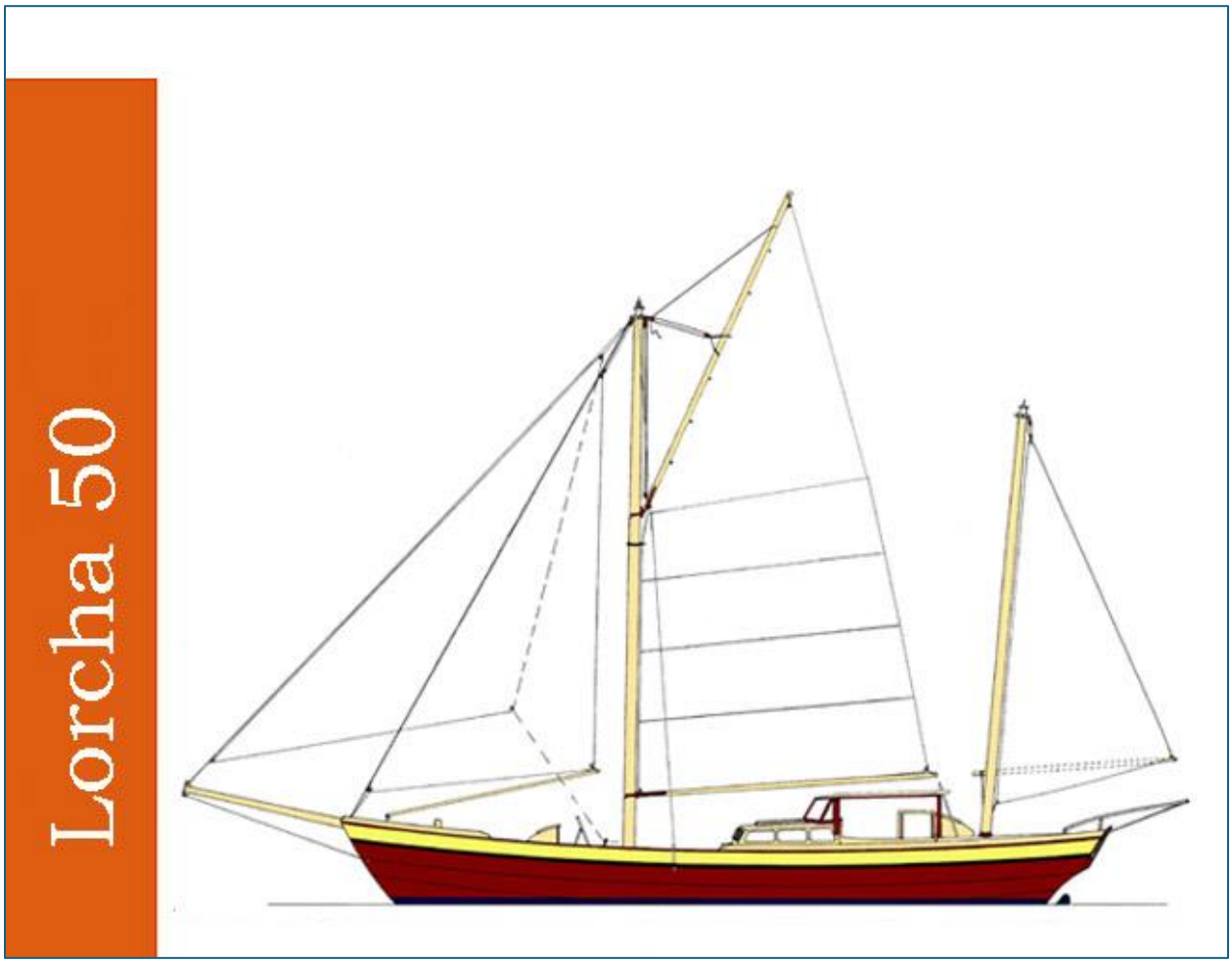
Tien Hou History and Narrative

See also ***Tien Hou*** Specifications and Equipment Lists



INTRODUCTIONS

I first saw Tien Hou in the Bahamas one morning in 2004 from the deck of my 32 ft cutter. I had anchored off Staniel Cay as far inshore as I dared with my 5' draft, since it was a long row to town. Halfway between myself and the beach, I spied a gorgeous ketch. I was gob smacked by her looks; I'd never seen such a striking vessel. My next thought was " How he'd get in so much shallower in a boat twice as long as mine?"

Later I saw a lone figure rowing a dinghy out to her from the town. He scrambled aboard and in a few minutes had the dinghy raised on davits and started hand cranking the anchor up. As the morning breeze eased her downwind he went to the main mast and raised an impressive gaff-rigged mainsail and was soon sailing out past me. No noise, no fuss, no bother. I turned to my crewmate and said "Now that's a

damn sailor, and that's one hell of a boat." That was my first glimpse of Reule Parker, the owner, designer and builder of Tien Hou (pronounced "t'yen ho").

