SCAUP

A WILDFOWLER'S DREAM COME TRUE

No tomfoolery about this duckboat. The design has one purpose—taking duck hunters to deep water and bringing them back safely and comfortably in 15′ of sound, honest boat

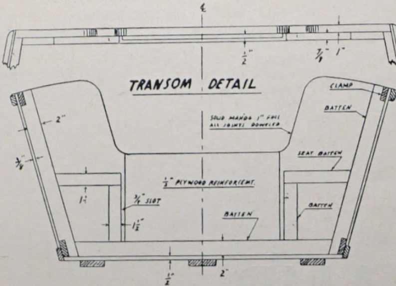
BY ROGER P. SMITH

TAKE THE HIGH, flaring bows and handsome, sweeping sheer of the Maine-coast lobsterman; add the broad, beamy lines of the well-known VanDyke skiff and the slightly wedged, easy-running bottom of the Amesbury dory; shake well and assemble in the best tradition of modern plywood construction—and you have a boat to warm the cockles of any duck shooter's heart. Such a boat is *Scaup*.

From the first of five half models to the last carefully drawn line in her plans, her designers have had nothing but late-fall and early-winter duck shooting in mind, and everything in her makeup has been finely tuned to this most rugged of sports. Let's examine some of these conditions.

It's a time-honored conviction among wildfowlers that the best shooting invariably occurs when the weather's not fit for man or beast. A good deepwater duckboat, therefore, must be first and foremost a good heavy-weather performer. Where better to find this kind of ability than in the true Down East lobstermen—boats that traditionally ply the choppy, reef-strewn waters of northern New England summer and winter alike? *Scaup* has the high bows to turn away choppy seas, a fine forefoot for easy entry and generous flair for good lift. Should conditions sharpen to such a degree that reduced speed is indicated, *Scaup* should not wallow or bobble helplessly, for her lines show great stability and sea-kindliness. Furthermore, with locker space for everything "and everything in its place," as the saying goes, her trim can be well established with little chance for the load to shift at the least opportune moment.

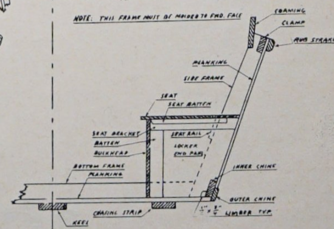
Speaking of load, *Scaup* was designed to be a workhorse. She will carry up to 100 of the special folding decoys we regularly use; ship all of our guns, gear and box lunches and stow her own canvas cover, tools, oars, anchors, lines and so on and still leave every inch of cockpit and seat space free and clear. Stowage space under the deck completely protects all of your shooting gear, extra clothing and so forth from spray and provides for two Cruise-A-Day gas tanks. Gas lines are carried aft through the amidship bulkheads and can be locked in the after seat lockers to prevent unauthorized use of the boat. With the load we normally carry added to

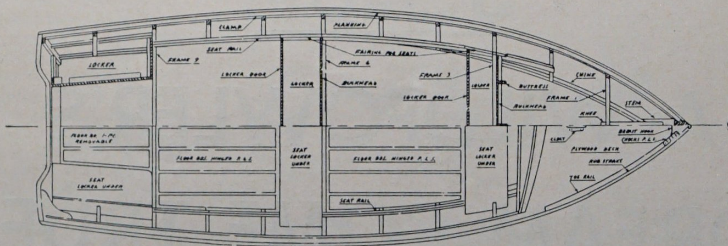


TRANSOM DETAIL

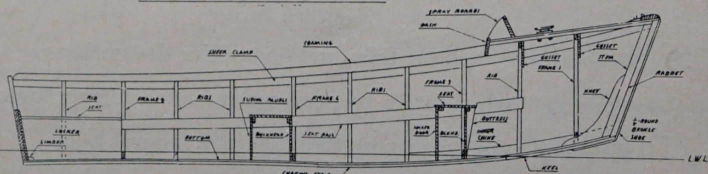
FRAME STATION 9 LOOKING FWD.

