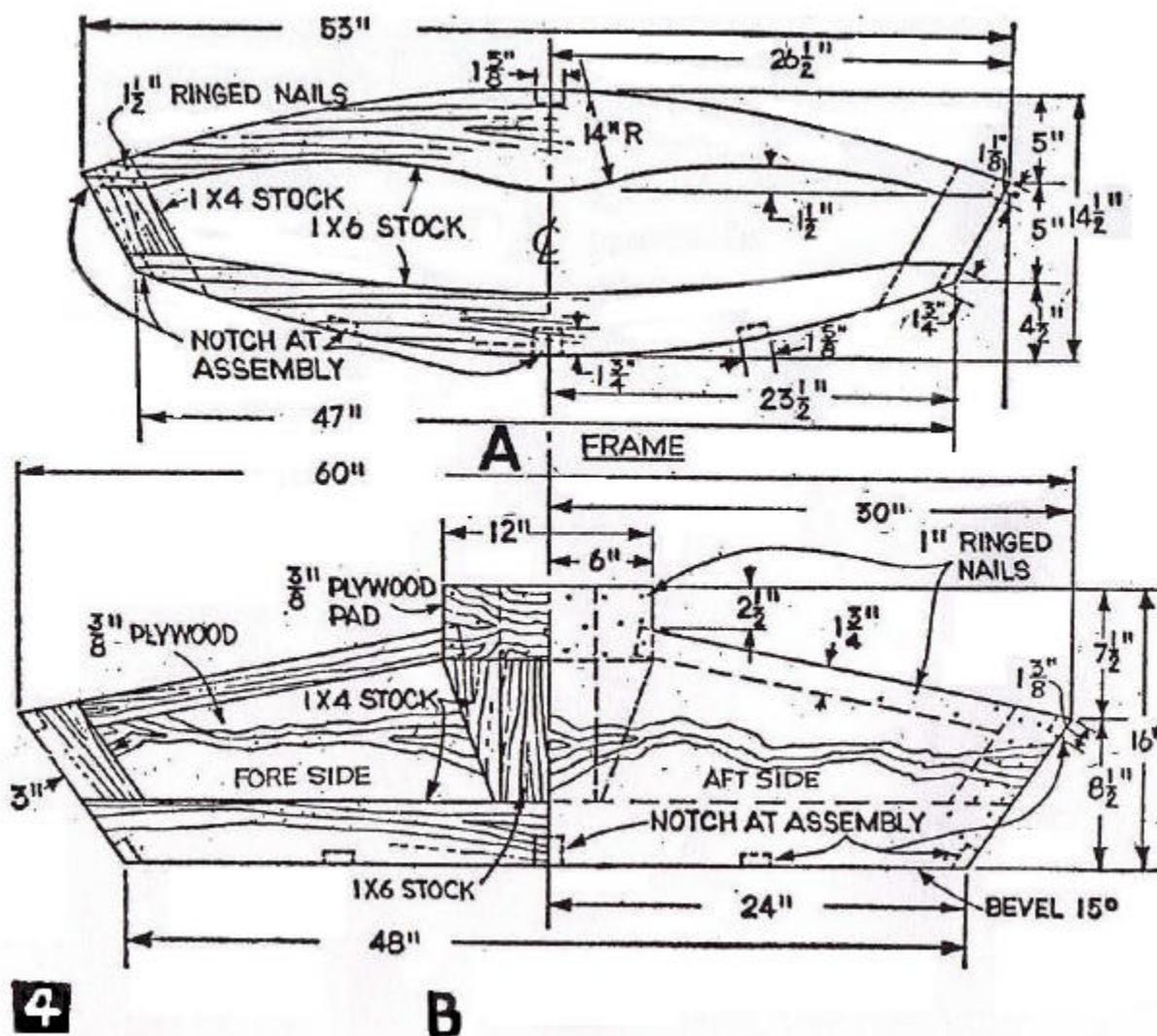
Then place measure and lay out the slit and bow cutaway, using measurements on bottom plank.