I next saw him in 2007 when clearing in at Fort Pierce. Fatefully, I ended up docked across the slip from Tien Hou. She had a discrete "For Sale" sign on her. I immediately called my crewmate at his home and begged, "You've got to stop me! I'm going to buy a boat." "You've got a boat," he replied. "I don't care. I've got to get this boat." And so, I did.

THE DESIGNER

Reuel Parker is an internationally known designer and recognized expert on cold molded wood construction. He is the author of "The Voyages of Fisher Hornpipe," The Sharpie," and "The New Cold Molded Boatbuilding," plus 17 technical articles. His catalogue of plans includes 27 powerboats from a 13.5' launch to a 60' trawler and 69 sailboats, from an 8' pram to a 70' pilot schooner.

Reule designed and built Tien Hou as his personal home. He was influenced by a historical vessel called a Lorcha that evolved in the early 1600's around Macao. It combined features of eastern junks and western carvels. Like the originals, his Lorcha was initially junk rigged with three free-standing masts. During sea trials he determined the sails overpowered the hull, so he rerigged it to its current configuration. Keeping the Asian theme, her named her after the Chinese Goddess of Heaven, patron of sailors and mariners. Tien Hou has been featured in Wooden Boat, Professional Boatbuilder, Latitudes and Attitudes, and other magazines.

THE OWNER

I'm a Florida native who's been sailing since I was a young boy. I have degrees in ocean engineering and currently direct a consulting firm named Emerald Ocean Engineering. I was a field engineer on land and underwater projects world-wide before getting into academic and government research. Most of my later career focused on coastal engineering. That penchant shows in my sailing preferences – I'm more of a gunkholer than a blue-water sailor. I have taken Tien Hou from Florida to Prince Edward Island, Canada, from Manhattan to Trinidad, mostly singlehanded. Age has made that more challenging and I'm not interested in having a crew tote me around, so I am verry reluctantly putting "Tien Hou" on the market.

I have enjoyed Tien Hou as a floating test bed for my own designs at least as much as for voyaging. I get satisfaction in implementing robust, effective solutions to typical boating issues in maintenance and operation. Reule has designed a beautiful, functional and unique vessel; I have endeavored to enhance his vision. Some are highlighted below.

THE BOAT

The hull is based on a scaled-up version of the traditional multi-chined Seabright Skiff, considered one of the most seaworthy small craft. It is made from multiple layers of marine plywood fully sheathed in epoxy-impregnated Xynole polyester cloth. A box keel provides a sump for the engine, tankage, and internal ballast, making for a low center of gravity. Foam-core sandwich decks and cabin tops reduce weight above. The birds mouth hollow box spruce masts were originally junk-rigged, so they are free standing. When it was converted to a twin-headsail ketch, shrouds were added to the main mast to provide counter-tension to the headsail stays. But the standing rigging is redundant for its support. The mizzen remains unstayed.

The boat is in excellent condition. There are no leaks to the belowdecks; there is never any mildew even after being laid up for months at a time. Every single item in the inventory functions like new. In addition, there are original manuals aboard for nearly every item listed.

Boating takes work

I have spent a lot of time on work boats of all kinds. When I describe Tien Hou as more workboat than yacht, it's a compliment. It borrows many features from working cargo and fishing boats from the days of sail. This means things on board work and are easily worked, systems are robust, access for maintenance or repairs is a priority, and decorations that detract from functionality are eschewed. Critical wiring and plumbing are left exposed or readily accessible for monitoring and troubleshooting, not hidden behind vinyl headliners. Belowdecks, away from the sun's assault, there is a fair amount of various hardwood and cypress trim, but a minimum of brightwork topsides. The nonskid on the decks is the most effective I've experienced and is tough enough to lay out lengths of chain on without concern.

The 4' x 4' hatch in the cockpit deck allows full access to all sides of the engine, no contortions required. Bilge pumps, water level sensors, sea cocks, strainers, oil and fuel filtration, belts, batteries, battery charger, hot water heater and valving, throttle and transmission cables, even the stuffing box are all visible, operable, adjustable, and repairable while standing, sitting, or kneeling.

Another carryover from working sail tradition is a trestle tree at the base of the mast. Rather than crowding all halyards on mast-mounted cleats, the tree provides ample room to separate and secure halyards and other lines handled at the mast.

