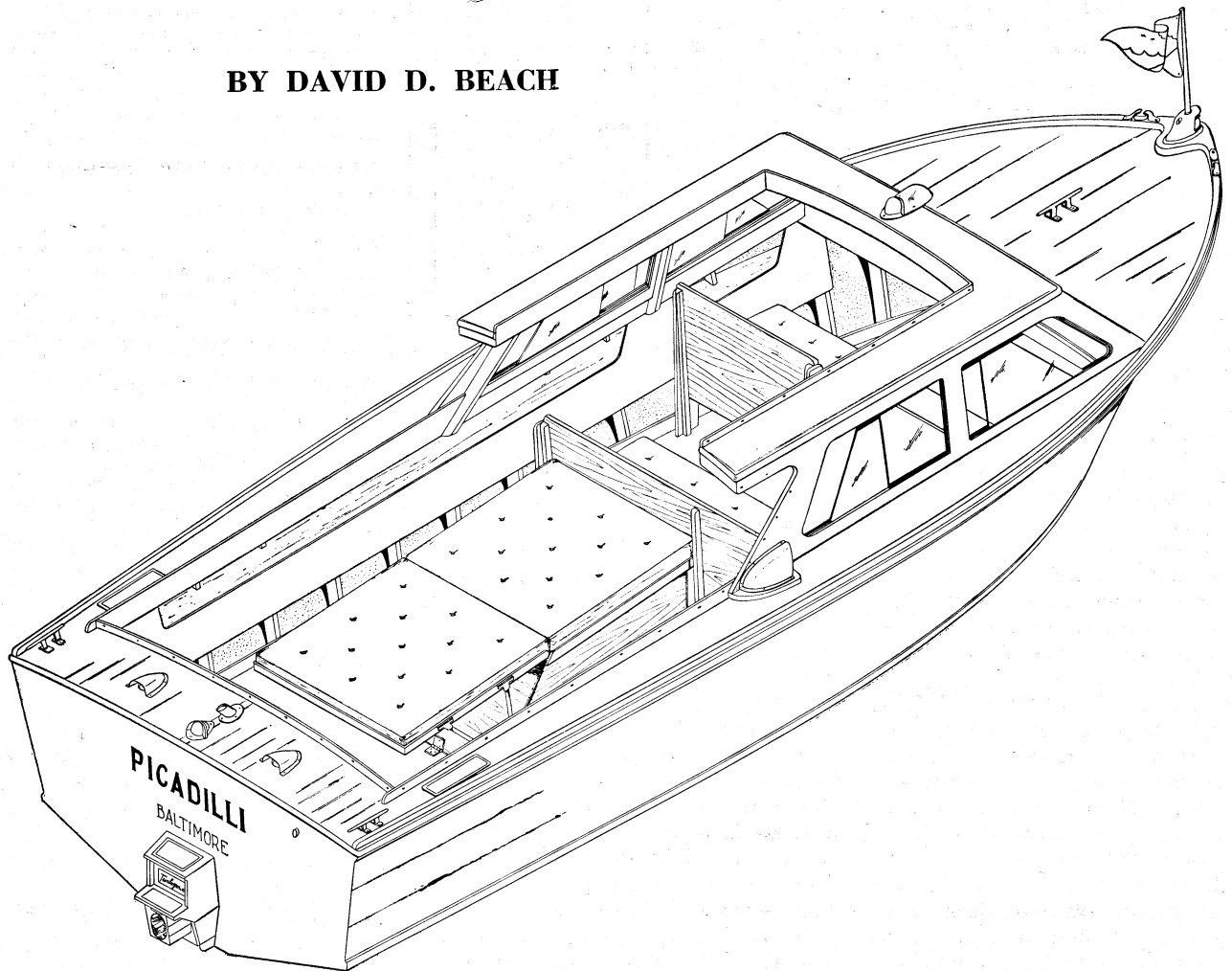


HOW TO BUILD PICADILLI

BY DAVID D. BEACH



**This 20' jet-inboard day cruiser will
provide plenty of room for that afternoon on the water,
as well as speed to spare for water skiers**

FOR A LONG TIME, my mail has brought requests for a boat design suitable for the new marine jet pumps. These letters arrive in sufficient numbers to indicate that there is substantial interest in this type of propulsion. The writers are fairly well distributed throughout this country, and once in a while a query will come from overseas.

It was, then, with an established basis of need that this design was submitted to the editors of the Boatbuilding Annual. The drawings that accompany the text should excite considerable enthusiasm.

For those who are not overly familiar with marine jet systems, a few words may be in order to describe them. Essentially, a marine jet is another reaction device that operates in strict accordance with old Apple-on-the-Head Newton's laws of motion. He said (and please pardon my paraphrasing his more formal exposition) that if you suck some water into the bottom of a boat and squirt it out the back faster than it came in, it'll produce some push on the boat in the direction opposite the squirt. We need not get involved in more classical terms like time rate of change of momentum and reaction quantum, or stuff like that, to appreciate the jet.

