

Water skiers and speed demons, look away.
However, if you're interested in space, operating economy and
sea-kindliness in a 24' day cruiser, here's

HOW TO BUILD SEA STAR

BY ROGERS WINTER

THERE IS A CLASS of salt-water sailors who don't care a hang for spit and polish; who value comfort, safety and economy over speed; who wear dungarees frayed at the cuffs; who bang out the hours on the bottom of a dishpan and who have a wife and four kids who love sailing just as much as the captain of the ship.

These sailors are water gypsies—and there must be a lot of them, to judge from the inquiries a designer gets for a boat to meet their specifications. They want a boat with an easy motion, 6' of headroom in the cabin and under the standing top, berths wide enough and long enough to furnish reasonable sleeping comfort, ample foot room on the cabin sole, a cockpit large enough for four people on day trips, a decent galley, an ample toilet room and side decks wide enough to let them go forward with some hope of arriving.

Above all, they want a boat that is simple and easy to construct—though experience indicates that no boat is "simple to build."

Such a boat is hard to design—especially when you try to do it in only 24' overall. After considerable research and thinking, however, this designer has developed *Sea Star*.

Sea Star is quite a boat. She has 6'1" of standing room under the pilothouse roof, 5'5" of headroom in the cabin, two full-size bunks, plenty of galley space and a sizable toilet room (fully enclosed), and her construction is cross-planked, Chesapeake

Bay-skipjack style—one that most nearly meets the requirement "simple to build."

She is no speed demon. Maximum designed speed is 8½ to 9 mph, with fuel consumption on the order of 1½ gallons per hour at cruising speed, which makes her a wonderfully economical boat to operate. She also goes along without dragging in a heavy sea; rolls and pitches moderately, with an easy motion, and does not pound. She behaves more like a Rolls-Royce than a Tin Lizzie. And you can forget about the spine-jarring pounding you get from the average runabout; with *Sea Star* you don't need a chiropractor to get the kinks out of your back after an afternoon on the water.

Cost of *Sea Star*, constructed by an amateur, is estimated at \$3500, equipped for sea duty down to the last detail. This figure includes all the material, the power plant complete, tanks, hardware, foundry work and machining, mattresses and their covers, weather cloths to enclose the pilothouse and all small stuff—but no labor. Built in a shipyard, she will cost about \$4000 more, which is still about \$2000 under the cost of a comparable boat.

As he looks over the plans, two questions will immediately come to the mind of a prospective builder: 1) Can plywood be used? 2) What about more power for more speed?

The answer to the first is yes. Instead of the 1" side planking specified, ¾" plywood can be used,

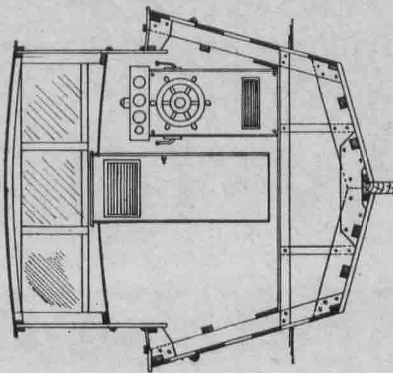
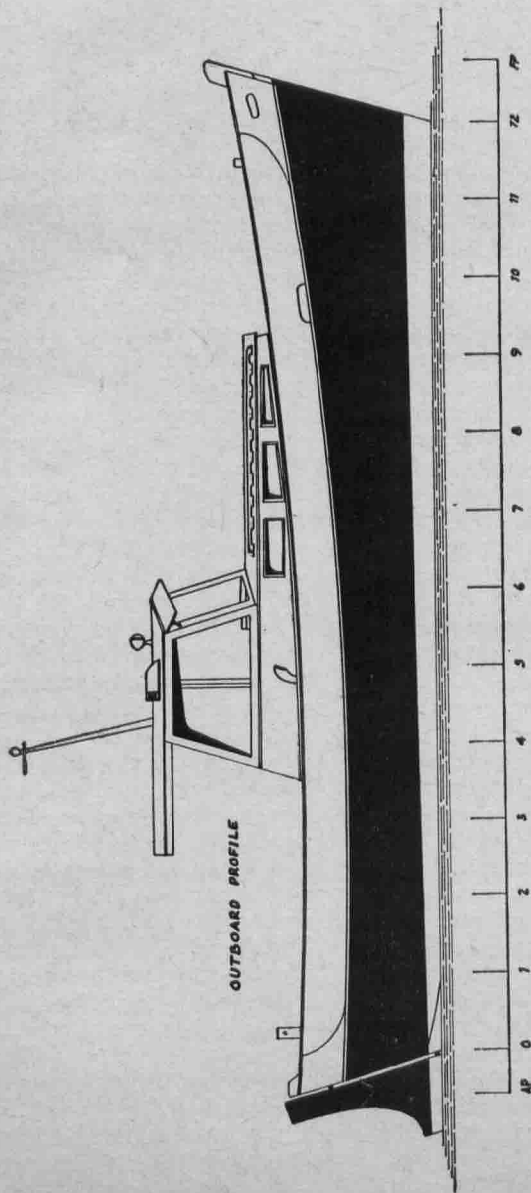
in which case the intermediate frames are omitted and a 1¼"x2½" stringer is run fore and aft, halfway between chine and sheer, and let into the main frames. The bottom is better cross-planked as specified.

