

The 30-Foot Odyssey ... How Three Bay Area Men Built ...

A Fiberglass Yawl From Scratch

THE STORY OF THREE MEN and their boat began with one man and his dream. Hugh Hutchings, now of the Bay Area, had sailed from the time he was ten years old. Beginning with scows on Lake Geneva, Wisconsin, he later graduated to larger boats and bigger waters until he was sailing the Ten-Meter *Blue Goddess* in the annual Mackinac races.

When Hutchings moved to the West Coast, he tried his sailing skill in Pacific waters. As he crewed on various boats in different races, the idea for his own boat developed. Interested though he was in racing, he wanted a boat that would also be suited to family cruising. He wanted a sailboat which would meet MORC specifications.

He decided on a thirty-footer as the maximum size which would satisfy these requirements. He settled on fiberglass construction because of its economy and low maintenance.

While making these plans, he was teaching the United States Power Squadrons' Advanced Piloting course for the Sequoia Squadron. He discussed his dream with two members of the class: Robert E. Lee, Jr. and Commander Joseph H. Graham, USN Ret. These men too, were boat searching, and Hutchings' idea fulfilled their specifications and desires.

Hutchings had studied chemical and industrial engineering at Illinois Institute of Technology, although he was neither a mechanical engineer nor a naval architect.

Bob Lee, a former Air Force navigator, had grown up sailing Snipes off Staten Island. He was a practicing mechanical engineer.

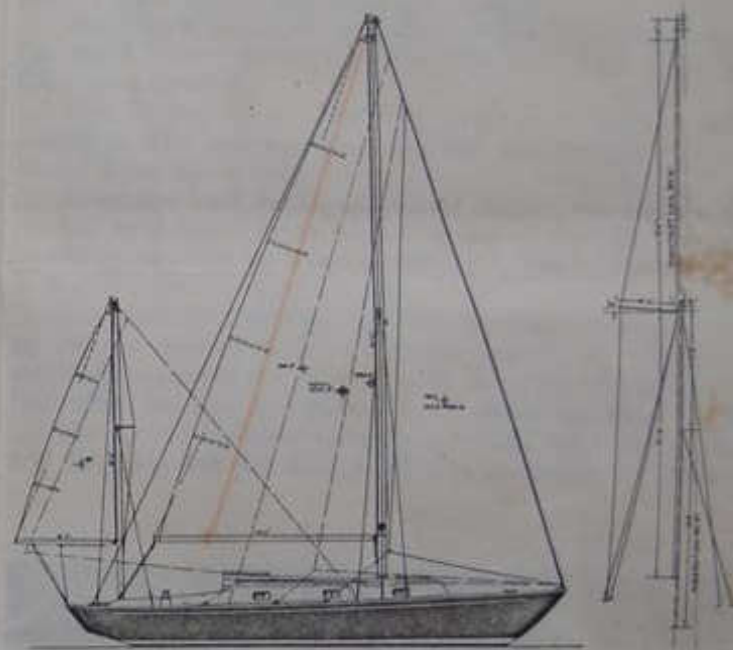
Commander Graham was from an old Long Island sailing family. He had been part of the racing complement on many sailboats, especially in the Ten-Meter class. He had a yachting supplies store in Sausalito, The Captain's Cabin.

The three men decided that with a good design from a first-rate naval architect, Lee's experience with fiberglass in the aircraft industry, and the combined sailing know-how of all three, they could develop a boat that would be the envy of the Pacific Coast. Inspired by one of the earliest sailing stories, the name *Odyssey* was selected. So the project was begun.

First it was necessary to get a set of plans. After a great deal of correspondence, the three men accepted a design for a 30-foot yawl by Carl A. Alberg of Marblehead, Mass., designer of the *Triton*, *Electra* and *Alberg-35*.

The next step was to build a model of the proposed boat. Working at a ratio of one inch to a foot, the three boatbuilders constructed a plaster plug in order to try out, as nearly as possible, the methods they would use in constructing the actual plug. The fiberglass mold was made over the plug; and a few weeks later, a miniature fiberglass hull was lifted from the mold.