Just forward of the mast is the workshop, or "cargo hold," perhaps the most workmanlike aspect of the boat. It spans the full beam in width and is 6' in length. It contains the keel lifting gear, has a workbench, two vices, an inverter for ac power tools, and shelves and bays for storage. It's an incredible asset to keep all tools, spares, smelly or dangerous supplies (paints, lubricants, epoxy, etc.), the outboard motor, additional and storm anchors, the drogue, fishing gear, etc., etc. in a separate compartment instead of under a bunk or the floorboards in the living spaces. I would *much* rather have that space than another stateroom for two more guests!

Unique feature 1 – The Keel

A 3' draft is unusual for 50' monohull. This is typically achieved with a tilting centerboard. The impact is tenderness and reduced stability because of a higher center of gravity without a weighted keel below the hull. That can be addressed with a lifting, ballasted keel. Tien Hou's NACA foil shaped keel adds 3500 lb of ballast that extends to a draft of 6' 5". This provides the stiffness of a deep-keel hull and full righting ability in the event of a knock down. At its base is a delta-shaped foil wing that improves hydrodynamic effectiveness in reducing leeway. The wing tucks snugly under the box-keel when the keel is raised, allowing the vessel to lay upright if dried out on a level seabed; it can be careened for inspection or cleaning without tilting.

Lifting ballasted keel designs are rarer than light weight centerboards because they are more expensive to build and challenging to engineer. The system I designed for Tien Hou met that challenge and has functioned flawlessly for 17 years. A hinged Lexan cover on the keel trunk allows immediate monitoring of the raising/raising process and direct access to the lifting lines and bearings. The keel trunk's laminated walls support the two 4" x 8" laminated beams that support the keel. A rotating 2" schedule 80 ss pipe riding on greased Delrin plain bearings does the heavy lifting. As the pipe rotates, 3/8" Amsteel Dyneema lift lines (combined minimum tensile strength of the over 48,000 lb) on custom-shaped aluminum level

winds maintain correct orientation from full up to full down positions. The forward end of the pipe passes through the watertight bulkhead separating the main cabin from the cargo hold on a third Delrin bearing. The drive for the lift pipe is in the cargo hold. Power comes from a 1 hp DC motor and is transmitted through two reducers: an oil-bath, right-angle drive reduction gear and a 12" bronze gear driven by a worm gear. Total lift or lower time is about 45 seconds.

I change out the lifting line every 5 years or so, though they have never shown signs of significant wear. This is facilitated by four locking pins – machined ¾" diam. ss bolts that screw into the trunk walls and support the keel underneath its top flange. The top of this same flange holds two 1 ¾" sch 80 ss lock downs rods for blue water crossings. These fold horizontally onto the flange when not in use. After the keel is fully lowered, they can be rotated to vertical and locked into place on the underside of the support beams. This ensures the keel remains rigidly down in the unlikely event of a full rollover. There are two control switches for the lifting gear – one at the helm, for quick adjustment of the draft ("Shoal ahead!") and one at the forward end of the trunk for easy maintenance of the mechanism.

Anchoring

I'm an ardent believer in reliable and versatile ground tackle. I carry five anchors, from a 45 lb spade to a 100 lb Danforth storm anchor. Anchor rodes are 350 ft of 1" plaited Dacron and 200 ft of 3/8" galvanized chain. I trust the pair of 4' long oak 4x6 Samson posts extending two feet below deck and secured to a watertight bulkhead far more than any deck-fastened cleat. It is far safer and faster to belay a running rode under a load around a vertical post at knee level than a cleat at deck level. But the unique item is the windlass between the posts.

The original anchor windlass was a massive, solid bronze manual-only beast by Lunenburg Foundry. Two pick-axe-sized handles are inserted into ratcheting sockets and allow dual, bicycle-like operation. I could deliver over a thousand pounds of line pull while standing upright. It was slow but easy to use, very powerful, and literally bulletproof. I used it for years – once to kedge myself off a sand bar. But when single handing, it was a challenge (OK, comical) to get underway in a crowded anchorage with even a light breeze or current - sprinting between bow and helm to avoid collisions or entangling lines. I was unimpressed by the available electric alternatives, especially their options for manual backup. I definitely didn't want to give up the Lunenberg's power and reliability. So, I electrified the windlass while maintaining its manual drive. I inserted a 60:1 reduction gear used in commercial crab boats between the rope gypsy and chain wheel. The 1-hp reversing electric drive motor hangs vertically under the gear, completely dry under the deck. It can pull in 90 ft/min of chain at 525 lb. tension.

Since the reduction gear cannot be back driven, it must be unlinked to use the original manual drive. A pair of bronze and stainless flanges on each side connect the gear to the driven heads. The flanges can be individually engaged or disengaged by turning four ¾" ss bolts. There are two control stations: one at the helm (no more fire drills), and foot switches at the base of the winch.

Where's the Dinette?