The jet has no external protuberances below the hull, so it's wonderful for a water-ski boat, as the danger of propellers is eliminated. Because there are no propellers, struts, shafts or rudders to become damaged, it can operate in very shoal waters. You can make full-power stops with the jet, because you don't have to cut the engine speed to reverse the thrust. Advertisements of the pump manufacturers will extol the jets' virtues even more, and I suggest that the lukewarm prospective builder write to the several jet manufacturers for more details and specifications. Address your queries to the sales manager, and mention the boat in the SPORTS AFIELD Boatbuilding Annual. The major manufacturers are Turbopower Div. of the Buehler Corp., Indianapolis 26, Ind., and the Berke-

ley Pump Co., Berkeley 2, Calif. Another is Propulsion Research, at 117 N. 2d St., Minneapolis 1, Minn.

The jet is here to stay, and it will continue to increase in popularity as the boating public becomes aware of the plus factors and learns how to minimize the minuses. But we should get on with the discussion of the boat.

The drawings are quite complete and provide all the information required by the experienced home builder. The drawings should be carefully and conscientiously studied by a prospective builder before he starts actual construction. Let's now begin the careful study by a look at the several drawings that best show the features of the boat. We should, of course, start the observation by looking at the Profile and Plan views of the boat.

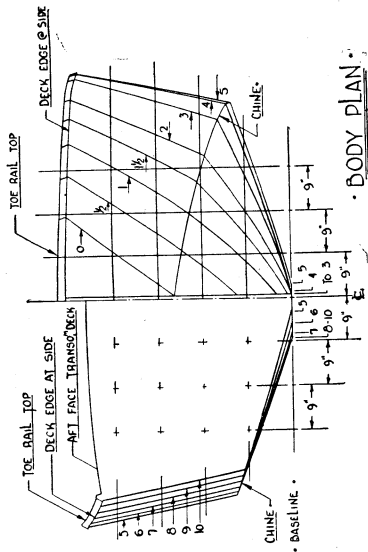
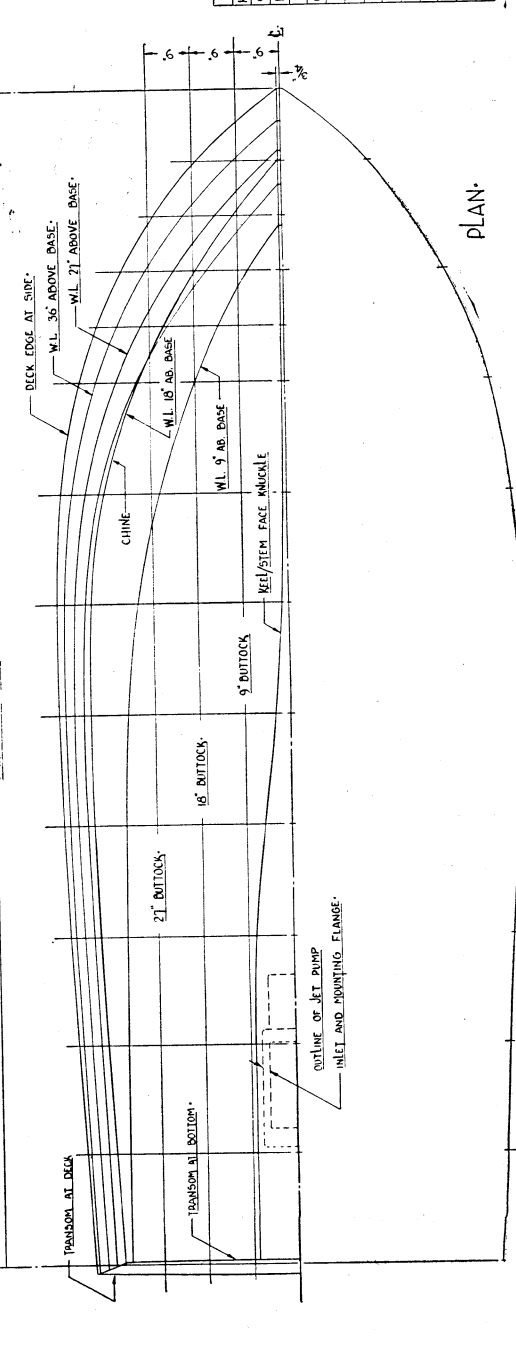
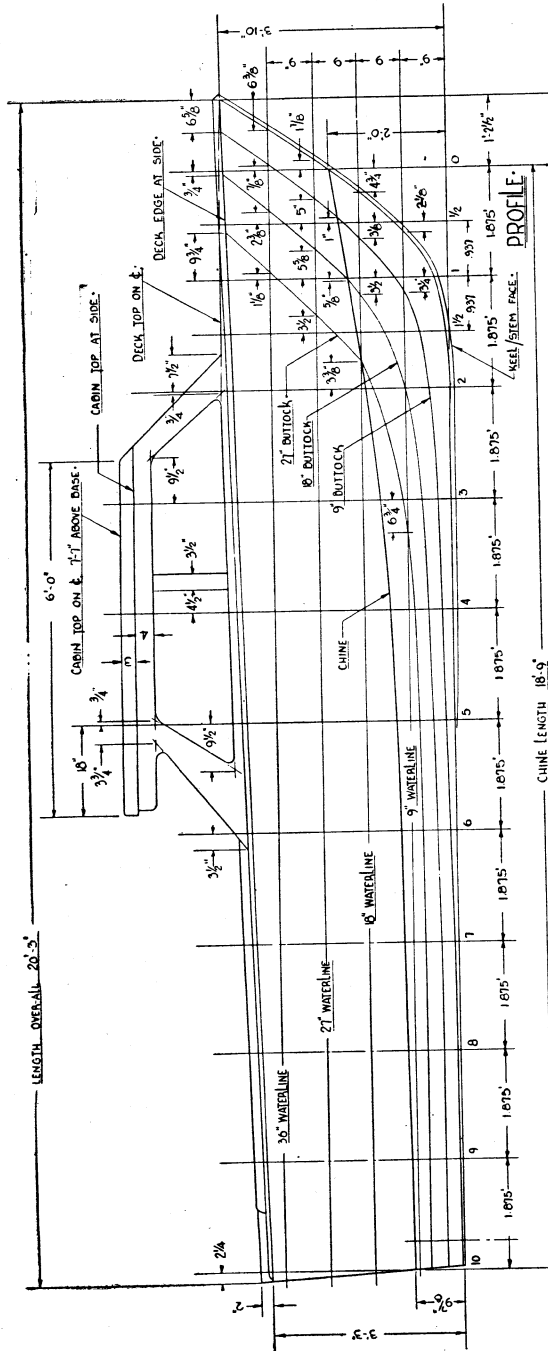
Now, the craft is primarily a big runabout and day cruiser, because it will provide enough space to permit a party to spend an afternoon afloat without crowding. In profile, its straight sheer and moderately raking stem and transom provide a pleasant hull for a short cabin over the main seating. The cabin is a straightforward thing of simple lines and shape, with a flat windshield and a small overhang at the back end. It does, however, have a sun-roof opening that permits the passengers to enjoy the sky and sun without exposure to wind and spray. The top is of automotive sport topping and can be fitted or removed quite easily and rapidly. The deck-plan view shows that the sun-roof opening is substantial. The seating arrangement is for six people—a helmsman, a couple opposite and three in the wide seat forward of the engine box. The engine box has a folding top panel and double cushion that extend to form a very adequate area for sunning or relaxation, underway or at anchor. The area behind the engine box is adequate for a pair of folding chairs or even a single fishing chair.