Shaping the Bottom Plank (plywood sheet). After cutting the gore(slot) then cut the circular front , set the plank with its poorest side up on a pair of sawhorses, positioning the forward horse at the aft end of the cutaway. Then set a 1x2 prop between the ceiling beam of your shop and the aft end of the cutaway directly over the forward horse. This arrangement will hold the plank while you bend the plywood ends up slowly and evenly on each side of the slit and wedge a shorter piece of 1x2 stock between the floor and plank. When the slit is closed, secure the joint with a galvanized metal tie plate and stove bolts (fig. 2)

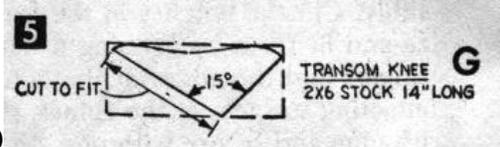
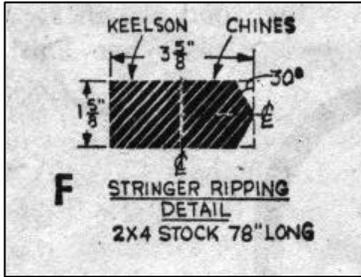
The hull framework consists of a transom, and a single frame, connected by the keelson, bottom stringers, and chines, made up as a subassembly and fitted into the pre-shaped bottom plank (Fig.6).

Begin the framework by transferring a pattern of the transom to 3/8-in. plywood (Fig. 4B). Then cut the motor board and framing from 3/4-in. stock. After checking the fit of each part, coat the contacting surfaces with glue and assemble the framing on the plywood transom, using 1-1/2-inch ringed nails spaced 2 inches apart. When the glue has dried, saw a 15-degree bevel along the bottom edge of the transom and set it aside while you make up the frame.

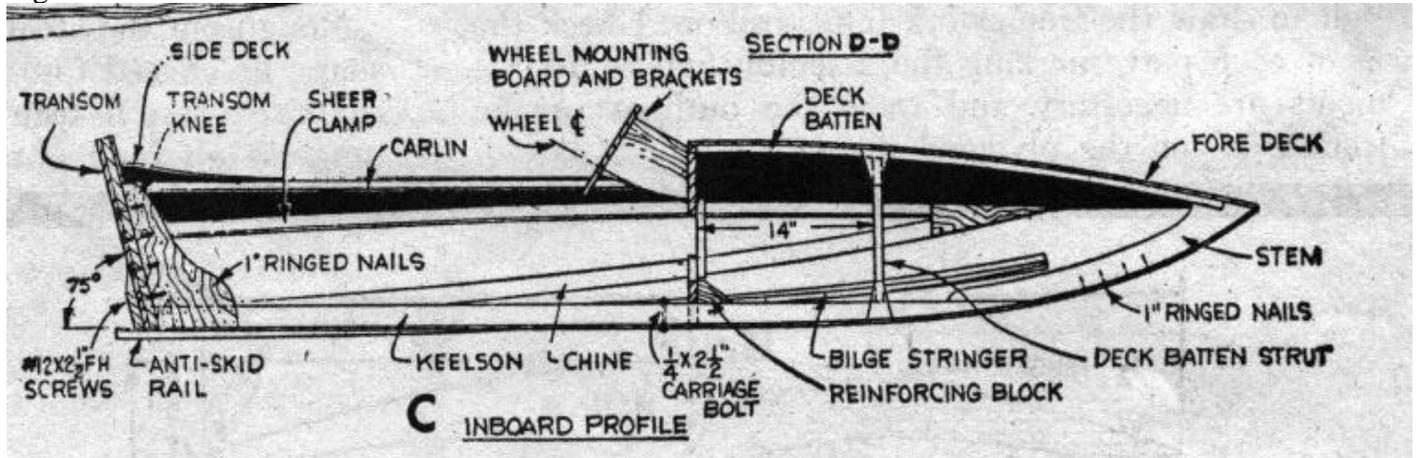


Lay out and cut the parts for the frame (Fig. 4A), using 1x6 stock for the top and bottom members and 1x4 stock ripped to 3-inches for the sides. Assemble the frame members over the full size pattern and secure with glue and two 1-1/2-inch ringed nails to each joint.

Framework Subassembly. Next make the keelson by ripping 2x4 stock as in Fig. 5F. The remaining piece will be used to make the chines. Now set the keelson with its center-line on the center-line of the bottom plank and shape its lower for end to fit the upward sweep of the bow. Be sure the lower edge of the keelson stays in full contact with the plywood. When finished, cut the transom



knee (Fig. 5G) from 2X6 stock and, locating as in Fig.5A, attach this with plywood gussets, glue, and 1-inch ringed nails. Now attach the transom to the knee as in Fig 5C.



