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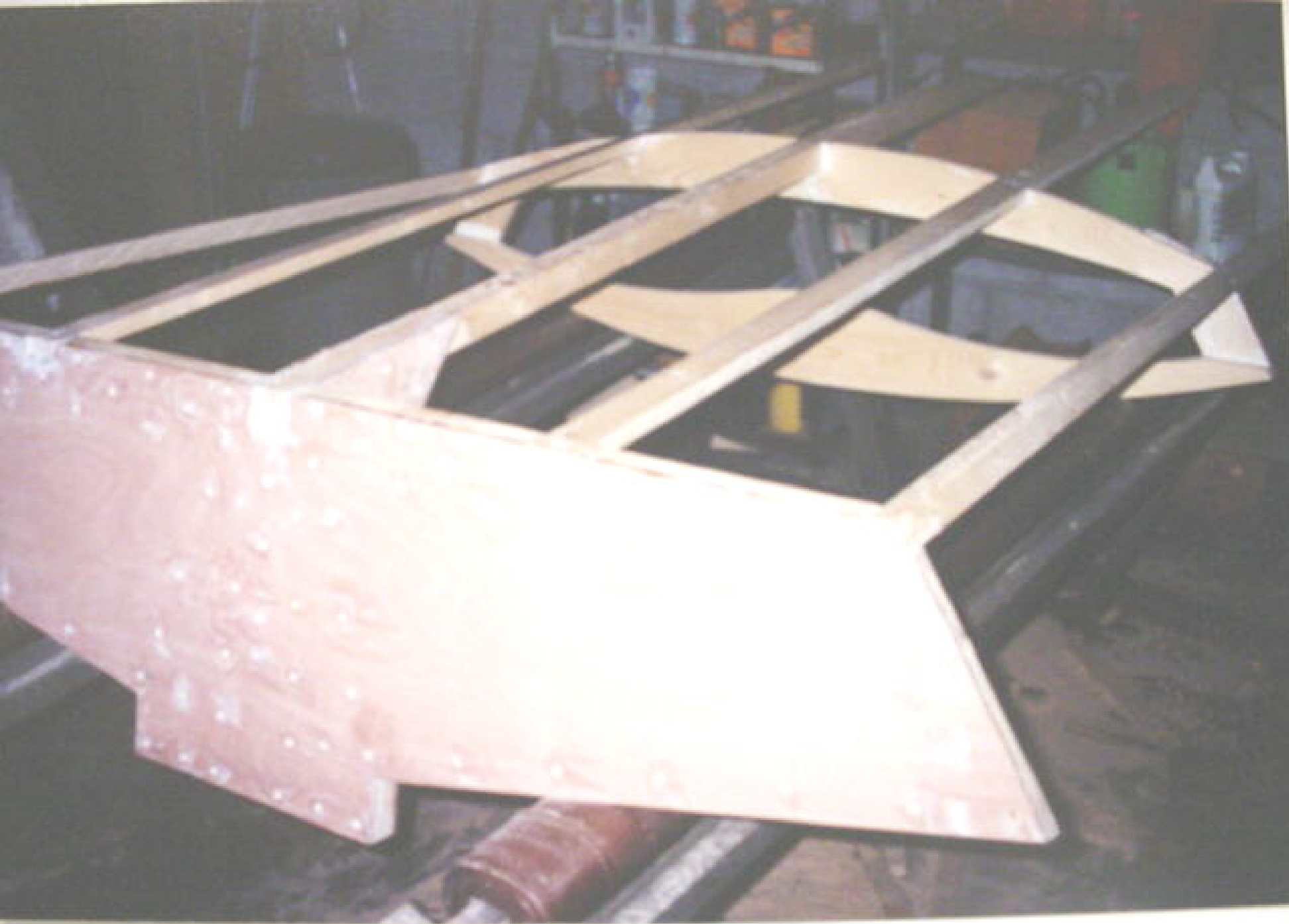




WS 1233 GK

SM 1233 GK























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

Craft Print

Project No. 343

Full-Size

Pattern Set No. 344

MINIMOST was designed as a low-cost playmate for Minimax, S&M's most popular sport boat (Craft Print Project No. 255). By using stressed-skin construction and advanced underhull 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 light-weight outboard motors in the 10 hp class, you've got

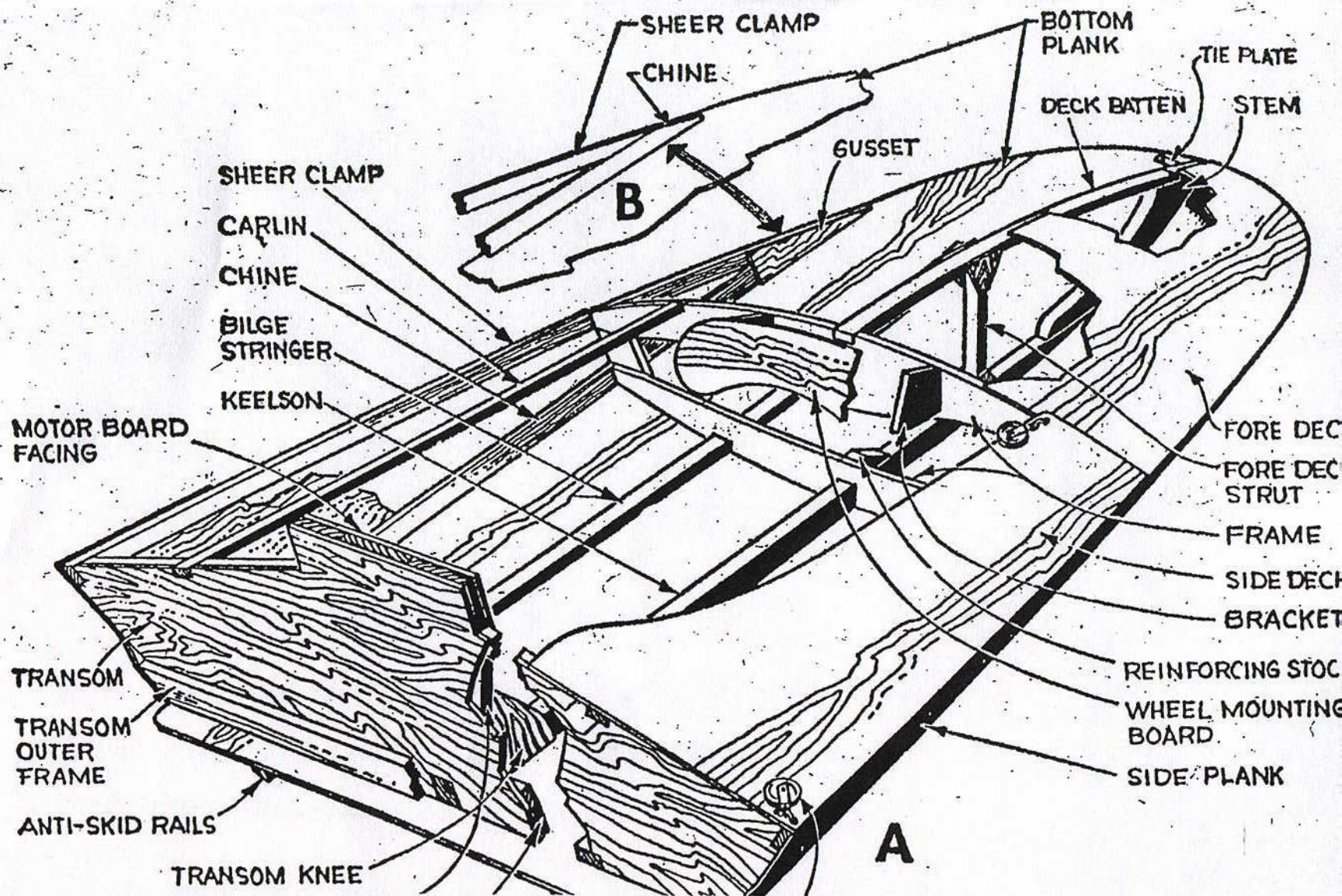
speeds well up into the 30-mph range.