The answer to the second question is no. Adding extra power to a boat of this type is a pure waste of money. She will go just so fast and no faster, so 25 hp is ample for the purpose.

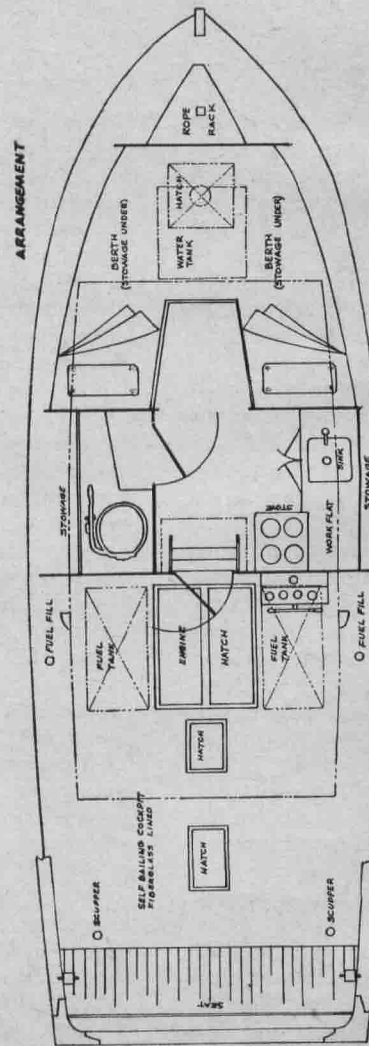
One or two other preliminary considerations will come to mind before a decision is made to actually build the boat. One is: Where is the List of Materials? It is appended at the end of this article.

In this designer's opinion, however, lists like this are hardly worth the paper they are printed on. Many years ago he built a boat to a set of plans that included an elaborate list of lumber needed. When he was finished with the boat, he had a lot of expensive mahogany left over that finally, in desperation, was turned into a dining-room table. He learned right then and there to take materials lists with a grain of salt, and he doesn't claim to be any better at making them up than that other designer many years ago.

The reason for this is that a designer invariably compiles a materials list by listing each piece of material from the plans, by length, width and thickness, with no consideration given to the fact that a smart builder can easily consolidate lumber requirements and save a lot of money by ripping out the different pieces



SECTION THRU STATION 5
(LOOKING FORWARD)



"SEA STAR"
A 24-FOOT DAY CRUISER
DESIGNER: **ROGERS WINTER,**
S.S.C.D.
311 WEST COLLEGE DR., PERRY FLA., U.S.A. 32347
SHEET 2 OF 4
11-15-64

from larger lumber with a power saw. Or a boat of this size may be constructed a little at a time, with materials being purchased in small quantities, as funds become available and the next part of the job comes to hand. A listing of materials is not much help in such a case either, since it is an easy task to pick out the necessary pieces, as they are needed, from the plans.

Furthermore, if a list of materials is needed to get a quotation from a builder, you shouldn't do business with him anyway. Any builder who is too lazy or too incompetent to make his own list from a good set of plans shouldn't be building boats anyway. Go somewhere else. A good builder has lumber in stock that he can rip to size and bill to the individual job, and he buys fastenings by the triple gross or the barrel; he knows from previous experience the right length and size to use.

His lumber will also, in all probability, have had a chance to air-dry over a long period, which makes it the best for the purpose. Never use kiln-dried lumber to build a boat. Also, buy select lumber, if you can, that is completely free of knots, shakes, warps or winds and is quarter-sawn. Cheap lumber is the world's poorest investment when it comes to building a boat.

If you can't get planking lumber that is completely free of knots—something that is becoming increasingly difficult to do nowadays—it is possible to bore out small knots (around $\frac{1}{2}$ ") and bung the holes with glued-in dowels that are later cut off flush. This practice can be overdone, however.

Another consideration: If you are going to build this boat yourself, start off with the realization that a lot of work is involved. A good amateur boatbuilder—one who has had some experience on small craft before attempting a project this size—working in his spare time, will require about a year and a half to build *Sea Star*.

