

Additions/Corrections to the 14-Foot Brockway Construction Guide

Timothy C. Visel, May 2008
The Sound School Adult Education & Outreach Program

Building a 14-Foot Brockway by Tim and Willard Visel

In 2005, I started to build a 14-foot Brockway with my son, Willard. We cut out the sides from two sheets of ½" plywood, trimmed a 4 X 4 to make the stem piece and Willard glued the two sides to it. That's as far as we got, it just wasn't going together fast enough for us. We put the sides and stem assembly aside in the yard, and there it sat for three years.

In the meantime, we purchased a 12-foot aluminum lake skiff, a light, but serviceable fishing platform, easy to trailer and launch. One afternoon, we had two large bluefish hooked and saw the look of amazement of surrounding boaters staring at us as we turned to see our metal craft heading toward six foot waves before a reef. We got out of harm's way by an instant and boated both blues. But, the look of six-foot waves against our 14-inch high transom left, as they say, a lifelong memory. We started discussing a larger boat later that day. That fall, we spent looking at boats, either the sides were too low (we like to stand while casting) or the boat was just too heavy – several hundred pounds. We also looked at outboard requirements and of course fuel costs. We wanted something that gave us a more stable platform, a hull with not a lot of resistance for power/fuel economy, with good high sides. After a fall and winter spent looking, we came to the conclusion: finish the Brockway. It had all the design features we desired, a stable platform, high sides for the often unpredictable Long Island Sound, something that was easily powered, with a modest outboard and not that heavy. Later that fall, we moved the stem and side assembly back on to our outside wood deck. During the time, we glued and nailed the sides; the plywood had "set," so trying to get the sides upright took two months of pressure, but slowly, we were able to get them back to the shape we needed. Mr. Brockway built his boats outside, so the flat deck became our working area.

We built the mold shown on page 13 and placed it in the appropriate position, the excess stem we placed over the deck in a hole. To maintain the shape, we attached a series of 2 X 4 stations to the deck with screws on which to place blocks to hold the skiff in position. The mold was attached to the 2 x 4 below it, and the sides nailed to the mold. This created a fixed frame to lock the skiff into position. We had a problem with this method when we attached the transom. We had to release the sides to lift them both up. I then realized why Earle Brockway would pound the stem into the ground and set the transom with iron stakes. He could lift the skiff at any time, no adjustments necessary.

The Spanish windlass shown on page 14 was a challenge, no matter how we tried; we couldn't get the sides to the mold. I feel the 3-year delay had something to do with it

The sides had been apart and the wood had dried. As we pulled the sides, we just couldn't get them to the 47 wide bottom of the mold so our skiff is 51 wide at that part we widened the mold bottom 4 inches and keep the top width the same. This created a wide version of the 14-foot model. I realize why Earle wanted 47 at this width, $\frac{1}{2}$ left for each plywood edge, which he felt, was important but also for economy of materials which Mr. Brockway turned into a science. But the change in width meant extra plywood would be needed for the bottom – Earl would have used a long whole sheet, staying within the standard 48 width, but we used two cross sheets which dictated of course, the placement of our floor timbers four feet apart. This required three sheets of bottom plywood, instead of two. We put a rear seat next to the transom, the middle seat, just forward of the first frame set and a double seat, (square edge to square edge) just forward of the second set of frames.