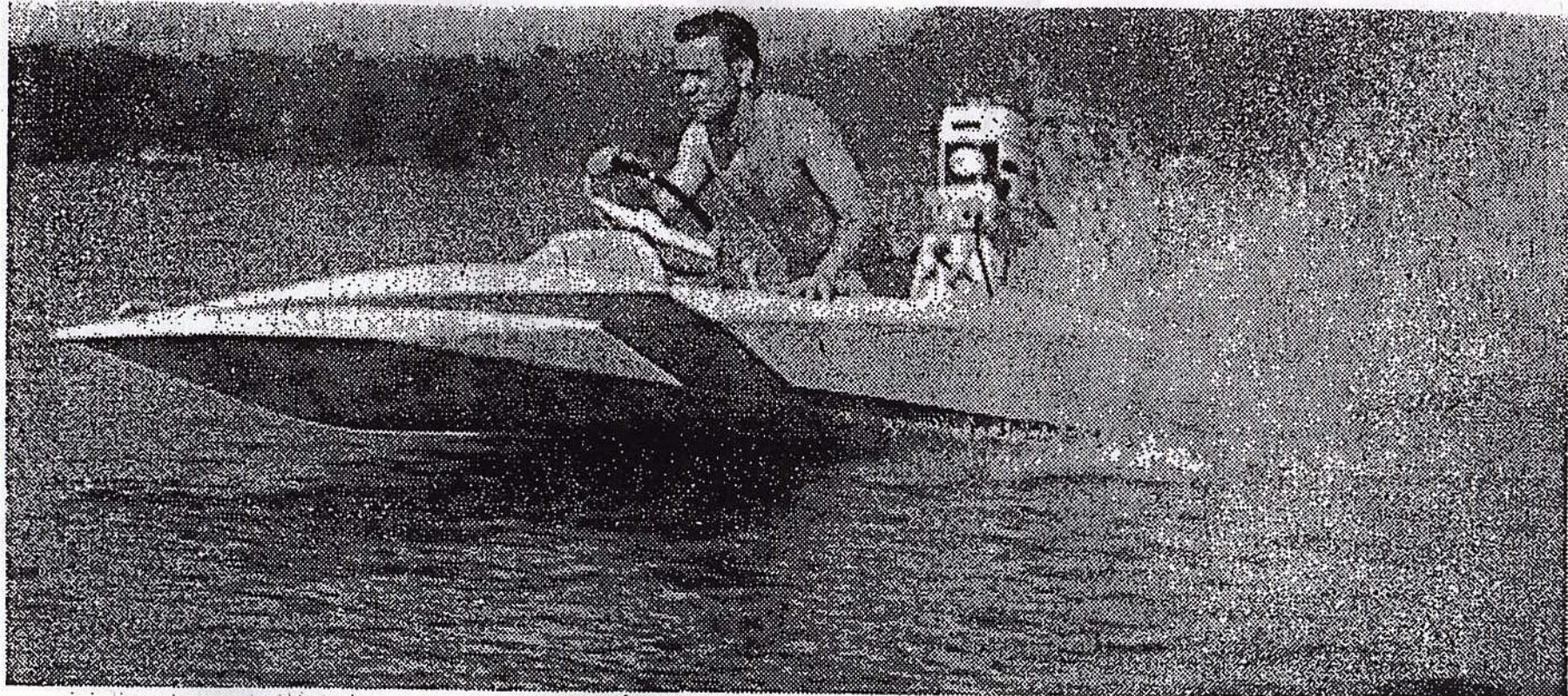
Needless to say, Minimost's record low cost and construction time means more hours and money that can be used to show off your new hydro.

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



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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.

the 24-in. radius (Fig. 3A) on one of the two sheets of $\frac{1}{4}$ -in. fir exterior plywood, using a beam compass or a pencil and string. Then place a full-size paper pattern of the cutaway that forms the bow on the plank centerline and transfer it to the plywood by running a toothed leatherworkers' wheel along the outline.

To save time and insure accuracy, a set of

glue and assemble the framing on the plywood transom, using $1\frac{1}{2}$ -in. ringed nails spaced 2 in. apart. When the glue has dried, saw a 15° 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 in.

the designer's full-size patterns for the bow cutaway, the frames, and many other parts for Minimost can be purchased ready to use. Information for ordering is given at the end of this article on page 70.

Shaping the Bottom Plank. After cutting the bottom plank to shape with an electric saber saw or a keyhole saw, set the plank with its poorest side up on a pair of saw-horses, positioning the forward horse at the aft end of the cutaway. Then set a 1x2 prop between a ceiling beam of your shop or basement 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).