The lofting stage followed. Because the lofting space was used for other purposes during the daytime, the lofting pattern had to be constructed so that it could be taken apart, stored and reassembled each evening. Eight mason-



ite sheets, 4' x 10', were painted white, numbered, laid in a rectangle and held together by metal clips. When an evening's work was over, the masonite sheets were separated and stacked in a small storeroom.

Next the "plug stage" brought its particular challenge. On a concrete and timber foundation were set $\frac{3}{8}$ -inch "frames," taken from the loft. These frames, 15 in all, were placed two feet apart.

When the frames were lined up they were tied together with "stringers" (1" x 2"s); and the assembly was swathed in burlap. Next, aluminum strips were annealed until they were bendable, then attached along the edges of each frame. These $\frac{3}{8}$ -inch strips, were to provide the "screed" points for the plastering operation.

A light coat of plaster was applied to stiffen the burlap. The finish coat was applied by the use of an eight-inch aluminum "screed" which was flexible enough to bend around the curves formed by the 15 stations but stiff enough to work the plaster into the proper shape. The plaster was to be exactly $\frac{3}{8}$ -inch thick. The plaster was allowed to harden before it was sanded smooth.

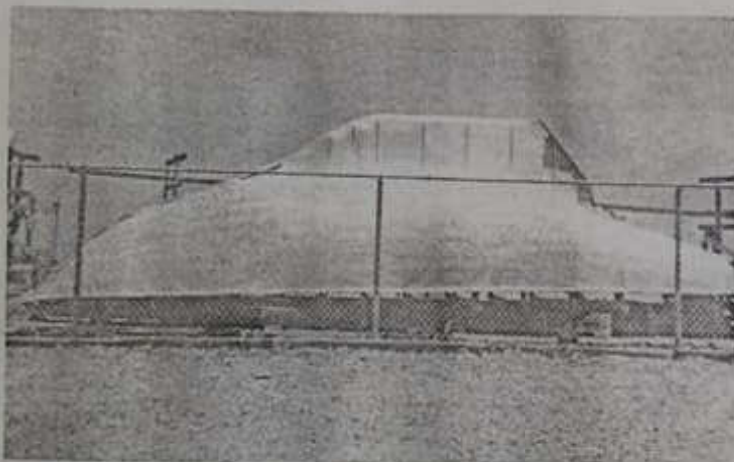
Until this point, the entire Operation Plug had taken place outdoors. However, in order to fiberglass successfully, the temperature had to be kept constantly below a certain level. To maintain this temperature a "Zulu hut" of plastic sheeting was constructed.

The surface of the plug was finished with epoxy paint, polished, and waxed in preparation for the laying up of the mold. The hut provided the much-needed protection for the highly-polished surface.

The mold was laid up early on a Saturday morning. The parting agent and the black gel had been sprayed on previously. The dividers that were to separate the several



Setting the frames



Form complete with burlap and aluminum strips in place

sections of the mold were in place. The resin and the catalyst were sprayed by gun and the layers of mat, cloth and roving were applied by hand. Air bubbles were rolled out with special rollers.

The mold was made in three pieces. The major division was a longitudinal one along the keel. The transom was a separate mold, so that when the boat was being laid up, mahogany veneer could be laid into the transom. Wooden supports were placed at the keel and at the sheer line and special reinforcing was put both at the bow and at the stern sections. The two major halves were "keyed" so that they would mate perfectly when the mold was assembled.

With the onset of winter it became necessary to move all work indoors. A place was found in the old Belmont pumping station on El Camino Real and arrangements were made for the move. A crane was used to lift the mold away from the plug. As the mold was bolted together, the value of the keying device was apparent. The mold was fork-lifted onto a flat-bed truck and transported to the new workshop. Here the mold was fastened on dollies so it could be rolled across the floor.