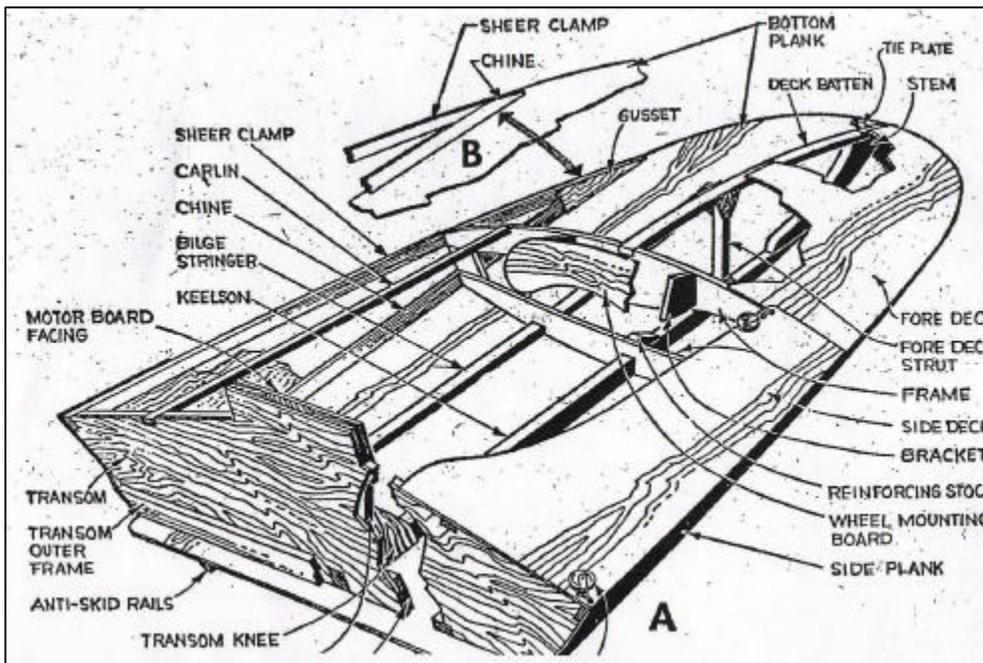
Next position the frame on the keelson (Fig. 5E), applying glue to the contacting surfaces of the frame, keelson, and two tri-anglar glue blocks. Then secure the assembly with 1-1/2-inch galvanized wire nails.

Set the framework upside down on the sawhorses while you notch the frames for the chines and bilge stringers (Fig. 4). Bevel the stock for the chines 30-degrees before assembly. Cut the notches in the frames by running a handsaw between the stringers and the edges of the notches. Then coat the contacting surfaces of the chines, stringers, and frames with glue and secure with on #8x 1-3/4-inch *FH* screw to each joint.

Assembling the hull.

Now set the frame-work right side up in the shaped bottom plankfit the chines and stringer to the plank (Fig. 6), and drill a 1/4-inch hole 2-inches aft of the frame. Insert a carriage bolt on the hole from the underside of the plank and tighten the bolt to draw the framework into position. Check the fit of each part marking the assembly where adjustments are necessary and trace the outlines of the framework on the plywood plank.

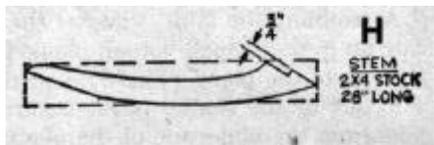
Remove the framework to drill 1/8-inch nail locating holes in the center of the outlines and connect the holes with the bottom of the plank.



Mix glue and fine sawdust to the consistency of paste and coat the contacting surfaces of the framework and plank before reassembling them with hold-down bolt and clamps. After turning the hull upside down, drive 1-inch ringed nails through the locating holes and drive additional nails at 2-inch intervals along pencil lines.

Cut and bevel the anti-skid rails (Figs. 5a and D) and, after securing the plank to the bilge stringers with nails, attach the rails to the plank at the stringer centerlines, using glue and #8X2 3/4-inch **FH** screws 5-inches apart.