Bottom and Transom Changes

Instead of the usual $\frac{3}{4}$ " sub-floor plywood which Earl used, we purchased a better quality $\frac{5}{8}$ inch plywood for the bottom (3 sheets 4x8). The transom was two pieces of $\frac{3}{4}$ marine plywood laminated together for the full 1.5" width. The chine was strengthened (Willard's suggestion) with an identical piece of $\frac{1}{2}$ " pine on the outside edge. He was concerned that the $\frac{1}{2}$ plywood and $\frac{3}{4}$ chine wasn't "beefy" enough. When sanded smooth, that provided a bottom-nailing surface of 2". I had seen this done before, so it was within the Brockway style. It did strengthen this area substantially. We discovered a major mistake in the transom plans. The plywood sides were about 15 inches high which Earl lapped a 2 x 6 over 2 inches of each side, making the actual height of the transom or side 18.5 inches. We increased that to 20 inches by using a 2 x 10 x $\frac{3}{4}$ " pine plank, followed a second 2 x 5 x $\frac{3}{4}$ " pine over that (which formed the finished rails). This is also an additional piece of wood that strengthened the top rail area. (The higher than normal sides was still a carryover from our 6-foot wave encounter). The original plans showed the trimmed or rounded transom at 16" high, but when you go to attach the rail, there is no wood to nail to—obviously a mistake -- that 16 should be 18.5, which we increased to 20. To have a 20 side and some "tumble home" in the transom, the material needs to be at least 22" high. (Round off the 22" to 20".) In addition, we added a side 2 x 4 at each transom edge to provide extra strength, so when the sides were nailed, we had a 3" nailing surface.

Supplies and Materials:

We used Marine polyester resin for all gluing – chines, nails, thwart supports, etc. (2 gallons). (Do not glue frames or keel.) We applied thin coats between clean wood surfaces, used galvanized carriage bolts to attach thwart

supports, galvanized hardware for ground tackle- rings, cleats, etc. To attach the chines, and rails, we used a mixture of roofing nails and coated deck screws. Mr. Brockway didn't use screws, just nails, but we used a mix.

The keel and frames are bolted with tar, not resin; Earle insisted that this was a better practice – keels often rub the beach and the copper bottom paint easily scrapped off. On two occasions, I "lost" the keel on our 16-foot skiffs to marine wood borers (worms). To remove the keel was a much easier task with tar – remove the bolts, and pull out the stem and transom nails. If it had been glued, I could see hours, if we had to use the wood chisel.

The Seats

We again used the traditional Brockway seat material, standard stair thread 11.25" wide by 1 1/8" thick, bull nose on one edge. I discovered this by mistake thinking that Earl had taken the time to smooth one edge – he didn't. The material just came that way. We purchased two 12-foot lengths and had about 4 left over.

General comments:

We used a lot of marine resin to repair defects in the plywood: cracks, voids (which were fixed with plywood slivers); loose knots. We filled them with the two part resin and sanded the plywood smooth. All cut plywood edges were also sealed, which again Mr. Brockway felt was very important, especially the 1/2" extra on the bottom. He saw people cut this edge off flush with the sides, which Earl felt was a mistake. The 1/2" rounded edge was a built-in "bumper" in case of hits, which in our lobster operation, were frequent. We never had an edge go bad, however. So, resist the temptation. We always kept this rounded edge in good condition.

True to Brockway style, we didn't glue the frames to the floor timbers, but used roofing tar – (caulk gun tubes). Be careful – a little bit goes a long way as anyone who owned a Brockway can "attest." The saying used to "two weeks to clean off the tar and two days to paint." The tar Mr. Brockway felt was a "shock absorber," with the frames. If a huge hit occurred, the frames would move instead of splintering or crushing. I did see this happen and an oyster scow took a direct hit and the frames did move and not completely break. He felt that if they had been glued, the plywood sides would have splintered, the hit boat didn't sink, but the frames had all split, so in a few hours after the new frames were installed, the scow was as good as new.

One thing we learned, is that a belt sander was indispensable; we did a lot of sanding (Willard, mostly), shaping and just grinding. A small belt sander is a must! We had a small saber saw, power miter saw, electric drill and skill saw to round out the electric tools. A dozen C clamps, metal --were a huge help with all gluing, chine, rails, supports and transom. (It is interesting to note

that Earl was slow to accept electric tools, but eventually bought a drill and skill saw. Before 1971, it was mostly by hand.

We finished off the skiff with good quality oil base paint. The bottom got two coats of copper based paint.

Good luck and great fishing!

Copies of the 14-foot Guide and the original 16-foot Brockway Skiff plans are available from:

Susan Weber
Adult Education and Outreach Coordinator
The Sound School Regional Vocational Aquaculture Center
60 So. Water Street, New Haven, CT 06519

Phone: 203 946 6875

Fax: 203 946 6156

Email: susan.weber@new-haven.k12.ct.us

Note: Our school website: www.soundschool.com has Brockway plans that can be downloaded on your computer. Coming soon are a PowerPoint of pictures of actual construction of a Brockway boat.