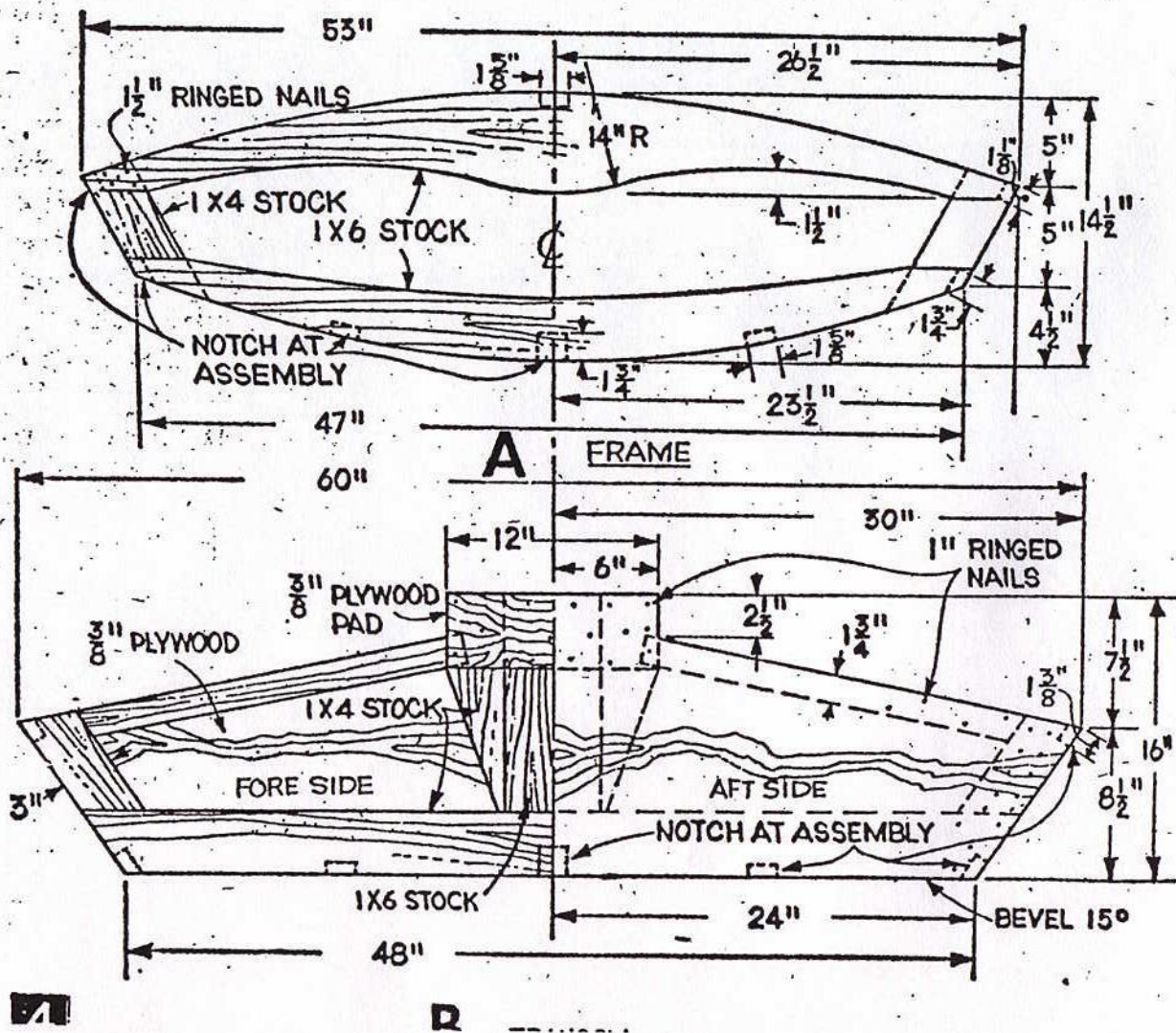
Begin the framework by transferring a pattern of the transom to $\frac{3}{8}$ -in. plywood (Fig. 4B). Then cut the motor board and framing from $\frac{3}{4}$ -in. stock. After checking the fit of each part, coat the contacting surfaces with

for the sides. Assemble the frame members over the full-size pattern and secure with glue and two $1\frac{1}{2}$ -in. 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 centerline on the centerline of the bottom plank and shape its lower fore 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 2 x 6 stock and, locating as in Fig. 5A, attach this with plywood gussets, glue, and 1-in. 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 triangular glue blocks. Then secure the assembly with $1\frac{1}{2}$ -in. galvanized wire nails.

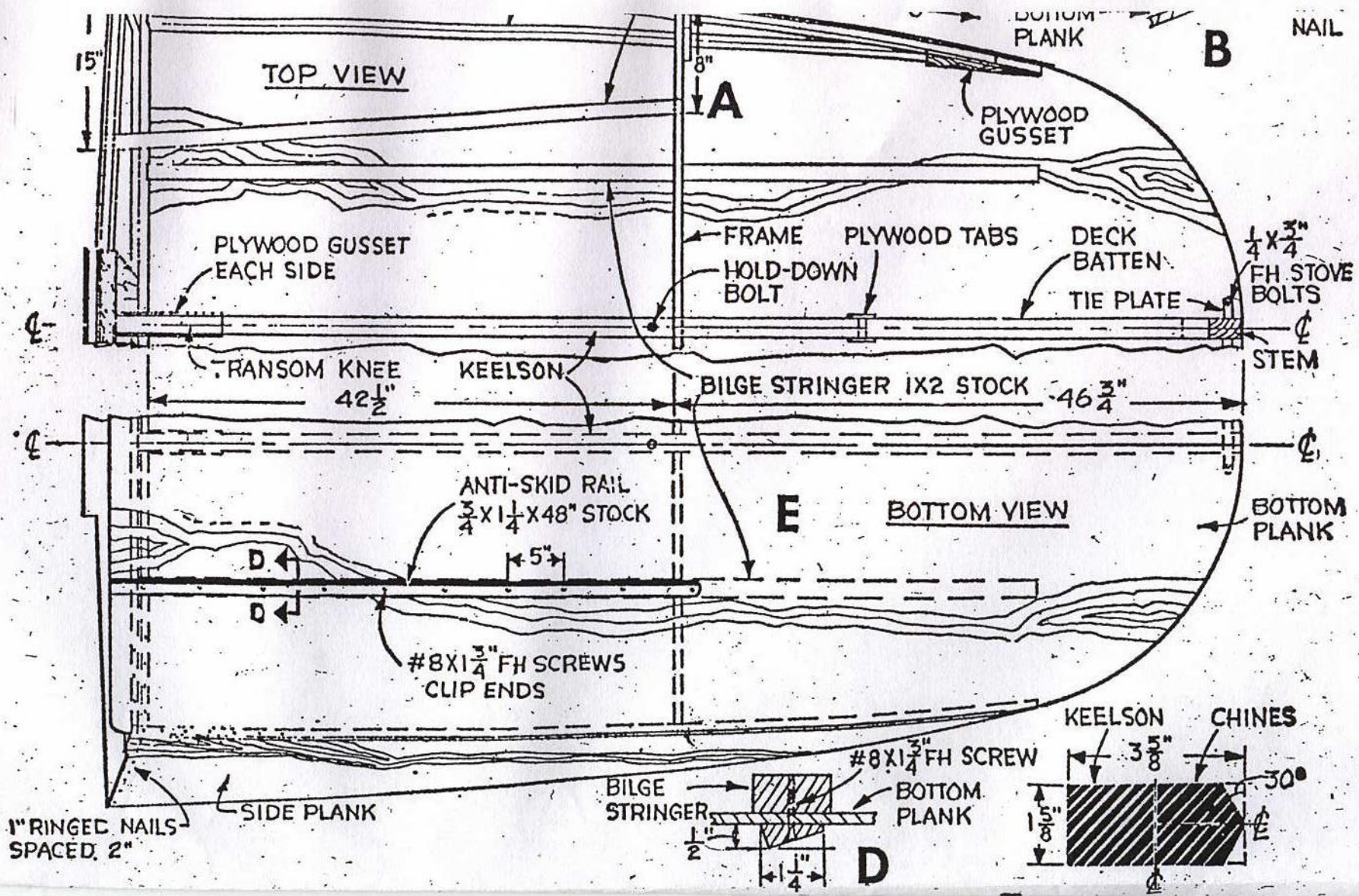
Set the framework upside down on saw-horses while you notch the frames for the chines and bilge stringers (Fig. 4). Bevel the stock for the chines 30° before assembly. Cut the notches in the frames slightly undersize and fit them by running a handsaw between the stringers and the edges of the notches. Then coat the contacting surfaces