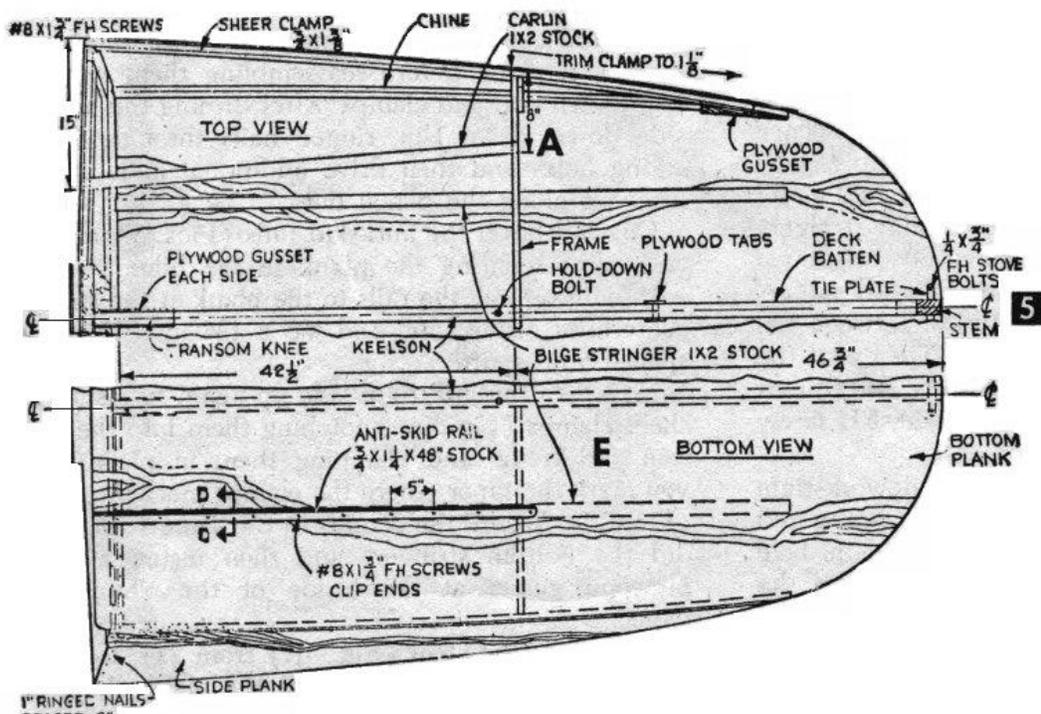
Now turn the hull right side up again to install the sheer clamps (Fig. 5A), notching them into the transom and frame and clamping them in place while you mark the taper where the clamps meet the chines (Fig. 2B). Secure the clamps in the same way as you did the bottom stringers and then install a 1/4-inch plywood gusset at the inside of the clamp-chine joints.



Rough out the stem (Fig. 5H) from 2x4 stock and shape its curved fore edge to fit the plank along the slit. Use a rasp to trim away the wood and check your progress to obtain a close fit. When finished, coat the stem, keelson, and plank with glue and install the stem with 1-inch ringed nails driven at 1-1/2-inch intervals through the plywood on each side of the slit.

Deck Framing. When the glue is dry, fit the fore end of the deck batten (Fig. 5C) into the stem notch, clamping it temporarily while you cut the deck strut to fit 14 inches forward of the frame. Start with a 12-inch length of 1x2 stock for the strut and cut it down until the deck batten makes a smooth curve when bent over it and fitted in a notch in the frame. The actual length will vary with the stiffness of the batten stock.

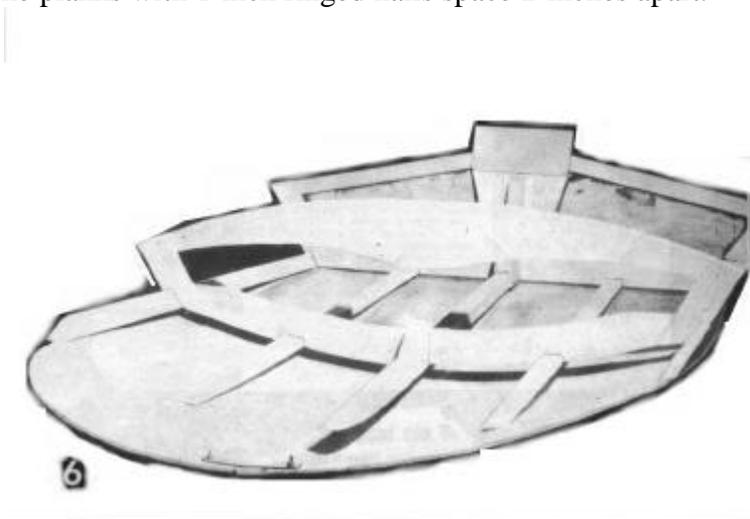
When the strut fits, install the batten with glue and #8x1-3/4-inch FH screws driven into the stem, frame, and strut. Then attach plywood tabs where the strut meets the batten and keelson. Next rip a 48-inch length of stock along in centerline to make carlins to support the side decks (Fig. 5A).



When finished, lay a 6-foot length of 3/4-inch square stock over the framework in several positions to check for high spots and trim with rasp or plane so the deck can be applied smoothly making full contact with the framing.

Side planks and Deck. Clamp the stock for the side planks (Fig. 3B) in place, trace the outlines of the frames, sheer clamps, and chines, on them, and remove to drill

locating holes for nails as you did when attaching the bottom plank. Coat the mating surfaces with glue and attach the planks with 1-inch ringed nails space 2-inches apart.