NOTE: THIS FRAME MUST BE MOLDED TO FWD. FACE

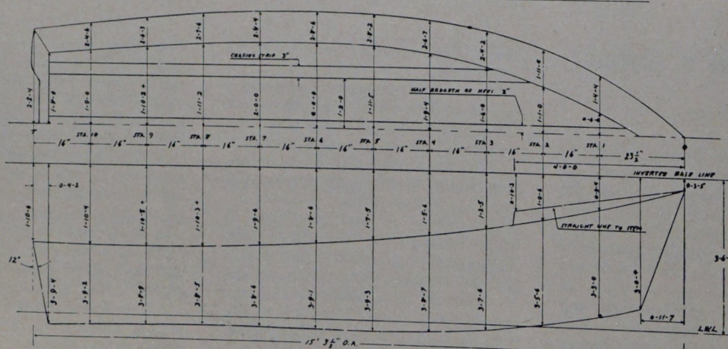




CONSTRUCTION PLAN AND ELEVATION

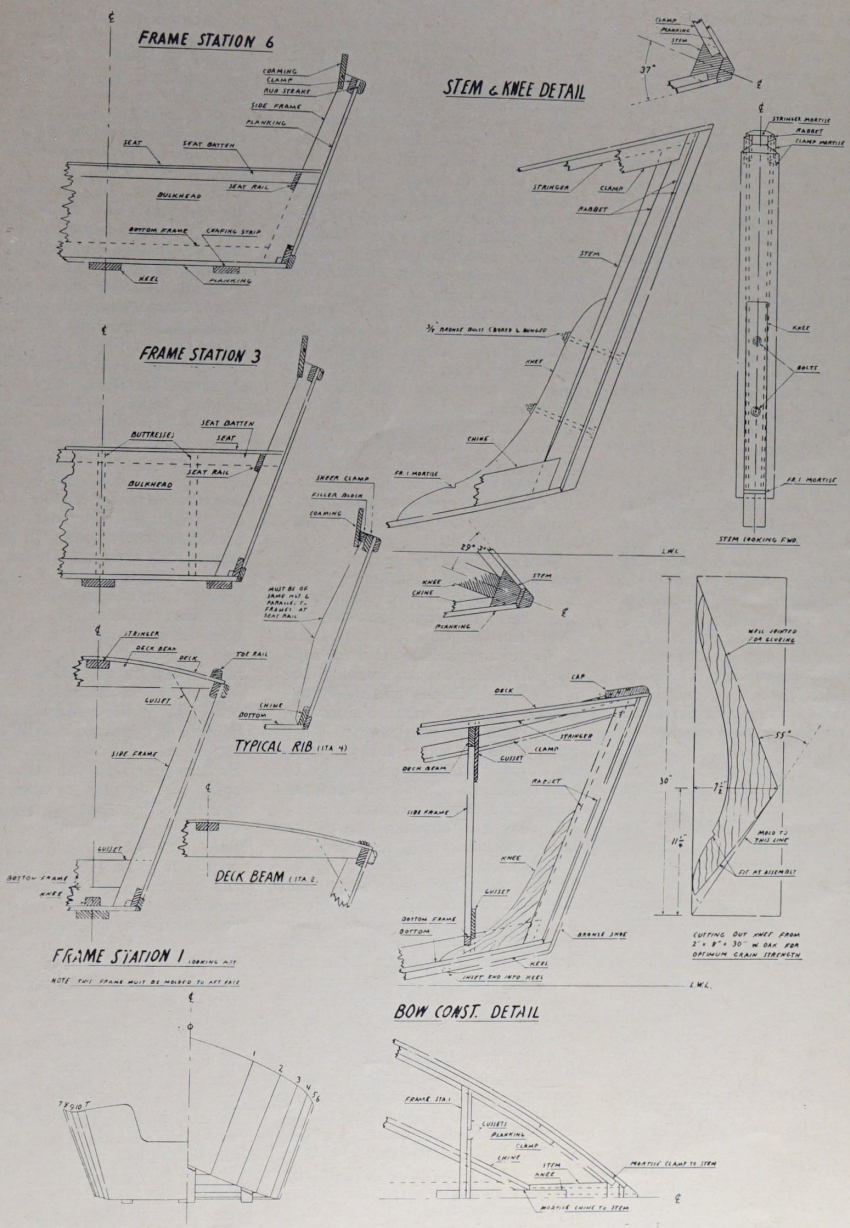


NOTE: FRAMES & RIBS STA. 1-6 MOLDED TO AFT FACE STA. 7-10 MOLDED TO FWD. FACE. FRAME STA. 9 SET FWD. OF STATION AS SHOWN
1" FLOOR TIMBERS ON APPROX. 10" CENTERS MOLDED TO REQD. HEIGHT AND RUNNING ATHWARTSHIP NOT SHOWN



DIMENSIONS IN FEET - INCHES - EIGHTHS. + EQUALS 1/16 ADDED
ALL DIMENSIONS ARE TO OUTSIDE OF HULL PLANKING

LINES PLAN AND ELEVATIONS



SHEET NO. 1 OF 3

her own estimated weight, rule-of-thumb figures indicate her draft to be in the neighborhood of 3½″ —although this is, of course, subject to rather wide variation, depending upon the load conditions you yourself will set up. Further rule-of-thumb figures (length times beam divided by 15) set her safe crew at five adults. This number should be reduced by the weight equivalent of the extra gear you carry.

From an economy standpoint, *Scaup* was designed to get the absolute maximum out of the plywood sheets required. Her topsides use the full length of two 16′ panels, and interior work makes good use of the remnants. Likewise, her bottom consumes virtually all of a 14′ sheet. The four-by-eight from which her deck and one bulkhead are cut does leave a bit of plywood to spare—but show me the boat project that cannot profit from a little extra plywood here and there.

To get back to her functionality, *Scaup* is an ideal shooting platform for those who like to shoot from their boats. Her broad bottom and flaring topside provide a thwartship stability that adds measurably to good gunpointing and contributes greatly to your safety in moving about. She should not heel sharply at the slightest suggestion. Broad of beam well forward, she affords all hands ample room in which to stretch their legs or even cat-nap a bit during the slack periods. Her sides are high (never less than 22″) from stem to stern. This puts the rail a little above the average knee, the better to enable you to brace yourself when setting or pulling decoys, retrieving birds, knocking off cripples or handling anchors and lines. A second set of motor controls placed forward is recommended for ease in decoy work, docking or mooring.