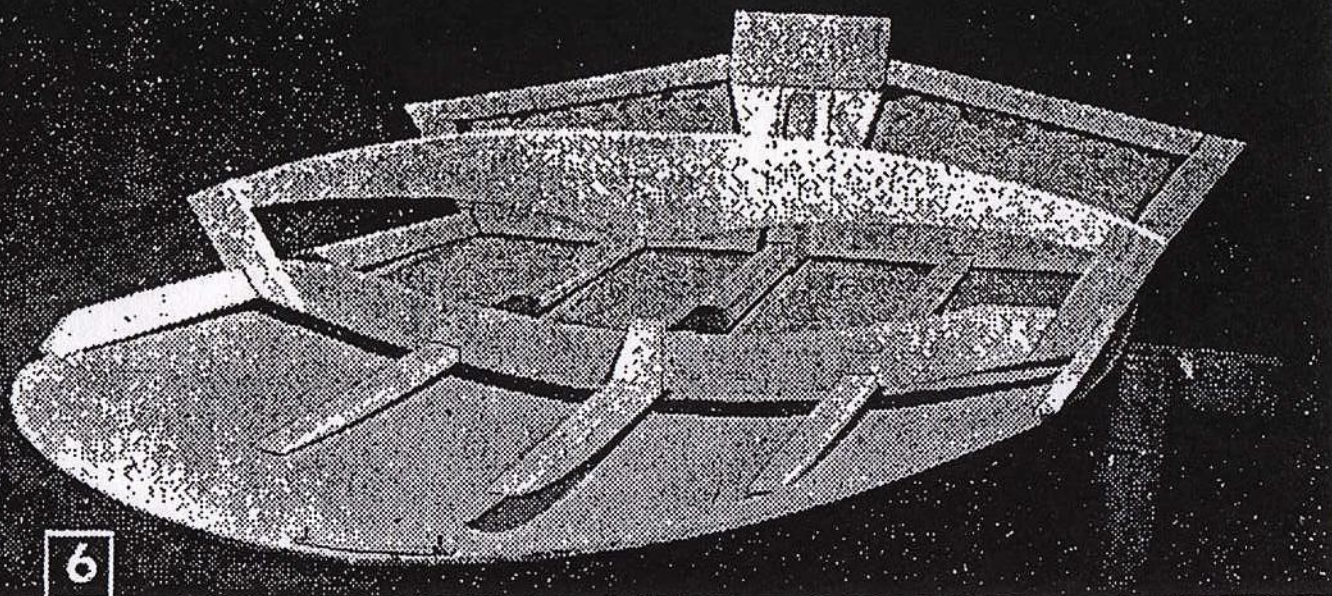


Mix glue and fine sawdust to the consistency of paste and coat the contacting surfaces of the framework and plank before reassembling them with the hold-down bolt and clamps. After turning the hull upside down, drive 1-in. ringed nails through the locating holes and then drive additional nails at 2-in. intervals along the 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 #8 x 1 3/4-in. fh screws spaced 5 in. apart.

Now turn the hull





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MATERIALS LIST—MINIMOST

Amt. Req.	Size and Description	Use
PLYWOOD		
2	1/4" x 4 x 8' fir EXT, AB or AC plywood	bottom plank, decks
1	3/8 x 14 x 60" fir EXT, AB or AC plywood	transom
LUMBER		
(Parentheses indicate stock sizes used when ordering only)		
1	(2x6) x 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, carlins
1	(1x4) x 4' fir	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	
1 lb.	Weldwood plastic-resin glue powder	

Framework subassembly is fitted to preshaped bottom plank. Installation of decks will complete stressed-skin construction for lightweight hull with maximum strength and low cost.

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-in. ringed nails spaced 2 in. apart.

When the 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 #8 x 1 3/4-in. fh screws spaced 4 in. apart and trim the aft ends of the planks. Give the interior of the hull a coat of flat white enamel, avoiding areas to be glued.