Let's now look at the inboard plan and profile, which supplement the first drawing to show the features

of the boat. Here the seating and sunning arrangement is better shown, as the top isn't indicated to obstruct the view. Incidentally, some builders might not care to put a shelter on *Piccadilli*, and that's perfectly okay. A wraparound windshield and a folding canvas top would fit fine, and the builder who wants the complete runabout treatment can get it in just that manner. The Profile view shows the seat arrangement with plenty of leg room, the stowage bins under the side deck, the anchor and fender stowage under the foredeck and the general schemes for sheathing the interior of the craft. Perhaps these two views provide the best showing of the characteristics of the craft.

The construction profile and the structural plan views show further arrangement details, with information as to how the various sizes of structural items are assembled. This drawing also best shows the engine and jet-pump arrangement. Note that the automobile conversion without reverse reduction, or even a clutch, is coupled directly to the jet pump by a short, universally jointed connecting shaft. The jet-propulsion unit is a three-stage, axial-flow pump with an inlet through the flat plank keel and ejection through the transom. The unit shown is a Buehler Turbopower jet, but the Berkeley, Propulsion Research and others are equally adaptable to this boat. The automobile-engine conversion should be of about 250 to 350 cu. in. displacement, capable of developing about 200 hp at 4000 rpm. The conversion shown is a basic V-8 Chevy, by Barr of Philadelphia, who can provide you with all the items you will need to make a marine engine from a car engine.

This drawing also shows the full-length stringers providing the backbone to the craft. The stringers are properly bolted to the heavy transverse floor timbers, which are, in turn, bolted to the flat plank keel. *Picadilli* is a husky craft, as is required when some readers might build her for a 400-cu. in. Chrysler or 409 Chevy truck engine. These



NOTES

OFFSETS PROVIDED IN TABLE ARE AS SCALED FROM ARCHITECT'S ORIGINAL
 FAIRING PENCIL DRAWING TO SCALE 1/4" = 1'-0" ON STATIONS INDICATED. GIVEN IN
 INCHES & EIGHTHS TO OUTSIDE OF PLANKING AND TOP OF DECKING. LINES SHOULD
 BE Laid DOWN FULL SIZE AND CAREFULLY CROSS FAIRED TO REMOVE INADVERTENT
 SCALING ERRORS (IF ANY) OR FAIRINGS NOT DETERMINABLE AT TWELFTH SIZE, PRIOR
 TO FABRICATING ANY PARTS.