Even an experienced amateur will find standard texts on the subject of boatbuilding gold mines of information. Two that are highly recommended are: *Boatbuilding* by Howard I. Chapelle and *Boatbuilding in Your Own Backyard* by Samuel S. Rabl.

You can use almost any lumber available in your locality to build *Sea Star*, although the Materials List gives suggestions for the various timbers. With a few exceptions, the boat may be nail-fastened throughout. Hundreds, nay thousands, of similar boats have been built of native pine in the little tidewater

boatyards around Chesapeake Bay, far from any electric-power line. While it would be silly to deny the benefits of power tools, she can still be constructed with nothing more in the way of tools than two good, sharp saws (a rip saw and a crosscut), a sharp hatchet, several planes, several chisels, a brace and a set of bits, a drawknife, a hammer, a coarse rasp, plus all the clamps you can beg, borrow and steal. Of course, these, or even power tools, accomplish nothing while they remain idle, so since there is a lot of work involved, let's get down to the actual building process.

The first step is to loft the lines out full size, developing the transom to the forward face of the frames in the process. Lofting lines full size is an absolutely vital step in a boat this size. Every effort has been made to make the offsets, from which the lines are lofted, as accurate as possible, contracted lines being used for the purpose; but a designer works on a small drawing board, where the thickness of a pencil line can make an error amounting to a half inch when the lines are drawn up full size. Designers are human, too. They make mistakes. You find (and correct) these mistakes when you draw the lines full size.

Another reason for lofting full size is that you can draw in the actual size and shape of members like floor timbers, frames, motor beds and so on, after which they can be lifted by means of templates made with draftsman's vellum, thus saving a lot of time, work and wasted materials. You make your mistakes on paper and not on lumber.

A full description of the lofting process, if you are not already familiar with it, can be found in either of the textbooks mentioned previously.

Sea Star can be built upside down or right side up, just as you prefer. Upside down makes it a little easier to do the bottom planking. To build right side up, you drive a series of posts (four-by-fours are about right) into the ground; or string one line close to the ground to be used as the base line and another line slanted at the proper keel angle. Three two-by-sixes are nailed together and fastened to the tops of the posts at the proper keel angle.

The main keel, skeg, shaft-alley sides and horn timber are taken off from the lofted lines, and the lumber is cut to shape and assembled, with $\frac{1}{2}$ " carriage bolts, drifts and glue used on all faying surfaces. The shaft-alley sides are set in bedding compound. This is heresy, but common asphalt roofing compound is as good as any for this purpose.

The keel cheeks are next cut, beveled to shape and fastened in place with glue and screws. They need not be in single lengths.

The dimensions of the frames are next taken from the lofted Body Plan and the frames assembled, with glue and 3" carriage bolts used where the bottom frames join the side frames. The floor timbers are glued in place and fastened with $3\frac{1}{2}$ " carriage bolts, as indicated in the drawings.

This designer finds epoxy glue the best all-around glue for boatbuilding, even though it is a bit more expensive and sometimes hard to obtain. Resorcinol (Elmer's) glue is perfectly acceptable, however, and powdered resin glue can be used in a pinch.