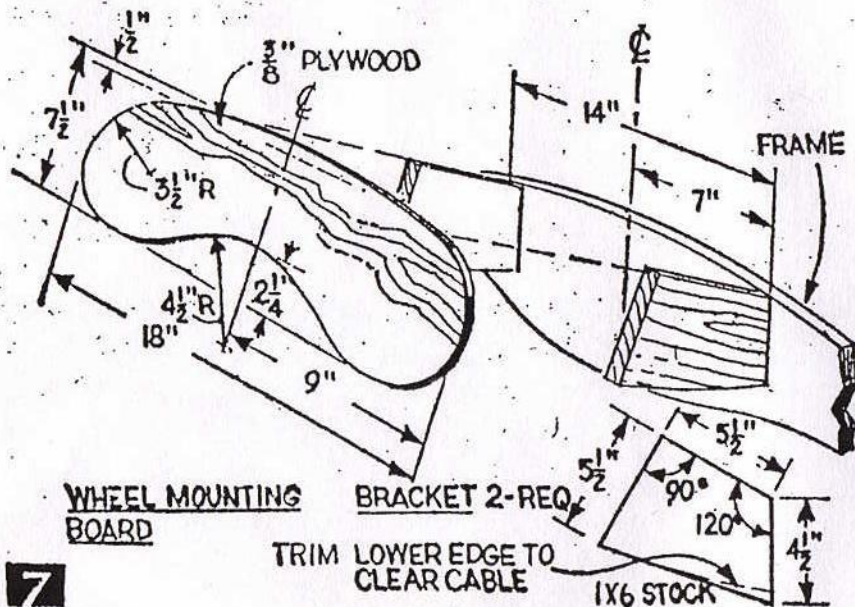
Before installing the fore deck, cut and attach the brackets for the steering wheel mounting board (Fig. 7), fastening them to the frame with two #8 x 1 3/4-in. fh screws in each bracket. Then make up and attach the mounting board as in Figs. 7 and 5C.

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

and keelson. Next rip a 48-in. length of stock along its centerline to make carlins to support the side decks (Fig. 5A).

When finished, lay a 6-ft. length of $\frac{3}{4}$ -in.-sq. 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



plank in place, clamp, and trace the edge of the bottom plank, and framing on it. Remove the plank and cut it out, allowing $\frac{1}{8}$ -in. beyond the traced lines for trimming after assembly. The remaining piece of each panel will be used as one side deck (Fig. 2).

When the deck halves are cut to shape, paint their underside, except for the joint at the edges and centerline, before permanently installing them. Use a wood rasp to cut a $\frac{1}{4}$ -in. flat where the panels meet (Fig. 5B) and then use a putty knife to insert a bead of glue mixed with fine sawdust. Secure the seam with 1-in. wire nails clinched on 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 three coats of well-thinned semi-gloss enamel, trimming with a contrasting color.

● To obtain enlarged plan for building Minimost, Craft Print No. 343, or full-size pattern set No. 344, see handy order form on last page of this issue.



Craft Print Project No. 343
Full-Size Pattern Set No. 344

Minimost



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

By William Jackson

MINIMOST was designed as a low-cost playmate for Minimax, our most popular sport boat (Craft Print Project No. 255). By using stressed-skin construction and advanced underhull 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 h.p. class, you've got speeds well up into the 30-m.p.h. 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 draw the 24-in radius (Fig. 3A) on one of the two sheets of 1/4-in. fir exterior plywood, using a beam compass or a pencil and string. Then place a full-size paper pattern of the cutaway that forms the bow on the plank centerline and transfer it to the plywood by running a toothed leatherworkers' wheel along the outline.

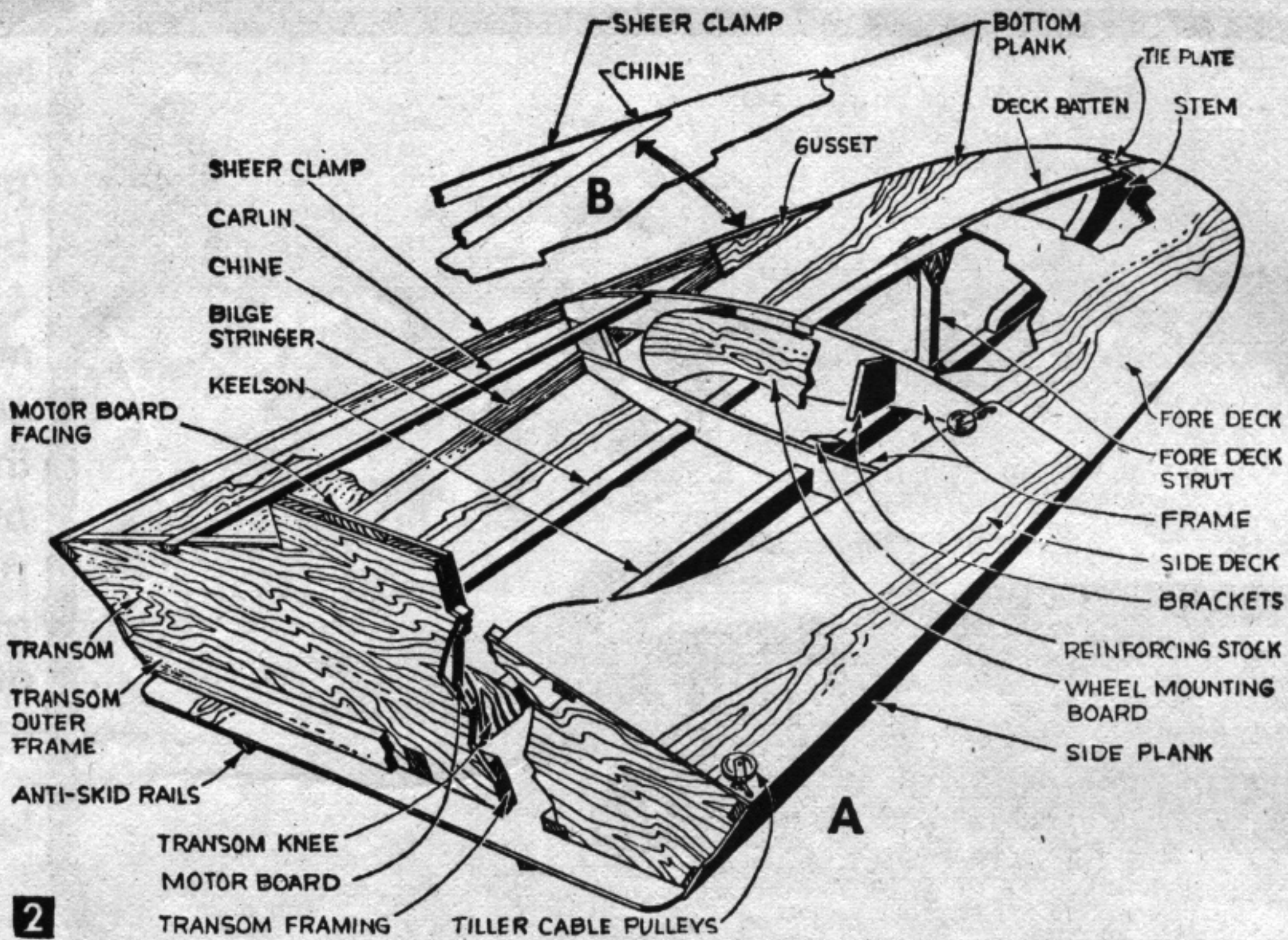
To save time and insure accuracy, a set of the designer's full-size patterns for the bow cutaway, the frames, and many other parts for Minimost can be purchased ready to use. Information for ordering is given at the end of this article.