TABLE OF OFFSETS

STATION	0	1	2	3	4	5	6	7	8	9	10
KEEL FACING ABOVE BASE	24.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9' BUTTOCK	-	35.0	10.7	2.4	2.1	1.6	1.2	0.6	0.4	0.4	0.4
18'	-	20.7	9.0	5.7	5.0	4.3	3.7	3.4	3.2	3.2	3.2
27'	-	34.5	15.3	9.6	7.7	7.1	6.7	6.6	6.5	6.5	6.5
CUNNE	24.0	20.2	17.1	14.2	12.4	11.6	11.2	11.0	10.4	10.1	9.7
DECK EDGE @ SIDE	-	45.3	-	-	-	-	-	-	-	-	39.0
DECK TOP ON 1/2"	-	46.0	46.2	46.0	45.3	44.7	44.2	43.5	42.7	42.0	41.0
KEEL ANGLE FROM 1/2"	0.6	0.6	0.6	0.6	1.2	2.7	5.3	7.3	9.0	9.0	9.0
9' WATERLINE	-	7.2	18.0	25.2	30.0	32.3	32.6	33.0	33.2	33.2	33.2
18' WATERLINE	-	19.2	29.7	37.6	40.7	41.6	40.7	39.7	38.7	37.6	36.5
CUNNE	-	0.6	17.5	29.3	36.5	39.5	40.0	39.3	38.5	37.1	36.0
27' WATERLINE	-	2.1	22.0	33.6	40.3	43.0	43.2	42.5	41.6	40.5	39.5
35' WATERLINE	-	10.0	21.6	31.6	43.1	44.7	44.7	44.5	43.4	42.4	41.3
DECK EDGE AT SIDE	-	17.3	32.3	41.2	45.3	46.4	46.2	45.5	44.4	43.2	41.7

20 FT. JET-INBOARD DAY CRUISER.
 FOR 1965 SPORTS AFIELD BOATBUILDING ANNUAL
 DESIGNED BY DAVID D. BEACH, NAVAL ARCHITECT
 108 EAST MELROSE AVE., BALTIMORE 12, MARYLAND
 DRAWING 1 OF 5

engines, in the bobtailed versions, are about 700 lbs. each, and adequate structure is needed to resist fracture when these weights start pounding through the water at speeds approaching 40 mph.

The construction sections provide some further indication of the nature of the craft. These views, at seven different frames, show the variations in fabrication from forward to aft. There are some differences in framing to be noted: The single-plank side and bottom frames forward, the gusseted frames amidships with the short deck beams and the wide side frames aft that do not require another structural piece for deck support. This drawing also shows fastenings, through bolts, engine-box and seat details and many more bits of essential information.

The designer has some strong opinions on how-to-build boat plans. First is that too many would-be boatbuilders tackle major and substantial projects without fully realizing what they're getting into. For that reason, it is felt that the prospective builder must fully study the drawings and do some preliminary paper work before he starts sawing wood to assemble frames.

He should have a good idea of what the material will cost and how he's going to put the assorted planks, sticks and panels together. This information can come only from careful thinking about each item in the boat: what it is, what it is shaped from, how it is to be given the required shape, how it fits into the structure and how it is held there. There is a what, how and why for everything. The designer has thought about these questions—and the builder should too.

How best to study the boat and to become familiar with all the problems of its fabrication? Certainly the builder would like to have a complete item-by-item instruction sheet. That *would* be best; but my editors would certainly be cool to a request for 30 pages of text for that purpose. But next best, and a proved method, is for the builder to compile his own list of material required. This method requires that he carefully study the plans with ruler, pencil and paper and devote his mental powers to woodworking operations.

But enough of philosophizing. Let's look at the final drawing and see where the designer spent most of his thinking on this design.

The lines drawing defines the shape of the boat and pretty much establishes the performance of the final product. A proper set of lines is developed on the basis of many considerations—including, in this

case, how best to provide for the jet intake. This big, flat opening plays havoc with most types of construction, and it is small wonder that the production builders who use jets are, almost without exception, builders who fabricate in fiber glass. The solution in wooden construction is to use the flat-keel technique of fabrication and to make the keel as wide as is needed for the jet inlet.

Note, on the Plan view of the lines, that the knuckle of the keel face with the V'd bottom is pretty normal to Station No. 3. Aft of that station it widens out, so that from Station No. 8 to the transom it is fully 18 inches wide. This will accommodate all the jet-unit intakes with which the designer is familiar. On the Plan view, to indicate this, the designer has dotted the outline of the inlet and mounting flange for the Buehler Turbopower unit.

The Body Plan of the lines shows that the boat is moderately V'd forward and has a fairly constant dead rise aft. The chine is tucked in somewhat aft and is widest at midlength. The sections forward are a bit convex, but they flatten out to nearly straight lines on the sides and bottom as they approach the transom. The experienced boatbuilder will look at these sections, together with the seam-batten details on the Construction Plan, and readily admit that planking will be a "no-sweat" operation.

The designer feels that the character of the lines is entirely appropriate for a huskily constructed and well-powered 20-footer. *Picadilli* will run quite well with her water-jet propulsion unit, she will be quite sea-kindly with her forward dead rise, flam and freeboard and she should turn quite properly because of her dead rise and absence of any center-line vertical keel.

Now—let's get on with the building of *Picadilli*. It'll be assumed that the builder has made up his materials list and knows what he will need for each phase of the construction. Also that there is ample room to loft the lines and to maintain those lines for reference on each item that will be cut for building into the structure. The loft area can be three 48"x96" panels of ½"-thick plywood, painted white and butted end to end to provide a 4'x24' flooring. This provided for, we should proceed to loft the lines.

You will remember that, some paragraphs back, it was mentioned that a completely detailed description of each phase of the operation would be much too long for this Annual. Study, then, the lofting proc-

ess in one of the boatbuilding books such as *Small Boat Construction* by Robert M. Steward or *Boatbuilding* by Howard I. Chappelle. It is important that the lofting process be carried out with care and precision if the boat is to be fabricated and assembled without serious problems.