Special scaffolding was designed and built to be rolled inside the open halves of the mold for the polishing of the inside. Later this scaffolding was of inestimable value in laying up the boat hulls.

Finally came the tedious job of polishing the mold and preparing it for the laying up of the first hull.

It was at this time that Commander Joe Graham had a surprise visit at The Captain's Cabin. A young Sausalito couple came in to talk about their dream of sailing a boat to New Zealand. They already had done considerable sailing in the Pacific, so they knew what difficulties lay ahead.

"We are looking for a fiberglass hull with the lead keel in it. We want to do the interior work ourselves as well as put on a wooden deck," they explained.

Commander Graham wrote down a name and a few numbers on a card. "Call this gentleman around dinner time. I think he has just what you want."

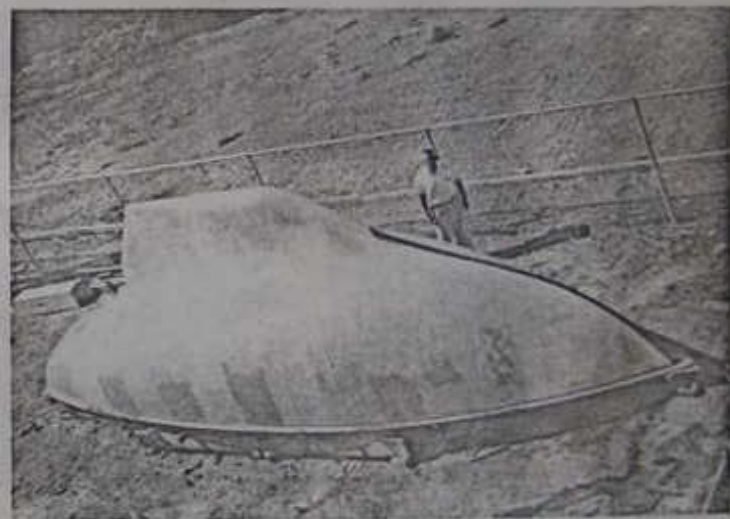
The couple came down to look at the boat plans and the mold. They would take the first hull. The Odyssey Class was growing.

The laying up of the first hull went swiftly and smoothly. The hull was soon finished and ready to be released from the mold.

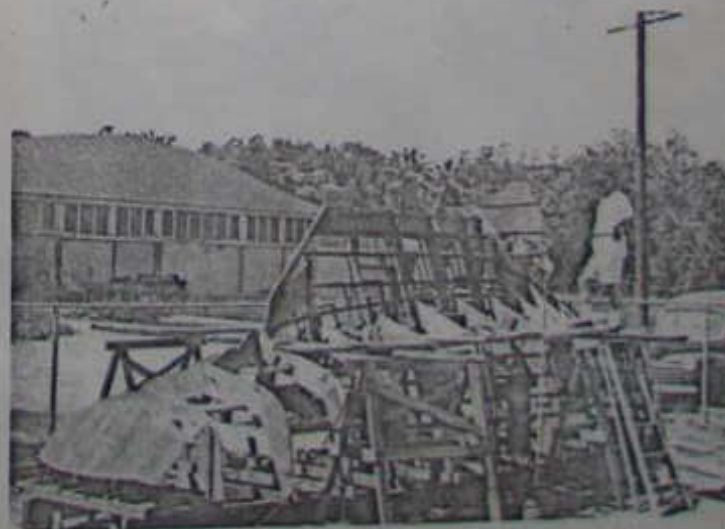
After the lead keel was placed inside, the boat was trucked to Tiburon to be placed in one of the old railroad buildings near the main section of town. The young couple promptly went to work on their boat.

The mold was cleaned up and prepared for the laying up of the second hull. Additional scaffolding was constructed to enable the men to work more easily inside the hull after the two halves had been joined together.