Shaping the Bottom Plank. After cutting the bottom

MATERIALS LIST—MINIMOST

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LUMBER		
(Parentheses indicate stock sizes used when ordering only)		
1	(2x6) x 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, carlins
1	(1x4) x 4' fir	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	
	1 lb. Weldwood plastic-resin glue powder	

plank to shape with an electric saber saw or a keyhole saw, 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 a ceiling beam of your shop or basement and the aft end of the cutaway directly over the forward horse.



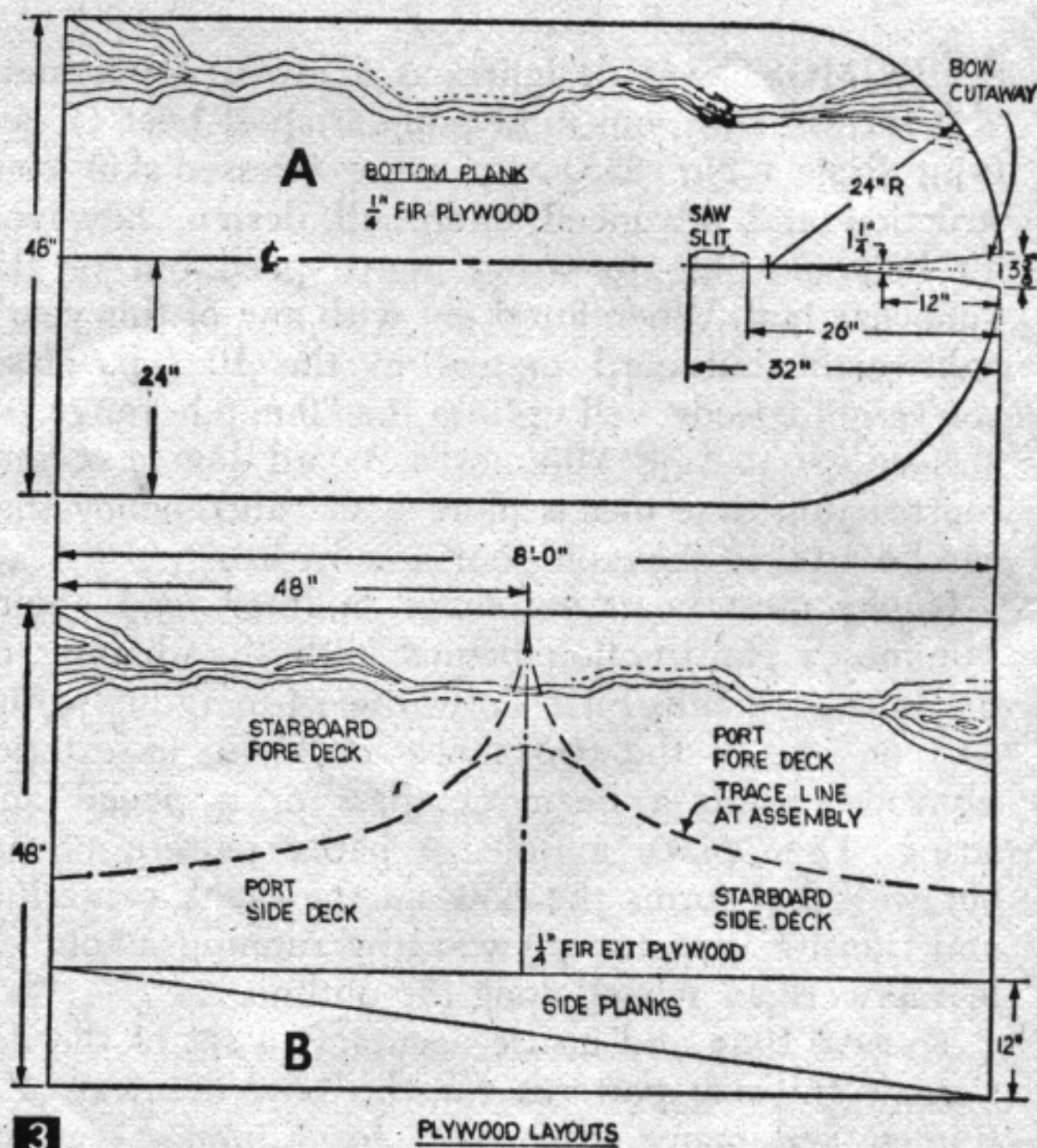
This arrangement will hold the plank while you bend the plywood ends up slowly and evenly on each side of the slit and wedge a shorter piece of 1x2 stock between the floor and plank. When the slit is closed, secure the joint with a galvanized metal tie-plate and stove bolts (Fig. 2).

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 $\frac{3}{8}$ -in. plywood (Fig. 4B). Then cut the motor board and framing from $\frac{3}{4}$ -in. stock. After checking the fit of each part, coat the contacting surfaces with glue and assemble the framing on the plywood transom, using $1\frac{1}{2}$ -in. ringed nails spaced 2 in. apart. When the glue has dried, saw a 15° 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 in. for the sides. Assemble the frame members over the full-size pattern and secure with glue and two $1\frac{1}{2}$ -in. 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 centerline on the centerline of the bottom plank and shape its lower fore 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-in. 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 triangular glue blocks. Then secure the assembly with 1½-in. galvanized wire nails.

Set the framework upside down on sawhorses while you notch the frames for the chines and bilge stringers (Fig. 4). Bevel the stock for the chines 30° before assembly. Cut the notches in the frames slightly undersize and fit them 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 one #8 x 1¾-in. FH screw to each joint.

Assembling the Hull. Now set the framework right side up in the shaped bottom plank, fit the chines and stringer to the plank (Fig. 6), and drill a ¼-in. hole 2 in. aft of the frame. Insert a carriage bolt in 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.