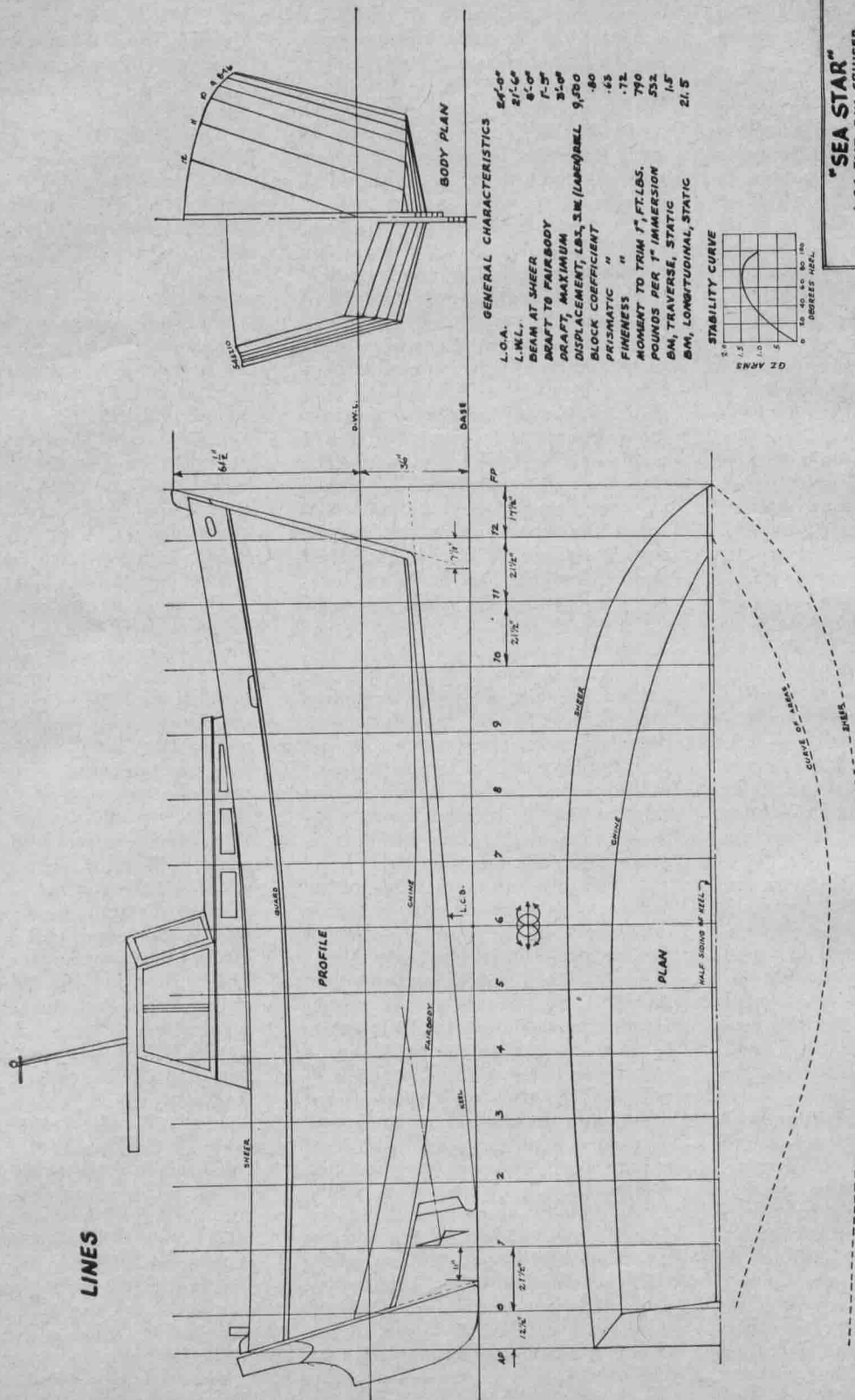
Start assembling the frames on the backbone, beginning at the amidship frame and working alternately fore and aft. Plumb, square and brace your frames very accurately. Only the main frames are assembled at this time on the backbone. Be sure before you fasten them in place that you have cut limber holes alongside the keel cheeks. These holes drain the bilge water into the lowest point in the boat.

The main frames must be beveled to accommodate the planking. The intermediate frames are normal to the planking—that is, they are not beveled; and they go into place after the chine and sheer stringers are run in. They are located exactly halfway between the main frames. If you want to save a bit on weight, the intermediate frames can be only 1" material, instead of $1\frac{1}{4}$ ". They can also be omitted altogether if plywood is used for the side planking.

After the frames are in place, assemble the stem and transom and fasten them accurately in place. Then run in the chines, sheer stringers and bottom stringers. It is a good idea to leave off one or more of the bottom stringers until the bottom planking is ready to be fastened in place—which is done last if the boat is built right side up. This allows all the sawdust and shavings from the interior work on the hull to fall to the ground, instead of accumulating on the inside of the hull, where they will have to be removed, with great difficulty, by means of a vacuum cleaner. If you leave the stringers out temporarily, you will also find it easier to get in and out of the boat during construction.

You will have to splice the sheer stringers and chines, so do this where the run is straightest. Don't try to make the splice on a frame. Use a butt block, glue and screws.

