Instructions For Assembling The Model Of A Typical Ship's Boat

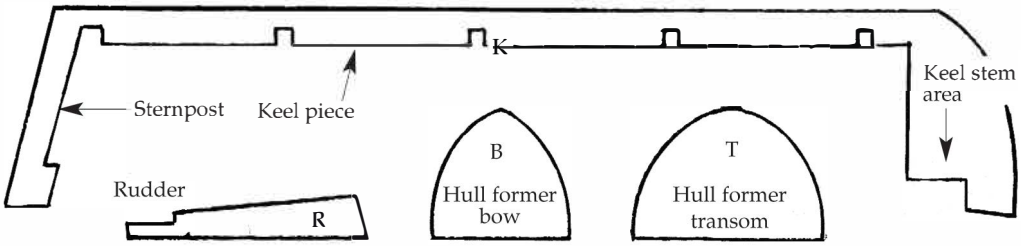
Model Design Assembly & Instructions by Bob Evans • Laser Design Work by Bob Bruetsch

This model of a typical ship's boat is designed to be constructed upside down over preshaped forms in much the same manner as that of the real boats. The most obvious difference in methods is the use of glue instead of nails. With laser cut parts and easy-to-understand instructions, you should find the modeling process a pleasurable experience. Before starting the work, read through the instructions entirely to familiarize yourself with the construction steps. Then check the kit contents against the parts list to see that all has been supplied as listed. When you feel satisfied that everything is in order, you may begin.

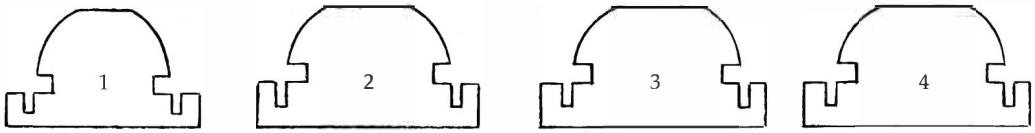
Supplies You Will Need: You will need the following supplies to complete this kit: A ruler, pencil or pen, hobby knife, straight pins, fine file, glue (white or yellow), and stain or paint.

Plan Your Boat Finish Now: If you plan to complete your boat with either an all natural wood finish or a combination natural/painted finish, then all of the strip stock, the keel piece, hull formers transom "T" and bow "B," and rudder "R" should be stained the color of your choice before assembly. The model pictured was stained a dark "Jacobean."

Bending the Wood: Some of the pieces will need bending, so the required strip stock should be soaked in water for approximately 15 minutes to make it pliable. Neither pre-staining nor soaking will have an adverse effect on either process.

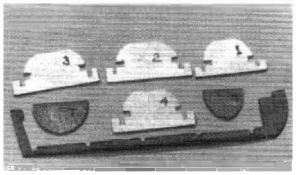


LASER CUT HULL PARTS



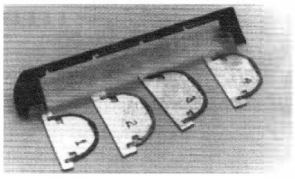
JIG FORMS FOR MAIN RIBS OF FRAME

1. ASSEMBLING THE KEEL



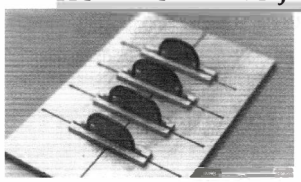
Glue the hull formers Transom "T" and Bow "B" to the keel (see figures 1 and 2). Next, glue 1/16"-square strip stock that has been cut to size on each side of the keel bottom between the laser-cut notches. The strips should be flush with the inside bottom of the keel piece. Continue this stripping procedure on both sides of the keel from Bow "B" downward in a curve that follows the front of the keel stem area. You more than likely will need to soak the wood first. These curved strip pieces will form the planking bow line.

2. APPLYING THE MAIN RIBS TO JIG FORMS 1, 2, 3 & 4



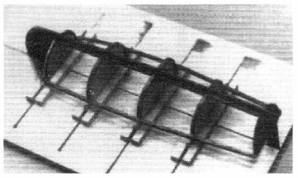
After soaking them, bend the Main Ribs over forms 1, 2, 3 and 4, using the 1/16"-square strip stock (see figure 2). Glue the ends only into the notches of each form; both port and starboard. Do not glue any other part onto the jig. At the keel position in the center there should be a 1/16" gap. These relief openings in the forms prevent gluing of the ribs to the forms except at the ends.