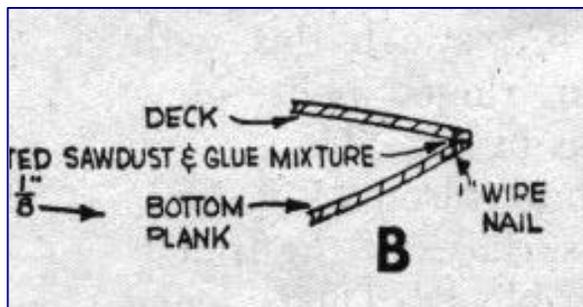


When glue has dried, trim the planks flush at the sheer and chine lines. then cut and attach the transom outer frame (Fig.2), using glue and #8x1-3/4-inch FH screws space 4-inches apart and trim the aft ends of the plank. Give the interior of the hull a coat of flat white enamel, avoiding areas to be glued.

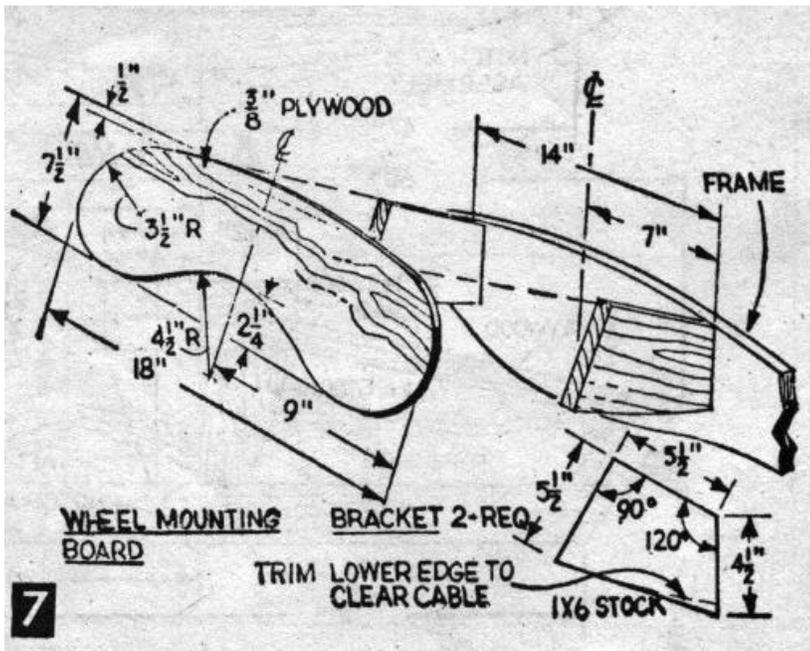
Before installing the fore deck, cut and attach the brackets for the steering wheel mounting board (Fig. 7), fastening them to the frame with two #8x1-3/4-inch FH screws to each bracket. Then make up and attach the mounting board as in Figs. 7 and 5C.

Next clamp a straight edge of one of the fore deck panels (Fig. 3B) to the centerline of the deck batten so there is enough stock aft of the frame to trim flush. Then bend the plank in place, clamp, and trace the edges of the bottom plank, and framing on it. Remove the plank and cut it out, allowing 1/8-inch beyond the traced lines for trimming after assembly. The remaining piece of each panel will be used as one side of deck (Fig. 2).

When the deck halves are cut to shape, paint their underside, except for the joints at the edges and centerline, before permanently installing them. Use a wood rasp to cut a 1/4-inch flat where the panels meet (Fig. 5B) and then a putty knife to insert a bead of glue mixed with fine sawdust. Secure the seam with 1-inch wire nails clinched in the underside.



Finally attach the side decks to the carlins and sheer clamps and when the glue is dry, trim and sand the plank joints. Then sand the entire hull with medium sandpaper, and apply thee coats of well thinned semi-gloss enamel, trimming with a contrasting color.



Materials List-Minimost

Plywood

2 1/4" x 4 x 8 fir Ext. AB or AC bottom planks, decks
 1 3/8" x 14" x 60" Fir Ext. AB or AC plywood Transom

Lumber

1-(2x6) 15" Fir Transom knee
 1-(2x4) x 10' Fir keelson, chines, stem
 1-(1x6) x 10' Fir frame members, clamps
 2 (1x4) x 10' Fir transom frame, bottom stringers, carlines, deck batten, anti-skid rails.

Fastenings

4 #12 x 2-1/2" FH woodscrews
 12 #8 x 1-3/4" FH woodscrews
 24 #8 x 1" FH woodscrews
 1 lb. 1" Maze ringed nails 12 1-1/2" wire nails 1lb. Weldwood plastic-resin glue powder