There are several methods of run-

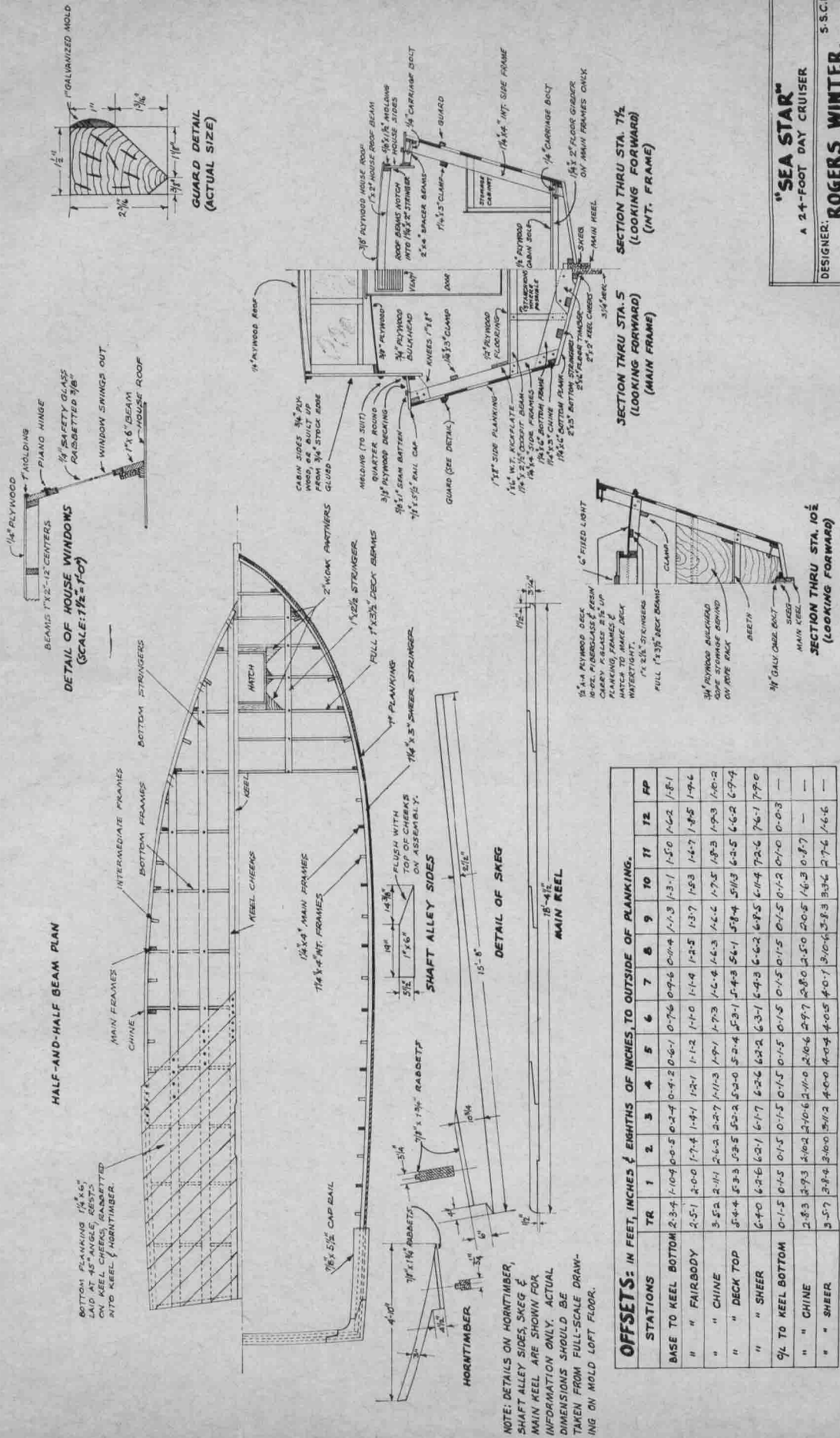


"SEA STAR"
A 24-FOOT DAY CRUISER

DESIGNER: **ROGERS WINTER**
911 WEST COLLEGE DR., PERRY, FLA., U.S.A. 32547.

SHEET 1 OF 4

8.5.5.5
31-15-64



NOTE: DETAILS ON HORN TIMBER, SHAFT ALLEY SIDES, SKEG & MAIN KEEL ARE SHOWN FOR INFORMATION ONLY. ACTUAL DIMENSIONS SHOULD BE TAKEN FROM FULL-SCALE DRAWING ON MOLD LOFT FLOOR.

OFFSETS: IN FEET, INCHES & EIGHTHS OF INCHES, TO OUTSIDE OF PLANKING.		TR	1	2	3	4	5	6	7	8	9	10	11	12	FP
BASE TO KEEL BOTTOM	2-3-4	1-0-4	0-0-5	0-2-4	0-4-2	0-6-1	0-7-6	0-9-6	0-11-4	1-1-3	1-3-1	1-5-0	1-6-2	1-8-1	
" " FAIRBODY	2-5-1	2-0-0	1-7-4	1-4-1	1-2-1	1-1-0	1-1-4	1-2-5	1-3-7	1-5-3	1-6-7	1-8-5	1-9-6	1-9-6	
" " CHINE	3-5-2	2-11-4	2-6-3	2-2-7	1-11-3	1-9-1	1-7-3	1-6-4	1-6-3	1-6-4	1-7-5	1-8-3	1-9-3	1-9-3	
" " DECK TOP	5-4-4	5-3-3	5-2-2	5-2-0	5-2-4	5-3-1	5-4-3	5-6-1	5-8-4	5-11-3	6-2-5	6-6-2	6-9-4	6-9-4	
" " SHEER	6-4-0	6-2-6	6-0-1	6-1-7	6-2-6	6-2-2	6-3-1	6-4-3	6-6-2	6-8-5	6-11-4	7-2-6	7-6-1	7-9-0	
Q/L TO KEEL BOTTOM	0-1-5	0-4-5	0-1-5	0-1-5	0-1-5	0-1-5	0-1-5	0-1-5	0-1-5	0-1-5	0-1-5	0-1-2	0-1-0	0-0-3	
" " CHINE	2-8-3	3-9-3	2-10-2	2-10-2	2-11-0	2-10-6	2-9-7	2-8-0	2-5-0	2-0-5	1-6-3	1-0-8-7	—	—	
" " SHEER	3-5-7	3-8-4	3-10-0	3-11-2	4-0-0	4-0-4	4-0-5	4-0-7	3-10-6	3-8-3	3-3-6	2-7-6	1-6-6	—	

