



Building my 19ft Barrelback Mahogany Runabout

BY

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In the spring of 2002 I had the desire to build a copy of a Mahogany Runabout built by Chris Craft in the 1930's & 1940's. I had fond memories of seeing and riding in these beautiful boats at Lake Tahoe and at Catalina Island during my youth. I didn't want to buy one of the original old Chris Craft boats because keeping one of these old planked boats from leaking when first put in the water, after sitting on land during the winter, is a characteristic of the type of construction. It is a common problem that when these original old boats were put in the water after a winter, it would leak for a while until the planks swelled and hopefully sealed up the leaks. Rebuilding the boats cures this problem for a while, but eventually the leaks begin. Chris Craft didn't think their boats would survive more than ten years, but because of the following and love for these boats by enthusiasts many have survived with a great amount of care and rebuilding.

I found the plans I used available from marine designer Ken Hankinson (Now available from Glen-L Marine). His plans were designed around the 19ft 1939 Chris Craft Barrelback Mahogany Runabout. The Barrelback, or Tumblehome as it is also known, gets its name from the transom design that is in the shape of a half round barrel. The round portion is on top and the bottom is flat for a good planing surface. The plans are designed for the cold molded method where thin layers of wood are laid up in full beds of epoxy to form a multi layer sheathing similar to plywood. By using the thin layers of wood (1/8" thick marine plywood or 1/8" mahogany) in strips approximately 6" wide or less, it is possible to form the compound curves at the bow. When the frame is faired and ready for sheathing, the first layer of 1/8" thick wood strips are laid up diagonally at approx 45 degrees to the horizontal in a bed of epoxy at each frame and temporarily fastened until the epoxy hardens. The second and third layers are then laid up at 90 degrees to the first layer and second layer in full beds of epoxy. The final layer is 1/8" mahogany strips approximately 3" wide which are laid in a bed of epoxy in the lengthwise direction of the hull to give the appearance of wood planking. This construction eliminates planking joints that leak. The

total thickness of the hull sides is 3/8" and the hull bottom thickness is 1/2".

In February 2001 I bought the plans from Ken Hankinson. I began cutting out framing members and transferring the 1/2 frame full size drawings to a 4' x 8' x 3/4" plywood to use as a layout table to construct the frames on.



"Cut out frame members"

When the framing members were all cut out, I began building the seven frames and the bow stem. I also built the jig members needed to support the frames in their order to form the hull shape.



"Constructing frames on the plywood layout table."

I didn't have a place in the garage to build the hull, so I had to find a place in the yard to build a flat surface to set up the jig. There were

no level surfaces in the yard so I poured a level 3' wide and 20' long concrete pad in the lawn area for my jig set up location.



“The concrete slab to build the jig on.”

The next step was to set up the frame jig so construction could begin. I set the jig up in September 2001.



“Beginning to set up frame jig”

As the frame jig was completed and the framing began it became necessary to provide a cover for weather protection. I picked up a canvas carport at Costco that was 10 ft wide and 20 ft long, just the right size for my 19'-0" boat. It had flap doors on each end that allowed it to be closed off from the rain and snow.



“The framing on Jig beginning to take shape.”



“The frame a little more complete with the canvas carport for weather protection.”



“The frame is complete, faired, and some sheathing is being installed.”



“The hull sub-sheathing is complete and ready for installation of mahogany sheathing.”

The 1/8” thick x 3” wide mahogany strips are laid in a bed of epoxy over the sub-sheathing. The strips of mahogany are temporarily fastened in place with 3/4” long x 18 ga staples. Each staple is shot through a 2” x 2” x 1/4” plywood pad that is wrapped in plastic wrapping tape and placed over the mahogany strips at about 3” oc or less. The tape keeps the plywood pads from sticking to the mahogany where it touches excess epoxy that might be on the surface of the mahogany. Once the epoxy has set up, the pads and staples are removed. There was close to 4 thousand staples used to hold the mahogany strips in place on this boat. That amounted to a whole lot of staple pulling.



“Mahogany sheathing strips are being installed on the bottom of the hull.”



“Transom mahogany sanded and ready for paint and stain.”

When the mahogany strips had all been installed, the whole surface was sanded smooth and prepared to receive fiberglass on the bottom of the hull up to the water line. Before fiberglassing, I drilled the holes for the propeller shaft and rudder shaft. The sides of the hull and transom were stained with Chris Craft red/brown stain.



“The bottom has been fiberglassed and the sides of the hull & transom have been stained.”