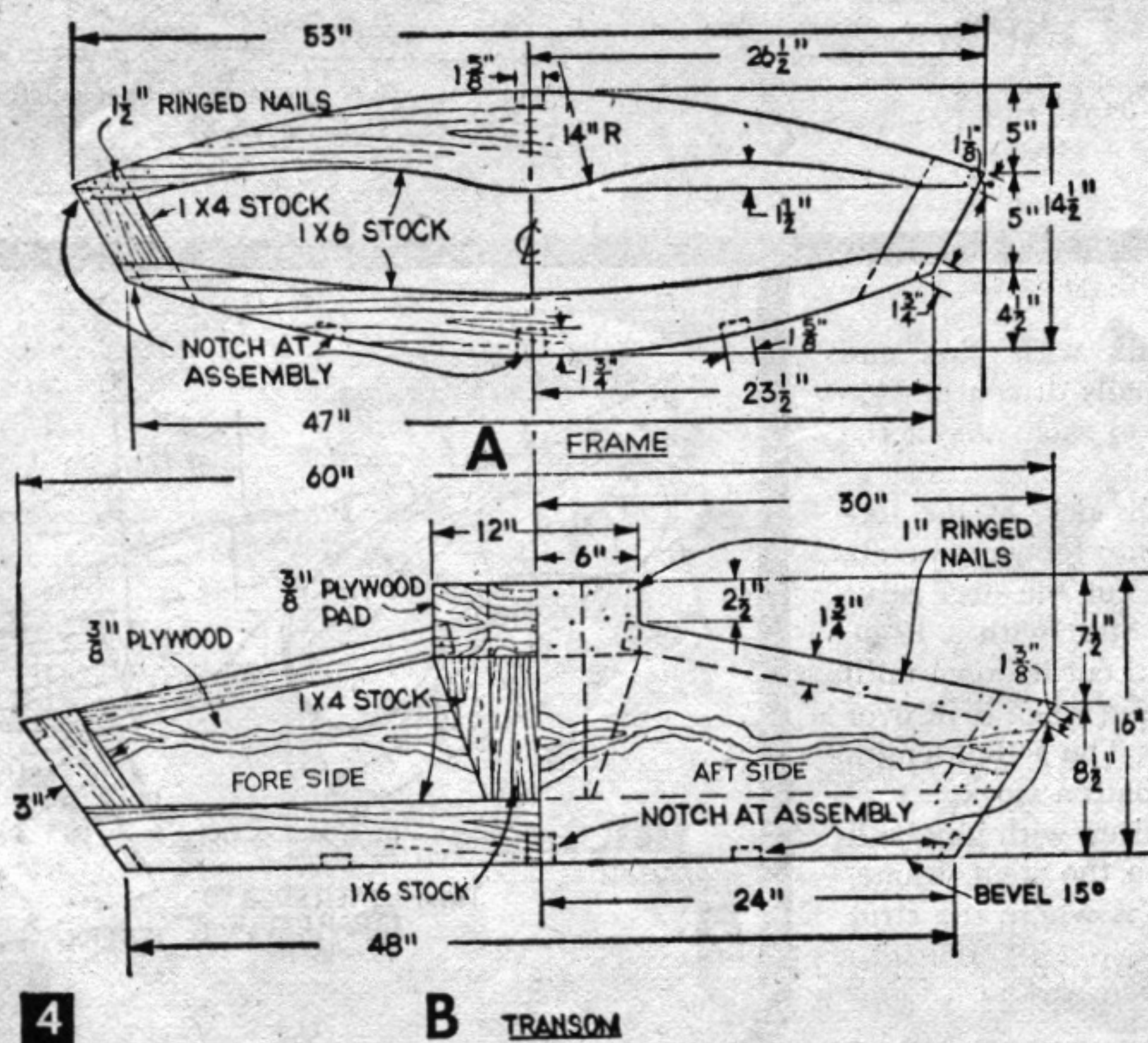
Remove the framework to drill ⅛-in. nail-locating holes in the centers of the outlines and connect the holes with a pencil line on the bottom of the plank.

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

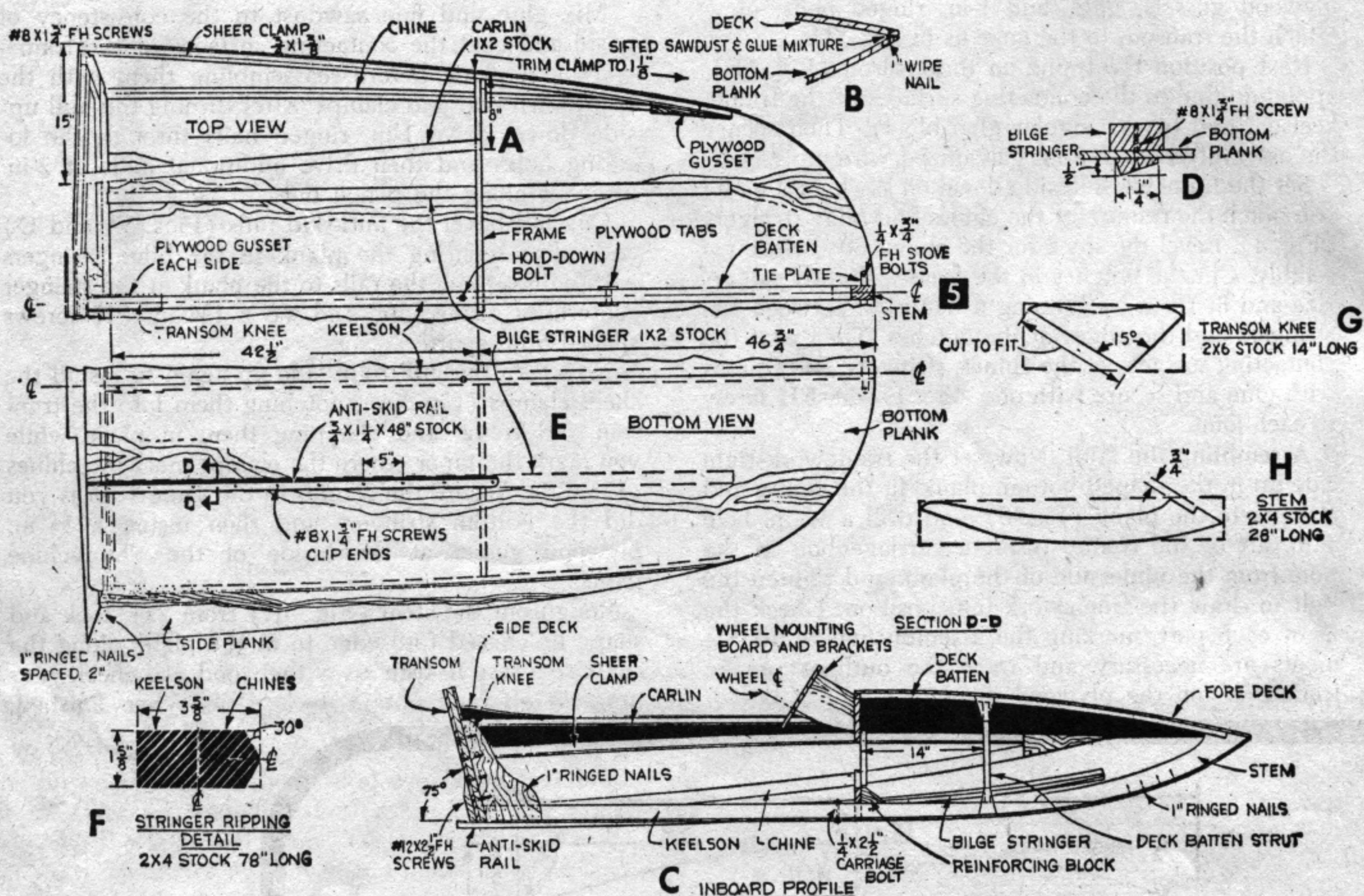
Cut and bevel the anti-skid rails (Figs. 5A and D) and, after securing the plank to the bilge stringers with nails, attach the rails to the plank at the stringer centerlines, using glue and #8 x 1¾-in. FH screws spaced 5 in. apart.