NOTE: DECK TOP HEIGHT ALSO INDICATES TOP OF GUARD.

"SEA STAR"
A 24-FOOT DAY CRUISER
DESIGNED BY: ROGERS WINTER, S.S.C.D.
911 WEST COLLEGE DR., PERRY, FLA. U.S.A. 32347.
SHEET 4 OF 4
11-15-64

ning in the side planking—which, by the way, will actually be nearer $\frac{7}{8}$ " than the 1" specified, since it loses some thickness when dressed smooth. This knowledge is important when it comes to cutting the rabbet in the stem.

You can use the diminished-strake method of carvel planking, or use stealers. Another method is to use straight parallel strakes 6" wide. Run the first strake straight from stem to transom in such a way that at no point is the distance any greater than 12" above the bottom of the chine stringer. The planks should lie natural to the boards, without any spring to their widths.

Two 14' planks, overlapped and clamped so that their edges form one straight line, may be adjusted to obtain the run of this first plank. Continue planking until the sheer is reached. Here you will have to start using the 8" planks, either to drop out or to add a strake. Where the 6" width, if continued, would fall below the stringer, the plank is cut off and an 8" width butted to it. This 8" width is again continued, and when it starts to run off, another 6" and an 8" or two 6" planks are continued. In no case should the end of a plank be less than 2" wide.

This sounds complicated, when actually it is not. If you think the planking is going to give you trouble, as is often the case with amateurs, it is suggested that you build a scale model out of balsa wood, which can be purchased at any hobby shop, before undertaking actual construction. Practice the planking on the scale model until you have absolute confidence you can do the real thing, and you will save yourself a lot of worry, time and money.

You will also delight the hearts of any children around, both yours and the neighbors'. Your wife may even get so interested she will forget she has been robbing the cookie jar for months to supply you with money for nails, screws and glue.

The planks next to the chine are done in a similar manner.

All topside planking should be outgaged for caulking. Be sure to space the butts in adjacent planks well apart. Use the boat nails to fasten the planking to the frames, both main and intermediate.

On the bottom, 6" planks are laid at 45° to the keel, sloping aft. Allow the width of a hacksaw blade, but no more, between them so that they will swell tight afterward without caulking. These planks have no out-gage. Lay their inner and outer edges on flannel or wool strips about 1" wide. Soak the strips well in seam-sealing compound, and if you are

building right side up, hold them in place with small copper tacks. If the bottom planking is delayed until all interior work is finished, and you no longer need the level and plumb lines, the boat may be leaned away from one side and the exposed bottom planked very much more easily.

You will experience a little difficulty in doing the bottom planking for the last 24" to 26" before the stem. Either of the textbooks mentioned will give you methods for doing this remaining bit. Unfortunately, not enough space can be devoted to this article to explain fully the several different methods available. All of them are simple and will pose no problem once you catch the basic idea.

After the side planking is completed, make the beam molds for the well deck, house and pilothouse roof, and get these beams out. Notice that the deck is raised from the rear of the pilothouse forward to the front of the house. You will need short deck beams and knees here; they should be cut on the same camber as the well-deck beams.

Make the beams for the well deck, and install them forward of the side frames. Bevel off their extremities to make a fair surface where they fall on the intermediate beams. Secure them with glue and a $\frac{1}{2}$ " carriage bolt. Then run in the deck stringers, hatch combings, partners, fillers and so on.

The $\frac{1}{2}$ " plywood deck will have to be fitted to the sheer and frames by what is known as back scribing, in order to make the fits around the beams. Make these fits as tight as possible, and when the deck is in place cover it with 10-oz. fiber-glass cloth and two coats of resin, sprinkling antislip compound into the final coat before it dries. Run the fiber glass and resin up the sides and the frames, and up the sides of the hatch, about $2\frac{1}{2}$ ", in order to be absolutely sure you have a leakproof deck. After the cabin house is in place, seal the joint all round with an additional 4" strip of fiber glass, running it up the front of the house.

