BUILDING THE BABSON ISLAND 14 (JIG)

1. Screw the strongback pieces together, noting the labels and inserting some ½ “ ply in the slots to ensure that the molds will fit into them.
2. Screw the rectangular cross spall to the after ends of the strongback and insert the forward cross spall by tapping it down with a hammer. Use a block of wood to protect it.
3. Square the strongback with a tape measure by checking the diagonals. Screw the strongback to sawhorses after leveling it athwart ships and fore and aft. Screw the sawhorses to the (floor if it’s wood.)
4. Install the station molds. Tap them into the slots with a hammer and use a block of wood to protect the molds. They should bottom out flush with the bottom of the strongback.
5. Align and screw the two bow profiles together, and then screw them from the aft side, to the forward, center, of station one. Be sure the scribed sheer lines are facing outward
6. Insert the transom profiles into station 5 and toe-screw the aft edge to the strongback after mounting the jig transom onto the tenons of the transom profiles. Screw the jig transom to the transom profiles. Pre- drill before screwing.
7. Glue the 1 ½” X 3” chine blocks to the station molds at the corner of where the side and bottom intersect. On molds 1-3, the blocks are mounted on the aft sides of the molds. On 4 and 5 the blocks are mounted on the forward face. Screw the last two blocks to the jig transom on the forward face at the sheer.
8. Screw the sheer ribband to the bow profile, 1 ½” from the forward face where the inner stem attaches, then to each mold at the scribed sheerline. Now your mold is complete!

HULL

1. Attach the chines, one at a time, to the jig by drilling and screwing from the inside through the chine blocks with 2 ½” # 14 screws. Angle slightly to not prevent poking through the chine. Let them be left long at the bow profile and jig transom. Temporarily screw from the outside of the chine into the bow profile just aft of the notch. Put another dry wall screw into the transom profile just forward of the jig transom.
2. Trim off the the chines using a Japanese backsaw, flush with the jig transom. Do the same at the bow profile, one at a time.

3 Draw a centerline on the forward edge of the inner stem and two more lines either side of it ¼” away, leaving a ½” space the length of the forward edge of the inner stem.
4 Drill four holes through the stem on the center line. Epoxy the ends of the chines and screw the stem to the bow profile gluing it to the chine ends only
5 Epoxy the end grain of the chines at the transom. Clamp the transom to the jig transom, gluing the chines to the transom. At this time, it’s a good idea to put clear packing tape on the jig transom at the chine ends as the squeeze-out can glue the transom to the jig transom.
6 Epoxy the topsides at the scarfs on the bench paying attention to the orientation.
7 Bevel the transom and stem to accept the topsides, or (hull sides.)
8 Apply epoxy to the transom, chine, and stem. Apply several coats on the end grain of the transom as it will wick it up. Then, clamp the topsides along the chine using a full length batten. Screw the topsides at the stem and transom.
9 After the glue sets, trim excess topsides at the stem, transom and sheer ribband.
10 Using a straightedge across the bottom, flatten the topsides and chines with a plane, along with the transom to accept the bottom.
11 Glue the scarfs and assemble the bottom pieces. Allow to cure at room temperature a minimum of 4 hours.
12 Glue and screw the bottom on. Angle the nails slightly outboard and be sure they go into the center of the chine.
13 Trim excess off of the bottom off after the glue has cured.
14 Fiberglass the bottom.
15 Glue and screw the keel and skeg on after the glass has cured.
16 Glue and screw the outer stem on to the inner stem. NOTE; remove the screws holding the inner stem to the stem profile first.
17 Trim the topsides flush with the sheer ribband, with a flush trimming bit or a block plane.
18 Clamp and glue, or screw from the inside, the ¾” half round 4’ from the sheerline.
19 Fit the forward ends of the rails to fit against the outer stem, then glue and clamp them on. Screw to the inner stem and transom.
20 Round over the bottom edge of the rail. Round the after ends of the rails.
21 Shape and taper the forward lower two thirds edge of the outer stem to ½”.
22 Install 2” of the ½” half oval on the outer stem.
23 Install 4’ of ½” half oval on the skeg. Use ring nails. Crop the heads off so they look like a finish nail with side cutters. Drill a 3/32” hole and counter sink. Do not drill on the bends.

24 After you have glassed the bottom and it has cured, wash off the blush with water and sand smooth.

25 Putty and plug all holes. It's not a bad idea to sand the hull while it is still on the jig. I sometimes put a coat of paint on at this time. You will have more holes to fill and sand after you install the frames.

26 IMPORTANT! Draw a line from the bottom to the sheer at every mold on the inside. Draw on the side of the mold that does not have the chine block mounted on it. The forward sides of molds 1-3 and the aft sides of 4 and 5. This will assist in locating where the frames will get installed. Also mark the seat riser line on the hull. These are the horizontal lines that are scribed into the molds between the sheer and the bottom.

FINISHING THE INSIDE

27 With the boat right side up off the jig, you will notice she has folded in and no longer has her proper beam width. Make two spreader bars for station 2 and station 4. Lay a straightedge across the sheer and copy the angle. 1"x1/2" scrap will work. Cut the angle and nail a small piece on top extending out 2". Make one 36" and the other 51 1/4". Clamp them to the rail. Once the seats are installed, they are no longer necessary.

28 Glue up the breasthook pieces Then, fit the breasthook leaving it ¼" above the sheer so it can be crowned. After dry fitting, glue it and screw it through the rails,

29 Fit the quarter knees and glue and screw the in place.

30 Next, install the frames perpendicular to the slope of the sheer using a combination square with the body of the square always sloping downhill, or towards the lower part of the sheer. The blade should touch your pencil line at the chine and bottom joint. NOTE: this is a different angle than the station mold line. Glue and screw the frames in. Frames 1 2 and 3 are set aft of the lines, 4 and 5 forward of the lines.

31 After marking the seat riser heights on the frames, screw the seat risers to the frames with # 12 x 1 ¾" screws. The marks represent the top outboard edge of the riser location.

32 With the riser in place, chamfer the frames above and below the riser.

33 Put a couple of coats of epoxy on the end grain of the seats

34 Install the seats, you thought you were done!

35 Uninstall the seats and the riser

36 Sand, sand, and apply 5 or 6 coats paint

37 Lastly install the oar lock sockets

38 CONGRATULATIONS!!