Except for the small duckboard in the after cockpit, which is made in one piece and lifts out, all floorboards are made in two halves and hinged to the ribs. This permits them to be swung up against the rail for bailing.

In the decked model, a coaming and spray boards are provided to permit the installation of a canvas cover without exposing the snap studs to damage due to bumps against the dock or other boats. The canvas should be well supported by not less than four stays. Notches can be cut into the coaming for inserting the ends of the stays, or standard bronze castings designed for the purpose may be installed. And speaking of bronze, you will note that every metal part from stem to stern with the single exception of the plate rings is specified in bronze. It is not wise to mix bronze and galvanized fittings or fastenings, as electrolytic conditions thus established will soon eat away the zinc from galvanized parts.

Most noteworthy is the manner in which the chines have been designed. The inner chine is permanently glued in place. And here it should be mentioned that there is all the difference in the world between the so-called water-resistant glues and glues that are truly waterproof. Although the real waterproof varieties cost twice as much or more, it is sheer folly to build a heavy-weather boat with anything less than the best. Insist upon Elmer's Waterproof or a good epoxy-type glue. The outer chine, the keel and the bottom chafing strips, on the other hand, are highly subject to abrasion in beaching or hauling out on the rocks. For this reason, they have been designed for easy replacement and are bedded in latex compound rather than permanently assembled with marine glue.

Scaup, as her blueprints show, was designed for construction either as a decked model or completely open. Those who shoot the rocks will prefer the open bow for landing and as a place to post a lookout for submerged rocks in approaching the favored spot. Others will really appreciate the protection a deck affords. And on particularly dusty runs, we have found that covering the forward half of the boat with its canvas keeps a lot of wind-whipped spray from coming aboard.

In discussing any new hull design, and particularly any outboard, the question of speed always arises. *Scaup*, with her wide stern and slightly recurved run, is capable of a good turn of speed when lightly loaded. But what open-water duckboat is ever lightly loaded? Certainly ours is not. We estimate our load at from 500 to 700 lbs. plus the boat weight. At this loading, one's chances of getting up on top and planing are rather slim. Choppy winter seas are also likely to be a limiting factor. We find ourselves throttled down a good part of the time. Thus, although the speed potential is there, we rarely achieve it. Under most conditions, 10-hp motors are perfectly adequate. Fifteen or 20 horses might be used, but I certainly see no need for going any higher.

So much for the general description.

It is not my purpose to attempt here a stick-by-stick description of the building of *Scaup*. Her lines are clean and easy even for the first-timer to handle. Two excellent books on small-boat building have been recommended to the novice builder in the blueprints, and I strongly urge that they be read. Suffice it in this article for me to touch upon the spots I consider most important in turning out the kind of job I know you will be proud to claim credit for.

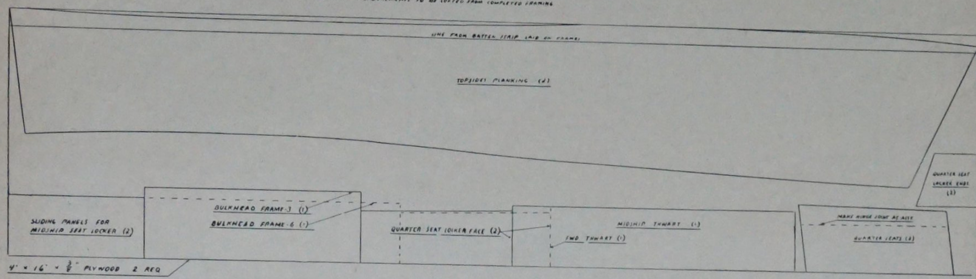
I would also like to point out at the very start that there are many places in the drawing in which actual dimensions are not given. In omitting them, I had two thoughts in mind. In some cases, the inclusion of complete dimensioning would clutter the drawing at important points, so that lines that should be clearly seen would become obscured. In other matters, such as seat heights, locker dimensions and so forth, I felt that final dimensions were better left to the builder's choice so that his own special needs could be met. You can obtain these measurements by scaling the print or by taking them from the actual hull as work progresses. In every instance, this lack of dimensions applies to interior work. Every measurement on the outside of the hull has been meticulously checked to both the drawing and the half model and has been set down in feet, inches, eighths and 16ths.