The normal hull-assembly process for a boat like *Picadilli* would involve some half dozen steps. One might enumerate them as (a) lofting, (b) jig assembly, (c) subassembly fabrication, (d) frame erection and (e) planking. We will follow this sequence as a text to discuss the plans in detail. So let us build the boat—and discuss the features of *Picadilli* that make it different from more ordinary craft.

It was mentioned that the hull is a specific one for through-the-bottom jet intakes. The flat keel is not normally found in runabouts. This feature should present no problems in either lofting or planking, but care should be taken to ensure that a proper bevel is provided for the planking fastenings. Note on the construction sections that there is no rabbeting of the keel or stem and that the bevels are to be fiber-glass-covered. Also note the stem construction: a laminated member of nine plies of thin mahogany. This will require a bending and gluing strongback that must be lofted and cut full size.

Your attention is called to the fact that the lines and offsets are provided on stations, while the frames are located as required for structural and arrangement reasons. This will present no problem, as the frame templates can be picked off the lines directly.

The lofting will establish the exact height of each transverse floor and the shape of the bottom of the full-length engine stringers. These are the initially important structural items that establish the framing-jig dimensions. The framing jig should position the top of the stringers so that the assembled frames and floor timbers can be erected thereon.

The framing assemblies and the transom are all straightforward boatbuilding items and can be assembled completely before erection on the jig. The normal erection technique for building a boat hull upside down is to erect the stringers on the jig; set the frames, stem and transom on the stringers and jig and tie them all together with the keel, appropriately bolted. An essential point: The engine stringers are positioned to suit an engine whose hold-down bolts are on 22½" centers. If your engine is different, you should know it from the moment you start to loft

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those frames. It would be catastrophic if the engine wouldn't fit when the hull was turned over!

The frames may be notched for the keel, chine, battens and sheer either before or after erection, but it'll be easier if this is done later. The keel should be set into the frames, allowing for a suitable limber hole on each side, and should be bolted to the floors as shown. The chine may be fitted next, being set in a fair line into the frames and fastened to the vertically grained side frames with 2½" No. 10 wood screws, set flush. You may want to fit a temporary breasthook across the stem to hold the forward ends of the chine to the transom until the planking is fitted. This could be a triangular bit of ½" plywood, fitted in the manner of the stowage shelf, to be replaced by that larger tie panel later.

The drawings show that the sheer stringer is the same size as the chine and that it is fastened to the frame heads in the same manner. When the notches for these members are cut, they should be carefully measured so that the frames can be beveled for the planking panels. Forward, the cut is shallower on the after side of the frame, and aft it is shallower on the forward side of the frame.

After a long series of different planking experiments for home and backyard builders, the designer came to the conclusion that a strong and tight bottom was easiest with the double-diagonal method. This method requires the least skill, is easy and produces a fair, smooth and tight bottom when surfaced and painted. The bottom frames, keel, stem, forefoot and chine are all structural members against which the planking is glued and screw-fastened. These members should all be beveled or shaped so that the planking will lie fair and flush all over. This beveling is a cut-and-try process with a hand plane, rasp, disk grinder or any similar tool that can remove wood fast. A simple length of plywood, say 60"x6", can be laid across the frames, at an angle with the center line, to cross frames, chine and keel. Simple observation along this plank will show where the bevel is good and where it is not. The sides are faired in the same manner, with the plywood strip laid from sheer to chine, across the frames at all angles and along the frames across the stem. The side frames are beveled after the two seam battens are fitted into notches from transom to stem.

Now let us put on the planking. The sides are normally planked first.

The amateur or home builder will find that seam-battened, wide plywood panels are a veritable joy to apply. Carefully template the planks, cut them, fit them and fasten them down as shown. The individual builder will find that the panels can be easily handled through a narrow-throat band saw and do not require a large crew to handle and clamp them for fastening. The use of a good resorcinol-type adhesive or a Thiokol polysulfide adhesive is advised for all these joints. An all-glued boat is a solid structure which permits the fiber-glass cloth to be most securely applied. Also, all fastenings are flat-headed wood screws of bronze, set just below the surface and filled to be flush. A final word about butt blocking—the blocks should be carefully fitted full between the battens and should lap about 4" on either side of the butts. Of course, the plywood panels could be cut from panels as long as are available in your area. Your plywood supplier can get 12' panels with a little urging, and this length will let you properly stagger the butt blocks in the three strakes.

The bottom planking is applied in narrow strakes of plywood, or of solid material, of thickness and width as called for on the drawings. These strips are applied at a 45° angle to the center line and cut off to suit on the chines and keel. The bottom planking laps over the side planking at the chine and transom. The outer planking is applied in exactly the same way as the inner planking, but at right angles to it, over a layer of muslin well impregnated with sealant.

The planking should be carefully fitted and all fastenings driven to produce smooth planking seams and joints. These are finally sanded to a continuous smoothness, so that the fiber-glass cloth will present a fine, uninterrupted surface.

The hole for the jet inlet should be cut and carefully tapered to suit the part, and the fiber-glass cloth should be laid in to cover all the keel-member end grain. This matter of fiber-glass covering is worthy of some considerable space, but there is no trick if directions are followed exactly with attention to temperature and sunlight. The Owens-Corning people have some literature which the novice certainly should read, and the suppliers are most happy to answer your queries for application data.