With the bottom fiberglassed, it was time to paint the bottom and paint the waterline. The bottom was painted a candyapple red color that was used on Hummer SUV's. The water line was painted in two

colors, a ¾" white strip on the bottom and a ¾" blue strip on the top. This gave the bottom a red, white and blue color scheme for patriotism.



“Bottom has been painted and hull sides and transom stained and varnished.”

At this point of completion I have spent about 7 years getting this far. The Hull is now ready to turn over and put on a trailer but I had to wait through the winter of 2008-2009 until our house sold in Washington so we could move the boat to our new home in Idaho.



“During January of 2009 we had a heavy snow storm that caused the collapse of the canvas carport. Luckily there was no damage to the boat hull except for one minor little dent.”



“The end of July 2009 the boat is ready to move off the Jig and onto the trailer. Everything is being moved out of the way and all fasteners holding the frame to the jig have been removed.”



“The trailer is waiting.”

I enlisted the help of 16 friends to help me lift the boat off the jig and set it on the trailer. It was surprisingly easy to lift it with that much help. The move went very smooth. We lifted it off the jig and rolled it over on an old mattress pad to protect the hull finishes. Once we had it upright it was easy for us all to lift it high enough to get it onto the trailer.



“Rolling the hull over on a mattress pad.”



“Next move is on to the trailer.”

After it was on the trailer it was ready for the move to Idaho. This was the last item to be moved to our new home. The few odds and ends we still had to move were loaded in the boat and we were on our way to Idaho.



“On the trailer and ready to move.”



“Once we arrived at our new home in Idaho I was able to move the boat and trailer into one of the garages set up for my shop.”

During the winter of 2009-2010 I was able to make headway on deck construction. Having a warmer shop area sure made it easier to get some work done in the winter.



“Deck framing started.”



“Sub deck sheathing being installed.”



“Mahogany deck surface being installed.”



“Decking installed and ready to be finished.”



“Deck has been finished, ready for white joint deck caulking and installation of hardware.”



“Hardware being installed.”



“Hardware being installed. Motor hatches open.”



“Interior front seating, side panels and flooring being installed. Beginning installation of Steering box. The steering box is from a 1951 GMC Pickup. The steering column will be shortened and a new steering wheel will be added.”



“Interior rear seating, side panels and flooring being installed.”



“Seat panels have been upholstered and installed. Interior mahogany paneling has been stained and varnished. Gauge panel has been installed. Electrical wiring started. New steering wheel installed. Bead installed around cockpits for bumper pad around cockpits.”

Installation of steering linkage to rudder, linkage to transmission control, bilge pump, bilge blower and throttle control are underway.



“Cockpit bumper strip installed. Grab bar installed for rear seat passengers. Steering column still needs to be shortened 3 inches.”

I located an engine in Spokane, WA. The owner of an outdrive boat with a MerCruiser V6, 262 wanted to install a MerCruiser V8 in his boat. I was able to hear the V6 run and it sounded good and had been kept in very good condition. He wanted to sell it at a very reasonable price and it had all the expensive equipment attached that is needed for a marine engine using raw water from the lake for cooling. I had to purchase a new bellhousing and coupler to make it

possible to connect the engine to a Borg Warner Velvet Drive 71C transmission. I bought the new transmission from a company in North Carolina. I ordered new mounts that attached to the front of the engine and to the transmission. The engine and transmission were attached to short runners that were spaced to fit between the main engine stringers that were built into the boat framing during construction.



“Engine ready for installation.”



“My friend Jeff helping me position the engine in the boat.”

The engine installation went smoothly and took very little adjustment to line the engine up with the propeller shaft and make necessary connections.



“Engine in place. It’s a tight fit but it works.”



“Engine view with rear seat removed. The rear seat back can be removed to expose opening in rear seat back support that allows access to the front of the engine for maintenance.”



“Rudder control linkage.”



“Raw water pickup and filter.”



“Fuel tank installed. Exhaust tubing installed and connected to exhaust ports.”



“Transmission linkage and transmission oil cooler in place.”



“Stencil in place on transom ready to place sizing and gold leaf.”



“Gold leaf and outlining complete on name.”
View #1



“Gold leaf and outlining complete on name.”
View #2



“Engine installation complete with motor hatch doors reinstalled.”

In the spring of 2012 and the boat is finally complete. I'm looking forward to warmer weather, a higher water level in the lake and a chance to launch this boat on its maiden voyage. Wow, is this going to be fun!

Pictures of the finished boat:















Let The Fun Begin!!!