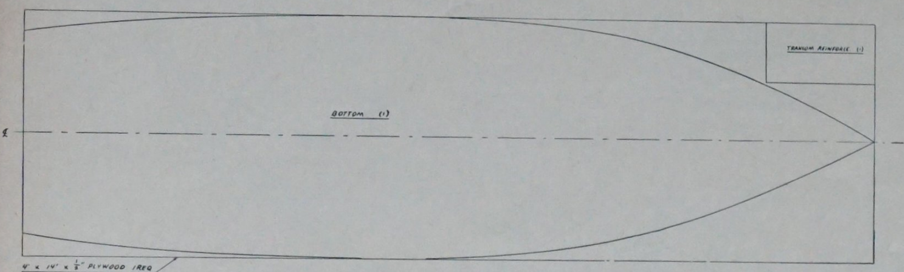
One word of caution; then we will proceed with the construction. *Scaup*, being a flat-bottomed skiff of fairly simple lines, is an easy boat to build. Because she is easy, a natural tendency will develop to slap her together quickly. Bear in mind always that every slipshod joint is a potential leak, every poor fitting a weak spot that could let you down when the weather is foul and the sea numbing cold. Treat each step in construction as a separate, new project; measure and mark carefully; cut in the waste (outside the marks) and work each joint exactly to your marks with file or plane. You will be richly rewarded.

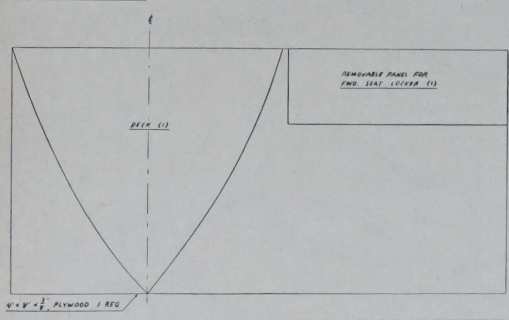
The first step in the construction of *Scaup* is to rough out the stem and knee parts. Work close to your marks, but do not bring them down to their finished form until all of the structural members are set up on the strongback and faired with the chines and sheer clamps. Place the surface of the knee as flat and smooth as possible where it is glued to the stem. Clamp stem and knee together and drill for the two ⅜″ bronze bolts, starting your drill at the center line of the stem. Counterbore for the bolt heads. Notch the knee to receive the bottom of Frame

CUTTING LAYOUT FOR PLYWOOD

NOTE: ALL MEASUREMENTS TO BE LOFTED FROM COMPLETED FRAMING







LUMBER REQUIRED

PART	NO. REQ.	SIZE EACH	MATERIAL
TOPSIDES & DECK		2 SHEETS 4' × 16' × 3/8"	WP FIR PLYWOOD
BOTTOM		1 4' × 8' × 3/8"	
SEATS & THWARTS		1 4' × 14' × 1/2"	
BULKHEADS		CUT AS PER ABOVE LAYOUT - ALL DIMENSIONS	
LOCKER PANELS		TO BE LOFTED FROM COMPLETED FRAMING	
MIS. GUSSETS ETC			
STEM	1	3½" × 3½" × 3'	WHITE OAK
KNEE	1	2" × 8" × 30"	WHITE OAK
INNER CHINE	2	3/4" × 2½" × 15'	WHITE OAK
OUTER CHINE	2	1/2" × 2" × 15'	WHITE OAK
SHEER CLAMP	2	3/4" × 2" × 16'	WHITE OAK
SIDE FRAMES & RIBS		3/4" × 3" × 55'	WHITE OAK
BOTTOM FRAMES		3/4" × 2" × 20'	WHITE OAK
SEAT RAILS	2	3/4" × 3" × 10	MAHOGANY
MIS. SEAT BATTENS		3/4" × 2" × 50'	SPRUCE OR MAHOGANY
TRANSOM	1	1" RUNS × 8" × 12'	MAHOGANY EDGE GLUED & DOWELED
TRANSOM BATTENS		3/4" × 2" × 8	WHITE OAK
DECK TIMBERS & DASH BD		3/4" × 6" × 10'	WHITE OAK
DECK STRINGER	1	3/4" × 3" × 4'	WHITE OAK
RUB STRAKES	2	3/4" × 1½" × 16'	WHITE OAK
TOE RAILS	2	1" × 1" × 4'	WHITE OAK
BREAST HK & QUAR KNEES		1" × 8" × 2'	WHITE OAK
FLOOR BOARDS		3/4" × 6" × 56'	PINE OR MAHOGANY
FLOOR TIMBERS		3/4" × 3" × 48'	SPRUCE OR PINE
KEEL	1	3/4" × 4" × 14'	WHITE OAK
CHAFING STRIPS	2	3/4" × 3" × 12'	WHITE OAK
COAMING	2	5/8" × 6" × 18'	WHITE OAK
SPRAY BOARDS	2	5/8" × 6" × 4½'	WHITE OAK
FILLER BLOCKS		3/4" × 2" × 24'	PINE OR MAHOGANY

FASTENING STANDARD PRACTISE

1¼"-12 SCREWS	3" CENTERS - ALL POINTS ON BOTTOM & TRANSOM BATNS.
1"-12 SCREWS	3" CENTERS - ALL POINTS ON KEEL & CHAF. STRIPS
1½"-12 SCREWS	3" CENTERS - RUB STRAKES - 2 EACH FRAME - SEAT RAILS
1"-10 SCREWS	3" CENTERS - ALL POINTS ON TOPSIDES & INTERIOR WORK
2"-12 SCREWS	AS REQD. ON DECK STRINGER ETC.
3/8" CARRIAGE BOLT HEADS TO BE C'BORED AND BUNGED	

NOTE: ALL JOINTS AT CHINE, SHEER, STEM & TRANSOM AND ALL FRAME & RIB MEMBERS TO BE GLUED WITH "ELMERS WATERPROOF" OR EPOXY-TYPE GLUE. OUTER CHINE, KEEL & CHAFING STRIPS TO BE BEDDED IN LATEX-BASE COMPOUND.