3. CREATING THE HULL BUILDING JIG



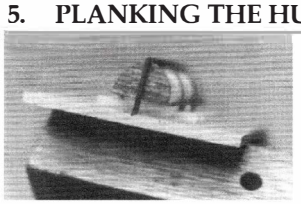
The 3/16"-thick 3" x 6" Construction Base board is used to support the hull building jig (see figure 3). Draw a centerline lengthwise on the board and then draw cross-lines 1" apart as shown. Cut the 1/8" Form Support strips into 8 equal pieces. They will be used to support the Main Ribs at each of the 1" cross-lines. Glue the strips into place, along with each of the hull formers in the correct order shown, making sure each former is centered on the centerline of the Construction Base board. Allow the glue to set firmly before continuing.

4. ASSEMBLING THE HULL FRAME



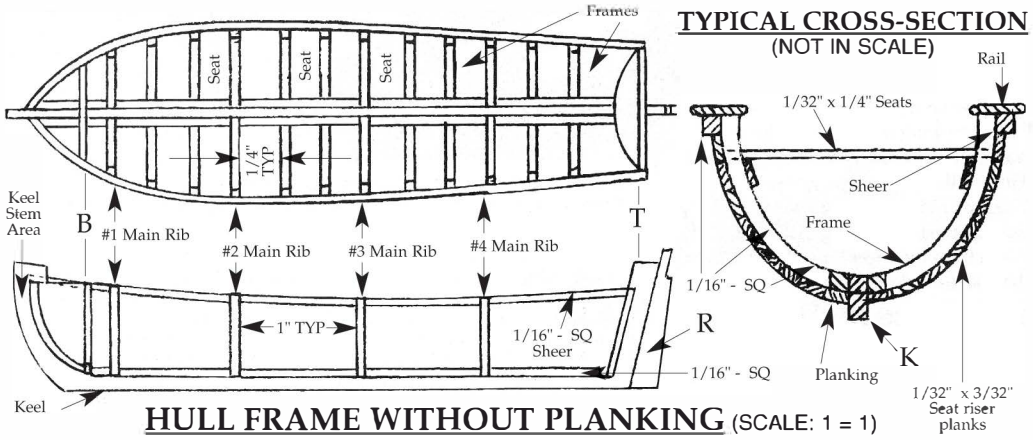
This assembly provides the framework for laying down the planks. Begin it by gluing the keel assembly to each of the main ribs on forms 1, 2, 3 and 4 (see figure 4). The keel must be aligned over the centerline of the building jig. Be careful to glue the keel piece to the 1/16" ribs ONLY and not to the jig forms. Two additional 1/16"-square strips should be glued to the main ribs port and starboard at the level where they enter the form notches. These boat-length strips will form the sheer line of the boat's rail. Extend them from the transom-top-corner aft to the bow-top-corner forward. From here they should curve forward to meet the strips previously glued to the keel piece in order to form the planking bow line. Just as with a model ship hull, the strips that form the frame of this ship's boat must be faired to accomodate the planking. So, using a file, carefully bevel the planks fore and aft in readiness for laying them.

5. PLANKING THE HULL



All the hull planking is made from 1/32" x 3/23" strip stock. Begin by planking the outside of the transom (see figure 5). Side planking consists of approximately 22 strakes and should be started at the sheer line (see figure 6). The first nine planks will require tapering to about a half-width from the #1 Main Rib forward. Two strakes should be started at the keel aft and shaped to match the bow curve where they end at the keel forward. One stealer

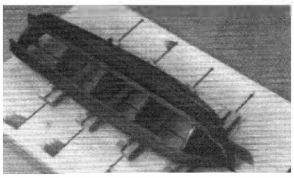
8 - 1/16" - SQ. INTERMEDIATE FRAMES ON SIDE ELEVATION



HULL FRAME WITHOUT PLANKING (SCALE: 1 = 1)

plank should complete filling the planking between these two lower strakes and the upper planking (see figure 7). When planking, be sure that no glue reaches the jig forms over which the hull is shaped, or you will not be able to separate the hull from the jig.

6. SEPARATING THE HULL FROM THE JIG

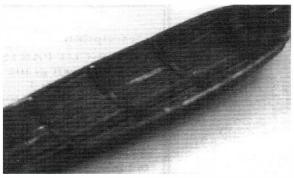


To separate the hull from the jig, carefully cut the main ribs at the point where they enter the notches in jig forms 1, 2, 3 and 4. Make sure the cuts are flush with the sheer of the boat (see figure 8). If you have been careful in the gluing process, you should be able to lift the boat hull from the forms with ease. If you've accidently glued any part of the boat other than the ribs to the jig, you may attempt to carefully cut the boat loose. Depending on how able you are at rescuing a situation of this sort, you may or may not be forced to do the entire process over.