After the forward well deck is in place, the next step is to erect the cabin sides, which can be $\frac{3}{4}$ " plywood or built up from $\frac{3}{4}$ " lumber. It is considered better workmanship to build up the sides. Redwood makes a good lumber for this purpose, although Philippine mahogany or any other easily worked lumber will do just as well.

Build the motor foundation to suit the motor you have selected. The floor timbers of Frames 3, 4 and 5 are wide enough to take the beds of almost any engine you select. At the

width of the beds, lag-screw a pair of two-by-fours over these frames and bolt the main foundation timbers to these, thus distributing the thrust of the engine over three main frames. The engine foundations themselves should be about $2\frac{1}{2}$ " wide and should be notched over the floor timbers as well as bolted to the two-by-fours.

If it is necessary to cut away any of the floor timbers or bottom frames to install the engine, double the frames or floor timbers at this point.

When the motor is installed, you will have enough clearance in the shaft tunnel to move the shaft about 3" higher on its forward end, if necessary. At the inner end of the tunnel, install either a patent shaft log or a 6"x6" block of oak, bored to take a flexible stuffing box. A plain stern bearing at the after end will complete this installation.

It will be easier to fit the exhaust piping, shaft and tanks if the cockpit floor is delayed. The cockpit-floor beams are $1\frac{1}{4}$ "x $2\frac{1}{2}$ ", or thereabouts, set on all main and intermediate frames. It will be well to run stanchions down to the floor timbers and bottom frames on both sides of the keel wherever possible. The flooring itself is $\frac{1}{2}$ " plywood, fiber-glassed to be waterproof, and the cockpit is equipped with two scuppers and a watertight kickplate to make it self-bailing.

Make the hatches self-sealing against the entrance of water by means of rubber stripping.

The rudder is assembled from 2"x6" white oak lumber, glued and bolted together as shown on the drawings. The bolts should be counterbored and plugged and the rudder faired off fore and aft. It is fitted to the transom by means of pintles and gudgeons that will have to be custom-made for the job. One way is to have the pintles and gudgeons cast in bronze. Another, and probably cheaper, way is to have them welded up from stainless-steel stock about $\frac{3}{8}$ " thick.

Sea Star has an outboard rudder for a very simple and important reason—she is a slow-speed boat, and a rudder this size is necessary to ensure that she answers her helm promptly when maneuvering in close waters. This type rudder also has an important additional safety factor in that the top can be fitted for an emergency tiller.

The cabin arrangement shown on the plans is more or less standard for this type of boat. The joiner work involved can be as fancy or as simple as your taste and pocketbook dictate. Install the head according to manufacturer's directions. Be sure

to insert a sea cock in the outlet. By all means, install the forward hatch. It is, first of all, a good emergency escape in case of fire in the cockpit or galley. It also provides excellent ventilation to the cabin, and it is a fine place to stand when handling anchor lines in heavy weather. You can fit a removable screen to make it insectproof in summer.

The motor shown on the plans is a Universal Utility Four with 2.25:1 reduction, swinging a 19"x13" three-blade propeller. Some adjustment in this prop size may be necessary. This is a good, husky engine designed especially for marine use, and it is all the power you will ever need for this type of boat.

Any other good engine in the 25-hp class is perfectly acceptable, however. Whatever engine you select, be sure it is installed in accordance with U.S. Coast Guard regulations and that the required vents are installed as shown in the plans and led via ducts to the engine compartment.

Paint is left to the owner's taste. A good color scheme is to paint the sides below the guard black, with white above. The rail cap can be varnished if you like a touch of spit and polish.

Use only a good grade of marine paint. Trying to save money on paint around a boat is a waste of time and money. House paint just will not stand up to salt spray.

Be sure to give the entire inside two good coats of antirot preservative, sloshing it on liberally. If you plan to fiber-glass the hull, however, omit applying the preservative until after the fiber glass is in place. If you don't, it will leak through, and since it is oil-based, you will never get fiber-glass resin to adhere to the hull.

Sea Star will make a wonderful boat for lazy summer cruising and will be excellent for following schools of stripers, mackerel and other game fish wherever they go. She is rather heavy, but extremely comfortable and sure to appeal to those who want a sensible, conservative and economical boat.

Large-scale blueprints (3/4" to 1") are available for *Sea Star* at a cost of \$10 per set. Send remittance to Rogers Winter, c/o SPORTS AFIELD Boatbuilding Annual, 959 Eighth Ave., New York, N. Y. 10019. Air-mail shipment of plans can be obtained by adding \$1 for United States and Canada, \$4 for New Zealand, Australia and southwest Pacific areas, \$3 for British Isles and continental Europe. Foreign buyers please remit in New York or San Francisco funds at par.