FASTENINGS REQUIRED

NAME	SIZE	MATERIAL	QUANTITY
CARRIAGE BOLT	3/8" × 7"	BRONZE	2
F.H. WOOD SCREWS	1¼" # 12	EVERDUR	2 GROSS
F.H. WOOD SCREWS	1" # 10	EVERDUR	6 GROSS
F.H. WOOD SCREWS	1½" # 12	EVERDUR	2 GROSS
F.H. WOOD SCREWS	1" # 12	EVERDUR	2 GROSS
F.H. WOOD SCREWS	2" # 12	EVERDUR	1 DOZ
NOTE: PURCHASE OTHER FASTENINGS AS NEEDED FOR FITTINGS			

IT IS SUGGESTED THAT THE NOVICE BUILDER READ ONE OF THE STANDARD BOOKS ON BOATBUILDING BEFORE COMMENCING CONSTRUCTION OF THIS BOAT

SEE "AMATEUR BOATBUILDING" BY CROSBY
"SMALL BOAT CONSTRUCTION" BY STEWARD

FITTINGS SCHEDULE

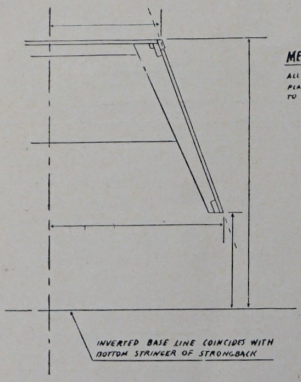
NAME	NO. REQ.	NAME	NO. REQ.
BOW CHOCKS - SKENE TYPE	2	OAR LOCKS - DAVIS - BRONZE	5
BOW CLEAT - 6" RECT. BASE	1	MIDSHIP CLEATS - 5" OPEN BASE	4
PLATE RINGS - 5/16" × 2" - GALV	2	HINGES - 3/4" × 5" BAGATELLE - BRASS	4 PR
HASPS - 1" × 3" - BRASS	3	1/2-ROUND BRONZE STRIP 3/4" WIDE	12'

"SCAUP"

AN OPEN WATER DUCK BOAT

BY ROGER P. AND STEPHEN H. SMITH

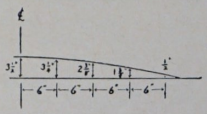
SHEET NO 2 OF 3



MEASUREMENT OF TYPICAL FRAME

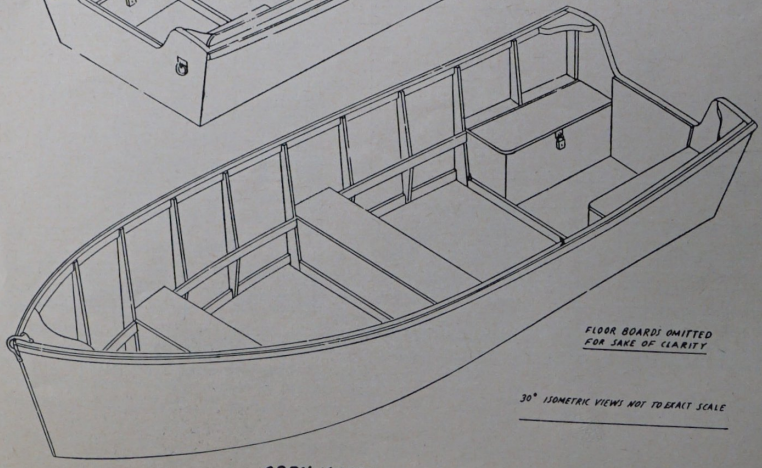
ALL MEASUREMENTS TAKEN TO OUTSIDE OF PLANKING - MEASUREMENTS MUST CONFORM TO THOSE ON THE LINES PLAN & ELEVATION.