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 ¼-in. 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 often to obtain a close fit. When finished,



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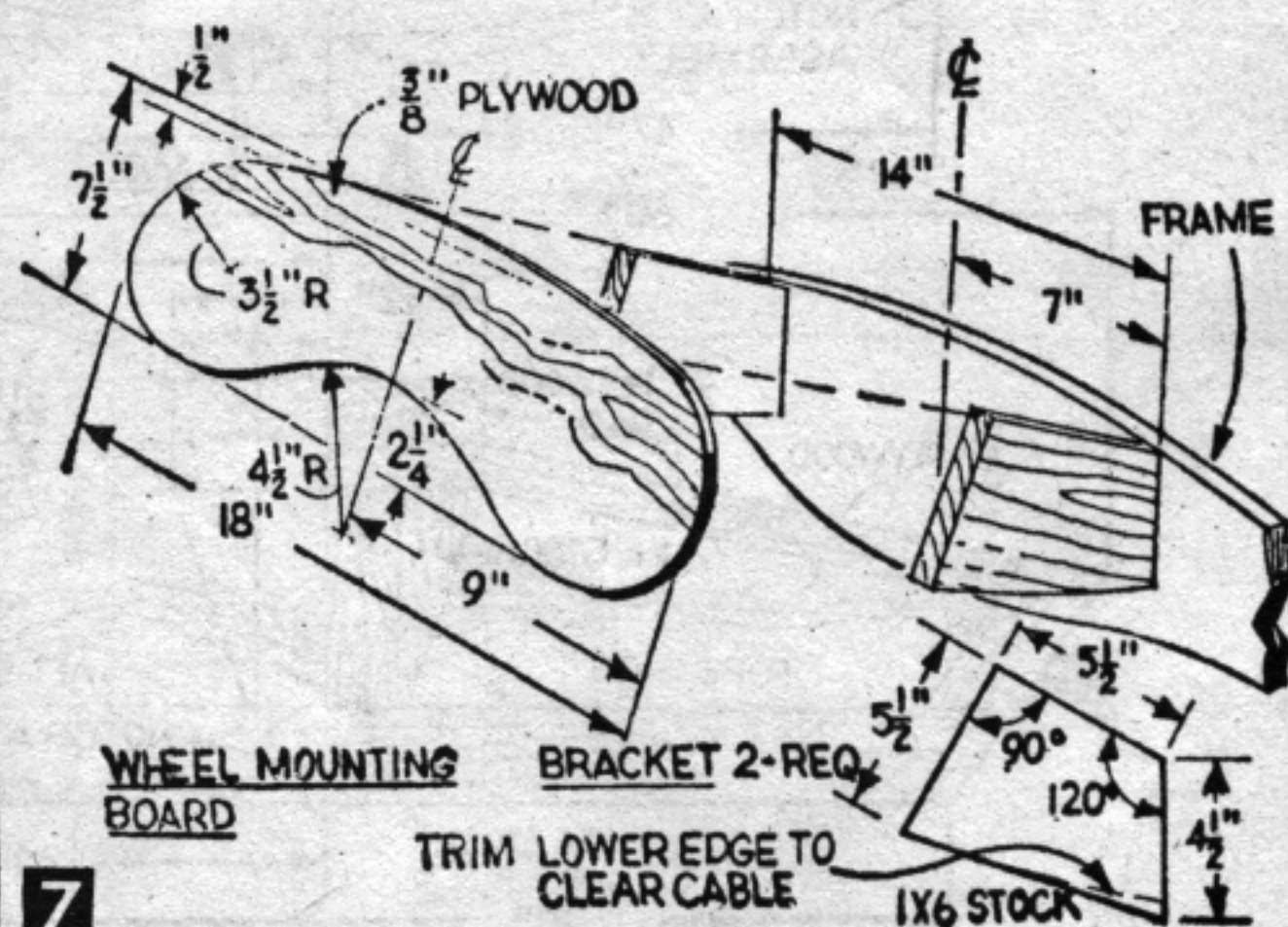


coat the stem, keelson, and plank with glue and install the stem with 1-in. ringed nails driven at 1 1/2-in. intervals through the plywood on each side of the slit.

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 in. forward of the frame. Start with a 12-in. 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 #8 x 1 3/4-in. 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-in. length of stock along its centerline to make carlins to support the side decks (Fig. 5A).

When finished, lay a 6-ft. length of 3/4-in. sq. 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-in. ringed nails spaced 2 in. apart.

When the 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 #8 x 1 $\frac{3}{4}$ -in. FH screws spaced 4 in. apart and trim the aft ends of the planks. 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 #8 x 1 $\frac{3}{4}$ -in. 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 $\frac{1}{8}$ -in. beyond the traced lines for trimming after assembly. The remaining piece of each panel will be used as one side 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 $\frac{1}{4}$ -in. flat where the panels meet (Fig. 5B) and then use a putty knife to insert a bead of glue mixed with fine sawdust. Secure the seam with 1-in. wire nails clinched on 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 three coats of well-thinned semi-gloss enamel, trimming with a contrasting color. ■