We can assume that the fiber glass has been properly applied, the spray rails added, the paint finished and the boat turned right side up. Boy, was that done quickly!

The decking should be delayed until after the engine and cockpit floor are installed. The jet should be carefully fitted to the properly shaped cutouts in the transom and keel and bolted thereto as prescribed by the manufacturer. The engine selected, and appropriately converted, should be set on the engine beds and located as indicated on the drawings. When the engine is properly positioned transversely and fore and aft, it can be lagged down on the stringers with ½"x3" steel lag bolts. The engine and pump are connected with Walter Machine Co. shafting and universals of the size prescribed by the manufacturer for the torque and revolutions of the engine.

The cockpit flooring is fitted in panels to suit and glued and screwed to beams and headers. It should be carried to the chines aft and notched around the beams and vent ducting. The flooring is provided with a hatch aft over the jet, and provision should be made for the battery, best mounted beneath the rear seat. The designer prefers the plastic battery box made by the Marine Products Div. of Rubbermaid Inc., in Wooster, Ohio. This box accommodates the 75-amp.-hr. batteries that are recommended for this boat and comes complete with an internal shock-resistant pad as well as an easily installed hold-down strap. About now, you should also fit the stowage flat atop the chine, forward of Frame No. 3. It is to be used for stowing wet mooring or anchor lines, and there should be drilled through it a number of 1"-diameter holes to permit air circulation.

I think that we should next fit the decking and its associated structure. The sections show, as does the Deck and Bottom Structure view, that there are five full beams forward and one aft. These are sawed from ¾" stock and should be a full 3" in depth. The foredeck beams should be beveled and cut to fit snugly in the angle between the heads of the side frames and the sheer clamp. The beams should be fastened with glue and a couple of ¼" bronze carriage bolts set tight, with brass washers beneath the nuts. Continuous care should be taken, as the beams are placed and fastened, that these members form a continuously fair surface for the decking. When the beams are all in place, the longitudinals can be fitted. These foredeck battens and king plank are notched into the beams and secured to them by the fastenings indicated. The side-deck headers should be sawed to a templated shape to provide for the camber and should be

INTERIOR AND EXTERIOR PAINTING AND FINISHING INFORMATION
MAY BE FOUND IN "FINISHING TOUCH" 25¢ FROM PETIT PAIN CO.,
BELLEVILLE, N.J. OR "HOW TO PAINT YOUR BOAT" FROM CAWOOLSEY
PAINT & COLOR CO. INC 229 E. 42ND ST. NYC. 17, NEW YORK.

TOP SUPPORT SOCKETS, WILCOX FIG. 6225
FOR 1 3/4" BY 7/16" OAK BATTENS TO BE
SPRUNG IN. SEWN IN CANOPY TOP FABRIC.

[illegible]

THROTTLE CONTROLS TO BE COMPATIBLE WITH
ENGINE, MORSE INST. CO. TYPE.

FUEL FILL, VENTS AND
FITTINGS TO BE "TEMPO",
TEMPO PROD. CO. 6200
COCHRAN ROAD, SOLON,
CLEVELAND, OHIO, 44139

DECK COVERING MATERIAL OF SEALED
WOOD SIMULATING VINYL, "NAUTOLEX"
BY GENERAL TIRE AND RUBBER CO.,
TOLEDO, OHIO. GLUE DOWN WITH
3-M TYPE EC-880 ADHESIVE.

LINE OF SUN-ROOF OPENING
OVERHEAD 5'-3" BY 4'-0" IN
BEAM, OPTIONALLY A HARD-TOP.

VINYL COVERED "ENSOLITE" BY U.S. RUBBER
CO. TO MEET U.S. COAST GUARD REG'S
FOR LIFE PRESERVERS BY AP'D MFG'R.

COCKPIT FLOORING PLYWOOD PANELS -
TO BE VINYL COVERED IN 72" WIDTH
FABRICS TO SUIT, GENERAL TIRE CO.

20 FT. JET-INBOARD DAY CRUISER.

FOR THE 1962 SPORTS AREFLO BOATBUILDING ANNUAL.

DESIGNED BY

DAVID D. BEACH, NAVAL ARCHITECT
100 EAST MELROSE AVENUE, BALTIMORE 12, MARYLAND

DRAWING 3 OF 5.

end-fastened to the short beams through a glue joint. Note that aft, at the transom, a block is fitted between the header and clamp for the stern cleat. Note also that the beam on Frame No. 4 is the support for the steering wheel and is of a special shape to accommodate the engine instruments and switches.

Now the decking can be cut and fitted. It's the designer's thought that the decking shall be of plywood, seamed on the center-line king plank and fitted in as large panels as possible. The plywood should be cut and fitted, then glue-and-screw-fastened to the beams, battens, headers and sheer clamp. No butt blocks in the deck plan are indicated, but these should be fitted, and it would be wrong to attempt to butt deck-plywood panels on any single beam. The deck should be sanded smooth before either fiber glassing or covering with a vinyl deck material. On the several plan views, the designer has called for Nautolex, a product of the General Tire & Rubber Co. in Toledo, Ohio. This material is a heavy vinyl film, in oak, mahogany, teak or white deck-simulating colors, and is a very suitable material for *Picadilli*. This vinyl should be cut to shape, with proper attention given to the alignment of the seams and deck plugs, then glued down with an appropriate adhesive or contact cement. Trim the edges very carefully for maximum effect, and the resulting appearance will be like the proverbial million bucks.