INVERTED BASE LINE COINCIDES WITH BOTTOM STRINGER OF STRONGBACK



LAYOUT OF CROWN IN DECK TIMBERS
ALL TIMBERS MOLDED TO SAME CURVE

DECKED MODEL

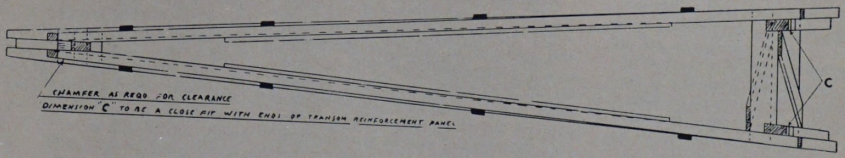


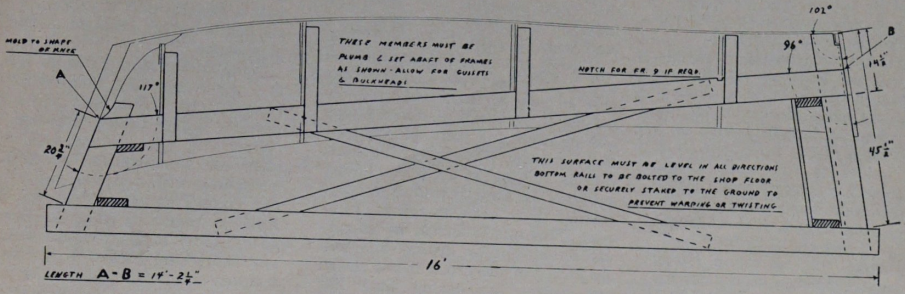
FLOOR BOARDS OMITTED FOR SAKE OF CLARITY

30° ISOMETRIC VIEWS NOT TO EXACT SCALE

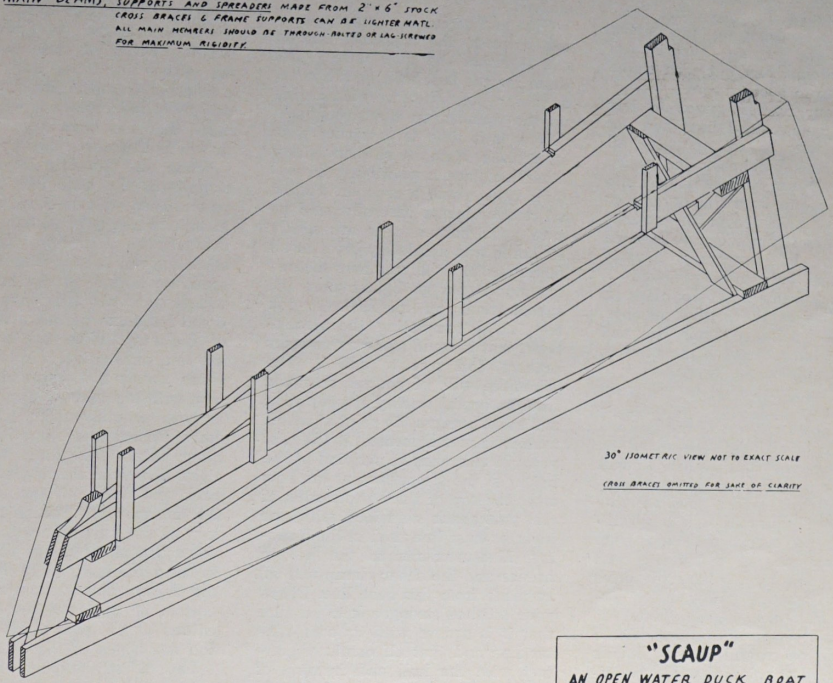
OPEN MODEL

STRONGBACK CONSTRUCTION





MAIN BEAMS, SUPPORTS AND SPREADERS MADE FROM 2" × 6" STOCK CROSS BRACES & FRAME SUPPORTS CAN BE LIGHTER MATL. ALL MAIN MEMBERS SHOULD BE THROUGH-BOLTED OR LAG-SCREWED FOR MAXIMUM RIGIDITY.



30° ISOMETRIC VIEW NOT TO EXACT SCALE

CROSS BRACES OMITTED FOR SAKE OF CLARITY

"SCAUP"

AN OPEN WATER DUCK BOAT

BY ROGER P. AND STEPHEN H. SMITH

SHEET NO. 3 OF 3

1 at this time. Now separate the parts, coat the adjoining surfaces well with glue and sock the bronze bolts home. In addition, a clamp placed down at the forefoot to hold the lower surfaces in good contact might be wise. CAUTION—Catalyst-controlled glues are extremely sensitive both to correct mixtures and to curing temperatures. Mix them carefully in accordance with the directions, and use them in a place where the temperature is correct. It is also wise to let the pieces normalize to room temperature. A room temperature of 70° means little if the pieces have just come in from an unheated shed that is down around 40.

You might find it handy—especially if you are doing the actual construction out of doors, away from a convenient shop floor – to set up your plywood bottom board as a lofting table. Use it to lay out all of your frames to full scale. Cleats lightly tacked along your lofting lines will help immeasurably in setting up your frames. A short length of ¼″x⅜″ and one of ¼″x½″ cold-rolled steel will be found handy used as straightedges to lay out the thicknesses of the topside and bottom planking in converting your outside dimensions to the actual frame sizes. Do not superimpose frame layouts. Lay out each frame separately to avoid errors.

The four frames, sawed to just outside their molded lines and *not* beveled, may be set up. Glue all gussets and bulkheads for added strength. Do not set deck timbers into place in the forward frames, as they cannot be placed over the strongback. These frames can be held in alignment by temporary thwartship struts, later to be removed.

As each frame is set up, mark its center line on the bottom member. From this point, a plumb bob will later be hung to check the position of the frame on the strongback.

