

Baby Bootlegger Building Instructions

Here is a 1/10th scale V-bottom Gold Cup racer from the old days. It won the 1924–25 Gold Cup and Harmsworth trophy. This boat has been restored and is presently in running condition. The original working drawings have been preserved and copies are available from the Mystic Seaport Museum. It is presented here with true scale exterior geometry (except for deviations in the drive line and rudder positions). Very few scale details are shown. Study up and add these as you want, or just build it plain. This will be a good handling 12-cell boat, and a fine addition to the mantel piece.

Pick out a couple good sheets of 3/16 X 6 X 36" dense, straight grain balsa. Cut the parts out using the templates and copy the construction lines to them. Remove the center of bulkhead – H as shown; the others will be opened up after assembly. Add the locator tabs to the keel and bulkheads. Be sure the top edges are positioned as shown, this will determine the final profile of the hull. Draw a centerline on a flat building board then add lines for the bulkhead locations at 90°, spaced 3.77" apart, with the front line at 5.66".

Build the drive tube as shown. Use lots of heat to get good solder flow and grind or sand off the extra. Cut out two sections of the keel for the drive and rudder tubes where marked. Scuff up the brass for the glue to bite, and CA the tubes into the keel. Be sure they are flat with the keel, centered, and aligned exactly with the marks.

Assemble the bulkheads and keel without glue over the marks on the building board. When this is lined up straight and square, tack glue the spacer tabs to the building board and tack glue the bulkheads to the keel. Slip the deck shears in the notches and tack glue. Position the chine plates in the notches and add the bow plate and pressure plate. Recheck the alignment then add CA to all joints, filling the seams. Fit balsa filler blocks to the sides of the keel ahead of bulkhead – A. It is a good idea to add floatation foam between bulkheads A and B at this time too. Carve the outsides of these blocks to match the outside contour between the bulkheads, shears and chines.

The planking process can make use of different materials. Your choices are:

- 1) 1/8" balsa sub planking, and 1/16" mahogany deck (good over-all combination).
- 2) 1/16" ply sub, 1/16" mahogany deck (strong, heavier).
- 3) 1/16" balsa sub, and 1/16" mahogany deck (delicate sub planking which may crack or warp during construction, but lighter).
- 4) 1/8" or 3/32" balsa sub, and 1/16" ply deck (cheaper and easier to finish – no fine mahogany).

Start the sub-planking with ¼ to ½" wide strips (your choice) along both sides of the keel. Bevel the front edge to fit flush against the keel. This will lay straight from the transom to the end of the chine plate, twisting as it goes forward. Make sure it lays flat against the bulkheads. Add the first strip on the other side. Lay the following strips out to the chine plate. Alternate one side then the other. Trim off the excess that overhangs the chine plates. You will be gluing these to the bulkhead and the adjacent strips with thick CA.

Glue the side planks the same way as with the bottom. Start at the deck shear and work toward the chine plate. Bevel the edges to fit tight against the other planks. At the nose and tail most strips also need to be tapered to get good tight seams. Trial fit these first, before gluing.

Cut the spacers off the building board then trim them off at the top of the bulkheads. Carefully cut the centers out of the bulkheads where marked. Add the top sub planking, starting in the middle, working towards the shears. At this point the hull can easily be warped, handle with care. Check the hull shape using the sub-plank profile templates. Fill and sand to get the correct profile.

Add the mahogany bottom and side planking. Start at the keel and work towards the side, then at the shear and work towards the chine, as with the sub-planking. Be very careful to close all the gaps at the seams. Taper the edges where needed. If a gap cannot be avoided, fill it later with a thin tapered “stealer strip”. Be careful not to use too much pressure while holding the wood in place so as not to warp the hull or crush the sub-planking. It is best to use slow setting thick CA and glue 6 – 10” lengths at a time. Use just enough glue to fill the seams, but not so much as to come to the surface and make your hands a permanent part of the hull.

Add the mahogany top planks using the same techniques as on the bottom and sides. Using the outside profile templates, sand the hull to it’s final shape. Be careful not to sand through the mahogany. Make a pile of clean mahogany sawdust to mix with 5 minute epoxy or finishing resin as a filler paste if needed.

Mark the outline of the hatch cover and cut this out with a razor saw. Be very careful not to leave a rough edge. Lift the hatch off and add glue to the edges to strengthen and keep this from twisting. Add a 1/8” ply strip under the deck to act as a ledge for the hatch to rest on.

Some of the interior structure may be removed once the outside planking is in place. Trim the inside of the keel for the servo, batteries and motor. Remove only what is needed and leave as much of the bulkheads as possible. Add floorboards for the motor mount to sit on. Install the motor, drive and rudder hardware. Position the rudder servo as shown and attach the pushrod. Temporarily position the batteries, ESC, receiver, motor, wires and connectors. See that there is room to get to everything and adjust as needed.

Add the 1/16” mahogany cockpit fairing and wind deflector to the top of the hatch. Do this with the hatch in place so it will not warp. Check the hatch to deck opening fit and sand and fill as needed. This seam can be sealed after painting by running a bead of clear silicon sealant around the ledge under the deck. With saran wrap under the hatch press it in place and let the silicon ooze out (wipe it off the deck before it sets up). When this is dry take off the hatch and cut away the excess glue.

The G5 racing number can be cut out of gold trim sheet. The fore and aft cutwater plates can be cut from chrome trim sheet. Use 1/8" white trim tape for the at-rest waterline. Cover with 1-ounce glass cloth and finishing resin. Spray clear over the whole boat. There was no bottom color on the Baby Bootlegger. Study photos of the real boat then add detail as desired like cleats, lift eyes and deck vents. There are flag staffs fore and aft. The motor cover hatch edge lines and jump seat cover can be "trim taped" on. The exhaust port can be simulated with brass tube. I have not shown detail of the spray rail. That would be a delicate item on this size boat. Also, I would draw the line at reproducing the thousands of copper rivet heads that sit flush with the surface of the mahogany – but that would be VERY impressive.

Install the hardware, check the wiring and move the battery to get the balance point as shown. With 12 good cells and speed-700 motor, an Octura X440 propeller should be a good place to start.

Garry Finlay
gfinlay@teleport.com