7. ADDING MORE RIBS TO THE FRAMEWORK

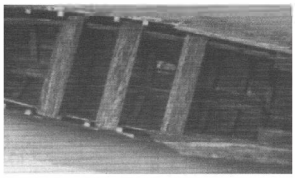
The framework requires that intermediate framing ribs be added (see plans and figure 9). Two of each should be placed and equally spaced between the existing Main Ribs. Work them in on the interior of both sides of the hull from the center keel up to the sheer line, flush with the Main Ribs. Use the 1/16" square strip stock. The framing ribs will have to be bent, so work accordingly.

8. LAYING THE SEAT RISER PLANKS



These are long strips inside the hull frame that extend from bow to stern. They will eventually support the seats. Use the 1/32" x 3/32" strip stock. Mount each long piece across the frame ribs 3/32" down from the sheer line on both sides of the boat (see plans and figure 9).

9. MOUNTING THE THWARTS (SEATS)



There are four seats on this boat (see figure 9). Three single-piece seats should be mounted on the Seat Riser Planks between the hull frame ribs indicated on the plans. The stern seat is made up of four pieces. All seats should be made from 1/32" x 1/4" strip stock. Cut and glue them into place as indicated.

10. INSTALLING THE BOW PLATFORM

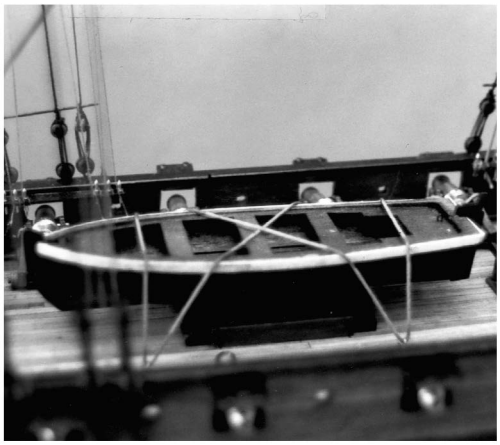
Make the bow platform from the 1/32" x 1/4" strip stock (see figure 9). Several pieces will need to be fitted and shaped to the bow curvature. The platform should sit flush with nthe 1/16" sheer strip to allow for the installation of the rail. You may need to do a little cutting down of the keel and bow former to get the platform to fit properly.

11. MOUNTING THE RAILING & RUDDER

The railing is made from 1/32" x 1/4" strip stock. First, install the rail piece at the stern above the transom. It must be notched to accomodate the keel sternpost. The side rails are laid down in 3 sections on each side of the boat. They should be started at the stern and carried forward. The rails should cover the ends of the frame ribs and extend over the sheer strip by 1/32." Note the slanted scarf joint in the rail just forward of the seat closest to the stern seat (see figure 9). Another mortising (scarf joint) should occur between the next two rail pieces midway between the most forward seat and the aft edge of the bow platform. After the rail pieces have been completely mounted, you must shape the overall railing to 5/32" wide by sanding.

12. ADDING THE FINISHING TOUCHES

You may paint your completed model boat or leave it natural (see figure 10). Additional detail such as oarlocks, oars, masts, sails, buckets and other miscellaneous items are left to the discretion of the individual builder. On the real ships, many loose items were not stored in the boats on deck. It is also true that these items wouldn't show if the boat was given a canvas weather cover.



LIST OF PARTS

LASER-CUT PARTS (1/16" AIRCRAFT GRADE BIRCH PLY):

DESCRIPTION	NO. OF PIECES	APPLICATION
Forms 1, 2, 3, & 4	4	Hull-Building jig
Bow "B" and Transom "T"	2	Hull formers
Keel "K"	1	Keel, Stem, Sternpost
Rudder "R"	1	Rudder

STRIP STOCK (6" LONG BASSWOOD):

DESCRIPTION	NO. OF PIECES	APPLICATION
1/16" x 1/16" square	12	Hull framing & ribs
1/32" x 3/32"	24	Hull planking & seat risers
1/32" x 1/4"	5	Seats & railing
1/8" x 1/8" square	3	Form supports

SHEET STOCK:

DESCRIPTION	NO. OF PIECES	APPLICATION
3/16" x 3" x 6" for construction base	1	Building jig base