The cabin hardtop is logically the next item, although it was mentioned that the boat can be used as a big, open runabout with a wrap-around windshield and a folding canopy top. There are both plastic and tempered-glass windshields of 72"-74" tip dimensions that will fit this boat. Get the catalogs of the N. A. Taylor Co. of Gloversville, N. Y., and of the Standard Products Co. in Cleveland, Ohio, to select the proper-price shield, as they come in several types and price ranges. A suitable folding fabric top can be made with either Wilcox or Taylor hardware, fabricated to suit by the local auto-top shop.

The hardtop is a plywood-sided affair with rabbeted front panels for the wooden-framed, opening windshield. The dimensions are given on the lines plan, and the structure is adequately detailed on the several drawings. It has been suggested by reproduction viewers of the Profile drawing that some builders might prefer to have a slightly longer overhang of the cabin aft. This after extension can be sized to suit the

builder, but it should not be more than 18" longer than that shown.

The builder will have the option of either making a solid hardtop roof or providing it with a fabric section in the manner of a partial sun roof. The full hardtop is detailed on the sections with a solid plywood-paneled roof, fiber-glass-covered and painted. The sun roof, with an opening 4' wide and 5'3" long, has some obvious advantages. It provides light and air without wind or spray. It provides unlimited headroom, and it certainly is not found in any production boats. The structure is certainly simple, and the hardware is off-the-shelf from Wilcox. However, the two side supports aft are most important and should be carefully fitted and fastened. Also, the rabbetted covering panels for the sliding glass double tracks should be carefully noted. The top and bottom tracks must be parallel; and note, please, that the forward window is drawn to a slightly different depth from that aft. The builder can fit plain laminated, heat-resistant or tinted-type glass, to suit. Also, if it is felt that the windshield rabbets might not be completely weatherproof, the water that possibly would leak in can be contained by a trim batten at the top of the deck-beam dashboard. Suitable scupper holes in the side panels permit the water to leak out to the deck outboard.

You should have the local auto-top shop fabricate a complete after-deck cover when it makes the sun-roof panel. This cover should attach by Dots to a suitable flap at the aft end of the sun roof and extend to the coaming strip just forward of the transom. The outboard profile and deck plans indicate the location of the fasteners to secure the cockpit cover to the coaming so that the boat can be left unattended in all weather.

The interior and all the chrome-plated goodies should be worried about next. As to the interior, it seems that the motor box should be fabricated first. This box must fit the engine with appropriate clearance over the manifolds, exhaust pipe and carburetor. It should be of 1/2" mahogany plywood on cleats of about 3/4"x1 1/2" stock. The box should be sturdy and fitted with hinges so that it can pivot, as shown on the construction profile. The box establishes the rear-seat bulkhead and the location of the rear seat itself. The owner who wants the full-length sunning extension of the engine-box top will have to fabricate some special socket hinges for the extension support. The designer couldn't find any suitable hard-

ware available as a stock item, but the arrangement details will provide enough information so that proper bits can be welded or brazed, polished and chromed. Note that these V brackets swing over as the engine-box extension also swings aft. The double cushion then provides a sunning area almost 6' long by 32" wide.

The seats are dimensioned on the inboard profile and have heavy plywood sides, with cleated bottoms and backs. The box bases are cleated to the cockpit floor by suitable screws or with well nuts. I think that mahogany plywood would be best for the seats, as some varnish seems a must for such items. The interior trim and the upholstery will play a prominent role in the appearance of your boat, so it is important that these items be well done. The upholstery should be loose, reversible cushions, made of Ensolite foam plastic. This unicellular material, when fabricated by an approved fabricator, is legal for life-preserver cushions. This is important for several reasons, cost and space being primary. Cover the foam material with marine vinyl upholstery, of a color and pattern of your choice, such as that manufactured by General Tire, which makes the deck material referred to on the drawings.

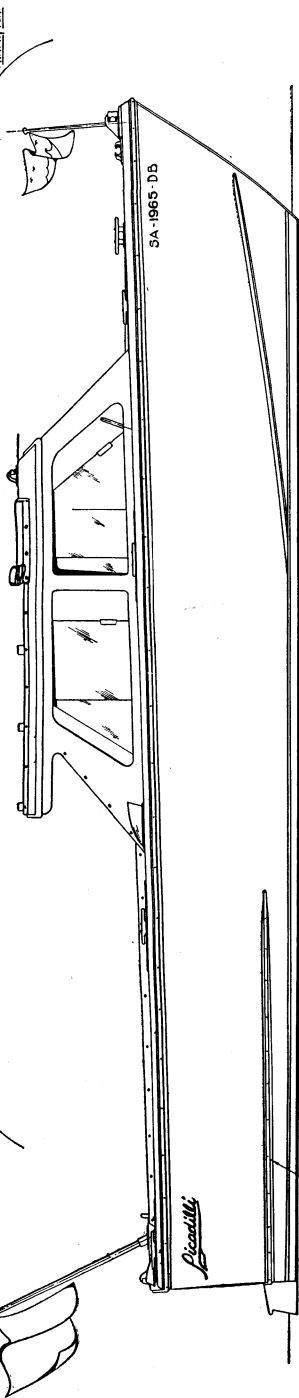
The remaining goodies—the controls, instruments, hardware, fuel tanks, hatch bindings, trim moldings and cockpit-deck coverings—are left, herein, to the discretion and know-how of the builder. The many notes and descriptive comments on the plans provide the designer's major thoughts on these items. To discuss each of these items in depth would unduly extend these comments.