The second hull was allowed to remain inside the mold, and the plug for the deck mold was constructed right on



Commander Graham surveys the plaster plug



Bob Lee inspects the skeleton complete with stringers

The curved wood deck beams were fastened temporarily into the hull, then a plywood cockpit and deckhouse were added. The entire surface was covered with masonite to cut down on the finishing problems. Finally a non-skid pattern was applied to the deck and cabin top.

After coating the masonite-over-plywood plug with black gel, deck mold was laid up and reinforced with supporting members. The result was a first-rate deck mold, complete with hatch openings, cabin house, cockpit and non-skid pattern on topside traffic areas.

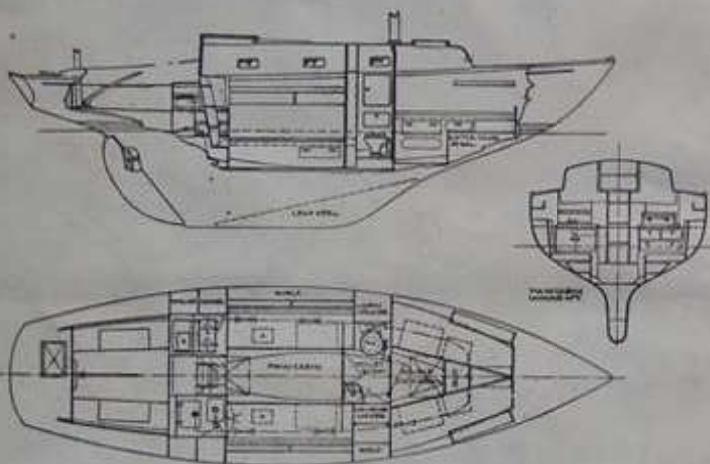
A deck was laid up in the now completed mold. The light blue color of the deck would provide a striking contrast to the darker blue hull.

Before the deck and hull could be joined together, several tasks had to be performed on the hull itself, now free from the deck plug. The bulkheads, some of the cabinetry and other supporting members were installed at this time.

The second hull was then removed from the mold and placed on a cradle for the installation of the lead keel and the engine; the deck was joined to the hull by mechanical fastenings and the two were then laminated together to form a single unit.

The final steps were finishing interior cabinetry, making vinyl-foam upholstery and port-hole curtains, installing hardware and rigging.

— EVELYN HUTCHINGS



SPECIFICATIONS

LOA	29'10"	Displacement—	
LWL	22' 0"	Approx.	10,250 lbs.
Beam	8'10"	Sail Area	436 sq. ft.
Draft	4' 9"	C.C.A. Rating—	
Ballast	4,450 lbs.	Approx.	22.0

The hull is of one piece fiberglass laminate with the ballast place on the inside.

The deck and cabin trunk are of reinforced fiberglass, double cored for additional strength.

These components are built to Cox & Gibbs specifications and are first mechanically fastened and then further laminated into a solid unit.

The cockpit is self bailing and the yawl will meet MORC regulations.

Mahogany is used for cockpit seats, hatches, grabrails, toe-rails, coaming and all other trim.

Masts and spars are of aluminum and the standing rigging is 1x19 s.s. wire and s.s. turnbuckles and tangs.

Power is by a 30-hp Universal Atomic Four with provision for 30 gals. of fuel.

All blocks and winches are of Tufnol and the running rigging is all Dacron.

GETS PRETTY ON DECK

Between 7:00 A.M. and 1:00 P.M.

Boat decks really have to take a beating in the morning. Chilly dew forms. And when the sun comes out, that dew instantly turns to steam. Similar situations occur when the sun is hot and bright and spray releases the heat. Evaporating water (condensation) is the result.

Now you all know it costs a lot to prepare a deck for winter use. It's not just the time, but the materials. It's not less than 10% good job. It's not a good job that will afford to sell your customers a new boat. Smith-Valspar, world leader in 75 years? I don't know. But I know boiling water poured over a deck will come out turning white. Check it out. You can't see the world's most beautiful. Stock the best. Sell the best. It makes a difference. To your boat owner. Who rely on you.

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