Setting Up to Build H-28

Thinking ahead for economy, performance, and longevity

Text and construction photographs by Karsten Mæhl

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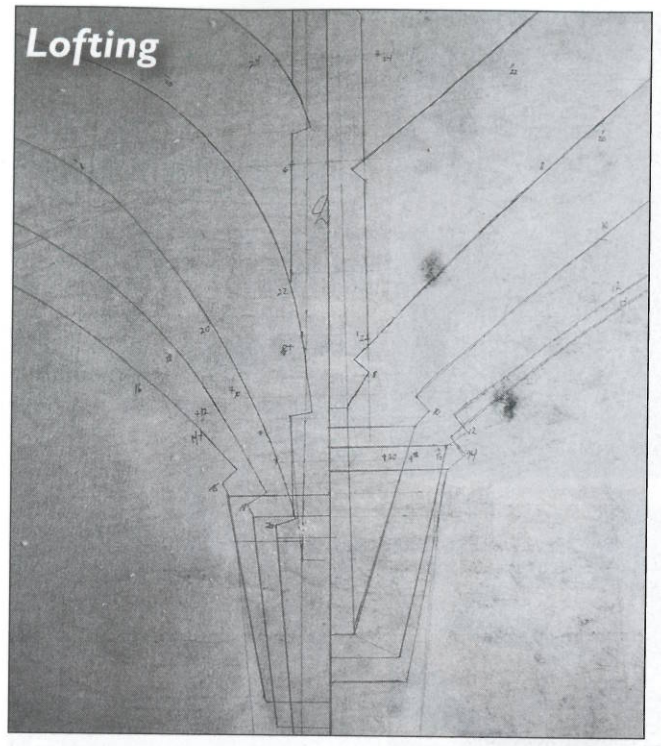
Ten years ago, while reading L. Francis Herreshoff's *Sensible Cruising Designs*, I instantly fell in love with a classic little yacht of shippy appearance. The boat, L. Francis's H-28, looked like the one for me: small, seaworthy, good-looking, and with room enough for some extended cruising.

The H-28, as the name implies, is 28′ long and has a draft of only 3′6″. The boat is long-keeled and relatively heavy, with a displacement of about 4 tons. It has a large cockpit, offset propeller shaft, and large transom-hung rudder that gives excellent maneuverability under sail. The boat has an ample 9′ beam, and as a result the cabin is quite spacious. While H-28 is not among the fastest 28-footers of its time, most observers agree that the design is exceptionally seaworthy. Despite the design's spartan accommodations and limited stowage options, H-28s and their variants have made demanding ocean passages, including circumnavigations.

I pretty much decided, upon my first encounter with the design, to build the boat. Herreshoff originally designed the H-28 as a ketch, but a year or so later published a sloop-rigged version, and that's the rig I chose. Eight years after commencing construction, I launched a new H-28—having spent most of my spare time on the project.

There are two approaches to building an established design. One is to build exactly what the designer drew. The other is to allow some changes. I find it rewarding to figure out some solutions for myself—to customize. While some people see this as like swearing in church, as an old boatbuilder I couldn't resist using modern materials where I thought they would add strength to the boat without destroying the looks—such as using plywood sheathed in fiberglass and epoxy for the deck. I do agree, however, that one should think very carefully before "improving" any design, because there are consequences related to all changes—consequences that often are not easy to foresee.

***Above*—H-28 is one of L. Francis Herreshoff's most enduringly popular boats. The author, a shipwright in Norway, built a boat to this design over the course of eight years, and planned the project to require relatively little time under a temporary shelter.**



L. Francis Herreshoff's table of offsets for the H-28 make lofting the boat relatively easy. The lines are to the outside of the planking, so to determine the shapes of the frames, the planking thickness must be deducted, as shown here. For a lofting surface, I used a light-colored plywood.

L. Francis described H-28's construction in painstaking detail in a series of articles published in *The Rudder* magazine in the 1940s; he later gathered these articles together as a chapter in *Sensible Cruising Designs*. He had strong opinions about changes, writing that "If the H-28's design is only slightly changed, the whole balance may be thrown out." The reality is, however, that not many boat designs have been altered as much as the H-28. It has been lengthened, made deeper and with more beam, with higher topsides, more sheer, more displacement, and altered deckhouses and deck layouts; H-28s been given bowsprits, built of fiberglass, cold-molded in wood, and welded together in steel. Most of the fiberglass versions were produced in the 1970s and '80s by the Walker Company in Australia, Parkins Marine in the U.S., and Compass Yachts in New Zealand. Some enlarged wooden versions were built in the 1960s; these include the Bermuda 30 by Cheoy Lee in Hong Kong and the Samurai 28 by International Marine in Japan.

My changes have more to do with structure and trim than with aesthetics. My biggest alteration was to move the lead keel forward a bit to avoid squatting from weight placed aft. To move the lead ballast keel forward, it was necessary to shorten it and make it deeper; as a result, my H-28 has about 4″ more draft than the original. Since I wanted to maintain the designed waterline and the shortened keel slightly increased the underwater volume, I had to make the ballast about 180 lbs heavier than designed. These changes added wetted surface and weight, but I believe the slightly diminished speed is far outweighed by the fact that the boat trims nicely on her waterline with one or two people in the cockpit, and with sheets, docklines, and other gear stowed in the cockpit lockers.

Whereas L. Francis specified steam-bent frames, I chose to laminate every other one for strength and durability. Steam-bent frames are pre-stressed by bending, whereas laminated frames are not, so I expect there'll never be any breakage. Also, they don't spring back like steam-bent ones do, and, in fact, hold their shape so well that I did not have to use the temporary

I started with the lead keel because the boat under construction would be much steadier with the ballast in place and the options for bracing the hull would be limited in the narrow shed. Lead is a very easy material to work. It melts and drills easily, and one can even use an electric planer on it. But, as Herreshoff points out, it needs to have some antimony added in order to work well. I cast my keel of antimony-containing scrap lead in a wooden mold buried in the ground so it wouldn't break under the weight of the lead. I lined the mold with plaster to protect it from the hot lead, and used an old hot water tank as a melting pot.