LIST OF MATERIALS

Woods

ITEM	LUMBER	DIMENSIONS	PIECES
Main keel	White oak, teak	3 1/4" x 3 1/4" x 20'	1
Skeg	" " "	3 1/4" x 12" x 16'	1
Sternpost	" " "	3 1/4" x 6" x 18"	1
Alley sides	" " "	1" x 6" x 3'	1
Horn timber	" " "	3 1/4" x 12" x 5'	1
Keel cheeks	" " "	2" x 2" x 14'	3
Stern knee	" " "	3 1/4" x 12" x 18"	1
Stem knee	" " "	3 1/4" x 14" x 3'	1
Stem	" " "	3 1/4" x 8" x 8"	1
Floor timbers	White oak, fir, pine	2" x 8" x 14'	2
Side frames	" " "	1 1/4" x 4" x 6'	44
Bottom frames	" " "	1 1/4" x 6" x 4'	22
Cabin sole	A-C plywood	1/2" x 4' x 8'	2
Sole beams	Fir, pine	1 1/4" x 2" x 6'	7
Cockpit floor beams	A-A plywood	1/2" x 4' x 10'	2
Stairs	Fir, pine	1 1/4" x 2 1/2" x 8'	12
Berths	Fir, pine	1" x 6" x 6'	3
Bits	A-C plywood	3/8" x 4' x 8'	3
Clamps	Locust, white oak	3" x 3" x 5'	3
Rudder	Fir, Sitka spruce	1 1/4" x 3" x 28'	2
Cabin sides	White oak, teak	2" x 6" x 8'	4
House roof	A-A plywood, mahogany	3/4" x 4' x 12'	2
House beams	A-A plywood	3/8" x 4' x 8'	2
Well deck	Fir, pine	1" x 6" x 8'	10
Deck beams	A-A plywood	1/2" x 4' x 8'	2
Rail cap	Fir, pine	1" x 8" x 8'	7
Guard	Mahogany	1" x 8" x 12'	5
Pilothouse	Greenheart	2 3/16" x 1 1/2" x 28'	2
House roof	Mahogany, fir	1" x 6" x 12'	10
House beams	A-A plywood	1/4" x 4' x 8'	1
Mast	Fir, pine	1" x 6" x 6'	8
Visor	Fir	2" x 4" x 6'	1
Bottom planking	Masonite	1/8" x 4' x 8'	1
Side planking	White cedar	1 1/4" x 6" x 6'	52
	White cedar, fir, cypress, Philippine mahogany	1" x 5" x random length	48
Transom planking	A-A plywood	1/4" x 4' x 8'	5

NOTE—All lumber should be quarter-sawn, if possible; air-dried to 12- to 15-percent moisture content and completely free of shakes, warps, winds or knots, although tight knots not over 1/2" in diameter will be allowed if not more than three knots occur in any one plank.

Fastenings

ITEM	DESCRIPTION	SIZE	NO.
Carriage bolts	Bronze or galvanized	1/4" x 3"	72
" "	" "	1/4" x 3 1/2"	72
" "	" "	1/4" x 4"	20
Flathead wood screws	Brass or galvanized	2 1/2" No. 12	1 gross
" "	" "	2" No. 12	2 gross
" "	" "	1 1/2" No. 10	3 gross
Boat nails	Bronze or galvanized	2 1/4" Durkee Fig. 1290	15 lbs.
" "	" "	2 3/4" " " "	10 lbs.
" "	" "	3 1/2" " " "	5 lbs.
Drifts	" "	1/2" " " "	16 lin. ft.
Clinch rings	" "	1/2" " " 836W	30
Carriage bolts	" "	1/2" x 12"	10
" "	" "	1/2" x 10"	14
" "	" "	1/2" x 16"	14

Fittings

Range light		Perko Fig. 1279	1
Side lights	Bronze	" " 504	2
Transom vents	"	" " 1069	2
Motor vents	"	" " 762	1 pair
Scoop strainer	"	" " 66	1
Marine windows	"	" " 803	2 (7" x 16")
Fixed windows	"	" " 806	1 (6")
Drum steerer	"	" " 661	1 (16")
Quadrant	Bronze	Edson " 612	1 (14")
Shaft log	"	Perko " 671	1
Stern bearing	Bronze	W. C. " 864	1
Half oval	Galvanized	" "	60 lin. ft.

NOTE—Binnacle, bilge pump, searchlight, windshield wipers, scuppers, hinges, motor instruments and other fittings to suit owner.

Perko refers to Perkins Marine Lamp & Hardware Corp., P.O. Box D, Miami 64, Fla. W. C. refers to Wilcox-Crittenden Div., North & Judd Mfg. Co., Middletown, Conn. Edson refers to Edson Corp., 334 S. Water St., New Bedford, Mass. Durkee refers to Durkee Co., Inc., South St., Roosevelt Field, Garden City, N.Y.