The transom should be glued up as a solid slab, and the engine-mount notch cut out of the finished piece. Since all joints are above the waterline, and it is rather difficult to make splined joints without leaving unsightly voids, doweled glue joints are preferred. Use a dowel-drilling jig, working always from the same side of the boards and taking great care to have the holes in corresponding pieces match exactly. Half-inch dowels about 2″ long and set on 6″ centers should do well. Be careful that no dowels are placed at points that will be exposed when the motor mount is cut. Use plenty of clamp pressure on the transom, as these are fairly long joints and the clamp pressure is quickly dissipated. Using short boards between the clamp feet and the transom will prevent marring the work. As in all your gluing work, the pieces should be given at least 24 hours to set.

After the glue has thoroughly set, cut the transom-support panel from your ½″-plywood sheet and glue and screw it in place on the transom. I realize that this will carve a bit of a chunk out of your lofting table, but you will need the transom-support panel in order to lay out your strongback and to position the transom on it. A comb similar to the ones available for spreading linoleum cement but having smaller teeth can be easily fashioned from a piece of galvanized sheet iron and will greatly facilitate spreading the glue on your transom and reinforcing panel. A cheap paintbrush may also be used, and you will definitely find it necessary in gluing the chines, clamps, ribs and so on. If you do use a brush, be sure that it is quickly cleaned after each operation. Two-part glues are hardened by chemical action, not by drying, and will set firmly in the brush if not rinsed out before the curing time has elapsed.

Glue and screw the transom-batten strips to the transom; but do not assemble the seat battens and those for the bulkhead at this time, as these would interfere with setting up the transom on the strongback.

Now it is time to construct your strongback. Here, more than in any other one place, is where most home-built boats come a cropper. Follow all measurements carefully, and be sure your bottom rails are firmly anchored and absolutely level in all directions. Bolt all members securely, and do not go lighter than the specifications on material. If you feel, upon completing the strongback, that it could stand extra cross bracing, feel free to add it. The stempiece will, of course, be made from an actual tracing of your stem and knee, because the point at which these two members meet is the first point of reference in arriving at the height of the strongback at the bow end. The top of the bottom rails of the strongback coincides with the inverted base line used in the drawing. Measurements to the bottom frames and the sheer clamp will all be made from this base line. Check your finished strongback to be sure that it is square with its own center line and that all points of contact with the hull and framing of your boat are square and plumb.

All set?

The next order of business is to mount the stem, frames and transom on the strongback. Check everything with the level, mason lines and plumb lines. Fasten all pieces to the strongback so securely that they cannot slip or twist as you fit the chines, sheer clamp or planking. But do not forget the fact that fastenings placed now will have to be removed after the boat is completed. Be careful that your fastenings are all where they will be accessible later on. Recheck your alignment, and especially the heights above your base line, to be sure everything is right where the print calls for it to be. A goof at this critical point will give you a two-sided boat, or one with a built-in port list forward and starboard list aft—rugged to handle in a seaway!

Temporarily bend the inner chines into place, securing them with C-clamps. Scribe all of the frame mortises for proper fairing. Remove the chines and fair the mortises. Replace the inner chines. Check their curvature with the dimensions on the Lines Plan and elevations; fair them as required, using temporary struts tacked in place where needed, and screw the chines to the stem, transom and frames. Leave the temporary struts in place. Repeat the operation with the sheer clamps. There should be no difficulty in bending either of these pieces, as the curves are fairly easy ones. If a chine or clamp is heard to crack, discard it and replace it with a new piece that has been kept wrapped in wet burlap for a day or so.

When the framing is thus far completed, the time has come for your session with the rasp, the joiner plane and plenty of patience. Fasten the rasp to a straight, lightweight stick that not only is long enough to span the bottom of the boat at its widest part but has enough additional length to permit a full stroke of the rasp. With the stick resting on one chine, file the other chine *almost* flat across its bottom. You will find that the angle changes as you progress from transom to stem. Repeat the operation on the other chine, this time bringing it right down to the mark. Now go back and finish off the first chine. As you approach Station 1, the bottom of the knee will also be found to need a bit of filing. This is done in the same manner as the filing of the chines, and it must render the bottom of the knee level with the chines at all points. Do not level the top edges of the sheer clamps.

Lay a straightedge across the chine and sheer clamp by each frame, and mark the line to which the high edge must be planed to fair it for application of the top-

side planking. Plane the side frames accordingly.

Now you are ready to cut, fit and assemble the ribs. These, too, must be faired like the frames if they appear to protrude beyond the planking lines.

Bend any straight board around the frame from stem to stern. Measure from it to the chine at each station (frames and ribs). From the same edge of this batten strip, measure the distance to the sheer. Scribe a straight line on your topside plywood sheet which will represent the edge of this batten strip. From this line, you may lay out the actual shape of the topside planking. Its shape will surprise you. Cut out both topside planks, leaving a little extra at the sheer for planing and cutting enough off at the bottom to allow for the outer chine. Plane this line smooth and to a fair curve. Check the planking with the stem rabbet for a good fit at this critical point.