The designer has indicated on the plans, in several places, the source to which the builder should refer for supplemental information. The advisability of this is to be repeated, as is the suggestion that, should personal experience not cover a craft of this complexity, the prospective builder should study the boatbuilding texts.

For the builder who wants large-scale blueprints from the designer's original ink tracings, these are available. Address the designer, David D. Beach, enclosing a check or money order made out to him in the amount of \$9.50 in U.S. funds, in care of SPORTS AFIELD Boatbuilding Annual, 959 Eighth Avenue, New York, N.Y. 10019. Foreign builders are reminded that international money orders are easily obtained.

BLUEPRINTS TO LARGE SCALE OF 1" = 1'-0" ARE AVAILABLE FROM DESIGNER, DAVID BEACH IN CARE OF SPORTS AFIELD BOATBUILDING ANNUAL FOR \$3.50 IN U.S. FUNDS, CHECK OR POSTAL MONEY ORDER. BLUEPRINTS MAILED POSTPAID. ENCLOSE STAMPED SELF-ADDRESSED ENVELOPE WHEN WRITING TO DESIGNER ABOUT THIS DESIGN.

HARDWARE BY WILCOX REFERS TO THAT BY THE WILCOX, CRITTENDEN & CO. MIDDLETOWN, CONN. AS SHOWN IN THEIR CATALOG NO. 500. "PERNO" IS PERKINS MARINE LAMP & HARDWARE COMPANY, P.O. BOX D, MIAMI, FLA.



1/2" STAINLESS STEEL HALF OVAL ON SHARPED GUARD 1 1/2" SQ. OAK THRU EXTENDED FROM INSIDE 7/16" BULBS

STERN CLEATS 3/8" THRU BOLTED TO DECKING DOUGLASS WILCOX FIG. 401 6" LENGTH CHROMED BRASS

FIT 3/8" BY 1/2" STAINLESS STEEL RUD. STRIP 10" LONG ON RAIL CHIP OUTSIDE OF CLEATS

FABRICATE FABRIC SUN-ROOF TOP FROM GEN. TIRE & RUBBER CO. SPORT-TOPPING AUTOMOTIVE VINYL WITH "DOTS"

20 POINT WHITE LIGHT WILCOX FIG. 7001 12 VOLTS ON 1/16" THICK CHROMED BRASS SHADOW PLATE 10" LONG, 6" DIA. FORD

OPTIONAL "MUTOLEX" VINYL DECKING GLUED ON OR DBL 10 OZ FIBERGLASS AND RESIN

VENTS 3/5 OVER 2" DIA. OPENING, WILCOX 0102-2

12 POINT WHITE STERN LIGHT ON 4" WILCOX FIG. 7002 12 VOLT

FUEL FILL DECK PLATE CUR. BRASS FOR 1 1/2" 1/2" HOSE, TENDO PROD. CO. DPF-60-CC

STEP PLATES LOCATED TO SUIT ON DECK WHITE RUBBER IN CUR. BRASS FRAMES, PERNO FIG. 1043, SIZE 9" BY 3"

FENDER AND SPRING LINE / CLEATS TO BE WILCOX 401 6" LENGTH

"DOT" FASTENERS ON SUN-ROOF UP AND FOR STERN COVER SHALL BE STAINLESS MARINE-USE TYPE

SUN-ROOF COVER SUPPORT SOCKETS SPACED 15" ABOUT WILCOX 6225 FOR 1 1/2" BY 3/8" SPRUNG-IN

NOTE: DECK HARDWARE AND BRASS TRIM SHALL BE BRASS OR BRONZE, CHROME PLATED FOR ANY BOWS FOR SALT WATER USE

VENTILATORS 3/5 ON MOUNTING PADS AGAINST BOWS, CHROMED BRASS WILCOX FIG. 0805-1 RUN 2" DIA. DUCTING TO BARGE UNDER FLOOR

ASH BOWS, TOP TO HAVE TIE STRAPS OR STOWAGE BOOT TO SUIT FABRICATOR TO SUIT UNDER SIDE DECK

BOW LIGHT, COMBINATION, CUR. BRASS PERNO 1140 ON FITTED BLOCKING

FIT BOW CHOCKS 3/5 ROP SHAPED ENDS OF SAWN TOE RAIL, MAHOGANY 1 1/2" x 1 1/2" HIGH CHOCKS 6" WILCOX 414 CUR. BR.

RABBETED 3/4" THICK MAHOGANY VENTILATING WINDSHIELD FRAMES WITH CHROME BINDING & HINGE PERNO FIGS 211 245 2

20' JET-INBOARD DAY CRUISER

FOR THE 1965 SPORTS AFIELD BOATBUILDING ANNUAL...
DESIGNED BY DAVID D. BEACH, NAVAL ARCHITECT
108 EAST MELROSE AVENUE, BALTIMORE 12, MARYLAND

DRAWING 5 OF 5