National Fisherman
P O Box 7438
Portland, ME 04112-7438
Fax letters to (207) 842-5603
Email: nationalfisherman@divcom.com

"Mail Buoy"

Brockway Tradition is Timeless

It was terrific to see Michael Crowley's story about Brockway-style skiffs. (NF, Sept 07, pg. 38). I always enjoy reading about or seeing Brockway skiffs from Southern Maine to the Chesapeake Bay. It's been over a decade since the flat irons and hammers fell silent at the former Brockway Boat Works, located in Floral Park, Old Saybrook, Connecticut, but interest in Earl Brockway's family's design and construction techniques continues to grow. I was fortunate to spend a lot of time with Earl Brockway, the last of five generations of Connecticut River Brockway boat builders. Visitors to the lower Connecticut River will find "Brockway's Reach," "Brockway's Island" and "Brockway Ferry Road" -- all referencing the maritime impact of his family. What isn't so well known is Mr. Brockway's generosity and interest in small boat fishermen regionally and internationally.

According to Earl, the Brockway skiff and scow evolved from the 1920's Connecticut River turtle, duck and shad fisheries. Many of these uses included duck/waterfowl hunting in the winter, so desirable features included stability, ease of maneuverability and shallow drafts. The first Brockway skiffs were of traditional design-planked construction, hard chine not unlike the small work skiffs of Niantic Bay and Noank, CT. Originally, a boat for bay and river, the family began experimenting with plywood in the 1940's, first replacing the bottom and later, the sides. The first all plywood versions which included the transom assembly, came out in the 1950's. What was amazing to Earl is that customers wanted higher sides for the skiffs and so they became prevalent outside rivers and bays. After a "high-sided" version was added, the skiffs' popularity soared. Scow boats continued in the traditional lower profiles and were used for oystering, lobstering and of course, shad fishing. They were known for their strength, durability, holding capacity, ease of repair and maintenance. Fishermen loved the lower initial cost, (they came "unfinished"), and you had to provide your own painting and remove the extra tar.

In 1972, I purchased my first Brockway with my brother Raymond. We used them for many inshore fisheries, and soon realized why "Earl couldn't make enough of them;" although they were slower, the boat was tough, could take a lot of punishment from the gear and was a good sea boat, and most importantly, reliable. We would own several over the years. In 1981, when an international request was issued for a small, simply constructed, strong plywood workboat, as part of the United Nations' response to floods in Asia, we submitted the Brockway design. A year later, the construction manual plywood workboats for small-scale fisheries and photographs by Raymond appeared a year later. The manual was designed for disaster relief, Peace Corps and US A.I.D.

fisheries extension efforts. The "Brockway" design would soon become available worldwide. In fact, my own son even saw one on a trip to Fiji in 2005! Earl didn't want or expect anything for the design – his simple response was "Commercial Fishermen need help once in a while," followed by, "I hope they will come and visit me someday." And, some did. A few years before Earl passed away, a visitor from Haiti came to see him with photographs, and on the Haitian beach were several "Brockway's." He wanted to visit the man who had helped his village.

That was the type of man that Mr. Brockway was – very unassuming in character and always amazed at the popularity of his boats. The 16' "extra –wide skiff plans" went into extra printings. The Brockway style skiff will most likely be one of the most popular and easily recognizable inshore fishing boats of New England. It was great to see that popularity continued and to read about the legacy of Earl Brockway.

Timothy C. Visel
Aquaculture Coordinator
The Sound School Regional Vocational Aquaculture Center
17 Sea Street
New Haven, CT 06519

Phone: 203 946 7106

= = = = =

Brockway Plans for 14' skiff and for 16' skiff are available for free!

Contact:
Susan Weber
The Sound School Aquaculture Center
17 Sea Street
New Haven, CT 06519

Susan.Weber@new-haven.k12.ct.us

203 946 6875 (phone)
203-946-6156 (fax)

Donation for postage is appreciated.