Now you will need extra help, and a bushel of C-clamps for the sides must go on quickly before the glue sets. Clamp the planking in place, and outline the location of all frames, ribs and so on. Remove the planking, and liberally spread glue on both planking and framing. Clamp the planking to the stem and bend it around the frame, clamping it frequently with C-clamps and checking as you go for good alignment. Starting at the stem, screw it to both chine and sheer with screws spaced 3″ apart. Work the screws in pairs, to avoid buckling the planking. Now go back and fasten the topsides to the frames and ribs.

The bottom planking is handled in the same manner, except that measurements will be made from the center line instead of from a batten strip. Allow a bit of overlap at the chines for planing. All screws should be 3″ apart.

Although she would probably hold her form all right at this point, it is wise to leave the boat on the strongback until the glue has had a day to set to avoid even the slightest risk of springing her out of shape. Removing her is a job for many hands, because she will be fairly heavy and will have to be lifted high to clear things—although you can spare yourself some lifting by removing the vertical supports that secured the frames.

Do not set her on the ground. Keep her on horses for easier working heights. Place her at first bottom up. Screw the keel to the stem and knee back to Frame 1. Now go under the boat and, starting at Frame 1, work your way aft, screwing the keel every 3″. The keel, as we have said, is to be bedded in latex. Do the same with the chafing strips. In applying the outer chines, make certain that the screws draw down into the inner chine and not the edges of the bottom planking.

The boat is now ready to turn right side up.

Fashion the deck timber for the Station 2 rib and set it in place. Use glue on the gussets, and fasten them securely. Fasten the deck stringer in place, and fair it if necessary. Now shape the deck timber for Frame 1 and install it. Make buttresses for the dash panel, cut the dash panel to shape and install. Cut out and install the deck, working just as you did on the topside and bottom planking. Plane the edges smooth for a good fit to the rub strake. Note that from the dash panel forward it will be necessary to file the sheer as you did the chines, this time letting your filing stick rest on the deck stringer. Do not file the sheer abaft of the dash panel. The natural slope to this section is desirable to prevent rainwater from puddling when the boat is not in use.

Taper the coamings to dimensions scaled from the print, notch the frames as shown in the print and temporarily clamp the coamings in place. Measure for size and shape of the filler blocks required. Make the filler blocks, and glue and screw them in place. Now glue and screw the coamings. Fashion and install the spray boards.

Once you've gotten this far, the rest is hardly more than a plain old garden variety of do-it-yourself cabinetwork. There are lockers to build, seats to install, toe rails, trim, quarter knees and the like to add. These are the matters in which your own personality should take over. I have drawn them as I saw them for my own particular shooting needs, but they are there more as suggestions than as final plans. This, as I have said, is why they have not been fully dimensioned. I would offer you a few suggestions, however.

Be sure that you don't block the flow of bilge water to the most convenient spot for bailing. Limber holes of adequate size should be placed in every structure that is fast to the bottom. All lockers should be adequately ventilated (a row or rows of ¾″ drilled holes will do very nicely). Shelves, if any, under the deck should be either slatted or drilled for ventilation. Notching the after-seat-locker bulkhead to pass the gas line but *not* the gas-line fitting will allow you to lock up your gas supply to avoid, as I mentioned, unauthorized use of the boat. Oarlocks and cleats should be placed for convenient use. The plan calls for five oarlocks, as we have found that a single lock placed at the port side of the transom is handy for sculling with a single oar, and sculling is often more satisfactory than rowing on a boat with a bottom designed for outboard propulsion.

On the open model, an inner rail is a very handy piece. It can be used for fastening lines, as a good handrail for hauling the boat out on the rocks and for a number of other purposes. You can adjust its spacing by shaping the top ends of the ribs and frames to the desired height, or by the use of suitable shims if the frame members are already cut with less clearance than seems to be indicated. A second rail, similar to the seat rail, running between the first two frames also makes a good place to tuck in the flukes of your anchor when under way.

Whether it be between the carlings, under the deck or in some other watertight spot under the seats, somehow, somewhere aboard your boat there should be a good, dry storage place for marine charts. Late-fall and early-winter weather is tricky. Fog can form almost instantly, without the familiar "blowing in" that we so often see in the summer. Snow squalls, which are even harder to navigate through than fog, can blow up with alarming suddenness. At times like these, there is no substitute for a good, up-to-date chart of the area and a reliable compass and timepiece with which to navigate. A good flashlight with fresh batteries should also be part of your gear. Sundown and darkness come awfully close together during late-season shooting days.

In closing, let me again stress the need for care in construction. *Scaup* is a pretty boat, a very able boat, a boat you will develop great respect and real fondness for. Well built, she will give you many years of fine offshore duck shooting.

Large-scale blueprints made from the original drawings that accompany this text are available for those who want them. These prints can be more easily read than the reduced pages of this publication, and details can be more easily scaled for supplemental dimensions, should you need them. Overseas and Canadian builders, as well as domestic builders, can obtain these prints by addressing a check or international money order in the amount of $8.50 in U. S. funds to Roger P. Smith, c/o Sports Afield Boatbuilding Annual, 959 Eighth Ave., New York, N. Y. 10019.