The keel retracts vertically into a 14" wide trunk separating the two berths in the main cabin that extends just 19" above the cushions. Flip up dining tables on the keel trunk are accessible from the adjacent bunks. Because these bunks are below the dropped foredeck, there is no standing headroom in that part of the main cabin. Reule called it eating 'oriental style'. I prefer 'Roman lounge style', but honestly most Americans would call it uncomfortable style. I believe the benefits outweigh this cost.

Reduced windage and weight above decks The long, low, "piratical" profile of the boat is not an affectation. It results from a concerted and effective effort to improve stability and reduce rolling and heeling from beam winds.

Safety on deck Sails are controlled from the cockpit; halyards and reefing are managed from the base of the masts. Having a mast stepped on or through a raised cabin means perching on the roof of the cabin to raise, reef, lower, furl, or cover the sails. Yes, halyards and reefing lines can be led through turning and snatch blocks to the cockpit, but this adds friction and wear. Any snags or twists in the lead still requires a trip to the mast base. Balancing yourself on the highest platform on the boat, well above coaming and lifelines while gazing upward and wrestling lines with your free hand? No problem on a calm sunny day; big problem offshore in a gale. Both masts on Tien Hou penetrate flush decks. The foredeck is lowered so it sits near the same level as the cockpit sole. When working the sails or anchor, you are behind foot-high solid bulwarks and lifelines 3' above your feet. For me, the security of being "in the boat" instead of "on top of the boat" when it's rough is worth the discomfort of sitting cross-legged for meals.

What's with the head in the cockpit?

Yes, that's . . . different. Discussion:

Pros

- No smells or noises in the sleeping, cooking, or eating areas. Exposure to the sun and wind keeps the head compartment airy and dry.
- The toilet sits higher than the holding tank and flushes by gravity through a standard 4" diam. pvc pipe. No flush pumps or small sewer lines to clean out when they inevitably clog. If a user still manages to clog a 4' pipe (!) it can be handled with a plunger. Flushing water is filled by an electric pump, but in the event of its failure, the toilet flushes just as well when filled with a bucket of saltwater.
- When single handing, the helm with its instruments and 180 degrees of horizon are visible by opening the door without departing the throne. Could save your life!

Cons

- It's in the cockpit. People adjust.

Enhancements and upgrades

I don't particularly enjoy repairing things, so when I come across a problem I endeavor to fix it in a way that avoids having to fix it again. If I see anything that I even suspect may need fixing one day, I try to preemptively upgrade it so I won't have to fix it in the future (I'm likely borderline OCD). Some examples follow.

When installing the keel lifting hardware and the keel, I noticed some wear on the sides of the keel opening slot. I added strips of high density polyethylene (HDPE) to the inner sides of the trunk and encased the keel opening in 3" HDPE channel as a sliding bearing and cushion surface to eliminate all play between the keel and hull. I also used HDPE in the form of split HDPE pipe to make large, extremely rugged rub rails after I damaged the wooden ones while rubbing on an ugly wharf. I no longer fear even concrete docks.

Carbon fiber has been used in a few select locations to upgrade stiffness and resist wear. The keel trunk sides have it around the support beams and the locking pin receivers. When I calculated a slightly larger

but lower pitch prop would be an improvement (it added nearly a knot to max speed), it necessitated enlarging the propeller opening by removing some deadwood ahead of the rudder. To compensate for the loss of material so near the rudder post, I wrapped the lower skeg in two layers of carbon woven roving. Likewise, after removing the masts for painting, I strengthened the mast partner openings with a lining of carbon roving. More carbon wraps the very top of the main mast where the truck (the "crown" the shrouds and stays attach to) rests.

Sailing

Reule called Tien Hou the most comfortable boat he's ever owned. I've confirmed that with years of living aboard. She is also made to move- a joy to sail. In spite of her size, (which adds a stately, lower-frequency pace to boat handling) she is easily single handed. Her rigging utilizes the safe, quick, efficient (and thrifty) methods and gear working sailors optimized in the 19th century. Things just . . . work.

It takes the mizzen staysail to get much speed under very light air. As winds approach 10 knots, she steps out; above 20 she gets impressive, and is quite the sled on a broad reach offshore. With her keel raised she slides down swells like a 50' surfboard under perfect control (I've hit 15 knots)! Like any gaff rigged vessel, she does not pinch well on a beat. If I need to make time to windward, I do what Reule suggested – use the jib and mizzen as excellent steadying sails and motor sail.

When winds get much over 20, the flying jib should be reefed – the large main provides plenty of drive. In higher winds, the main is easily reefed or lowered because the gaff lays the sail down quickly and surely between the lazy jacks. In winds over 30 knots, it's easier to drop the main altogether than put in a second reef; she's well balanced and (because of her light displacement) easily driven under jib and jigger alone in those conditions.

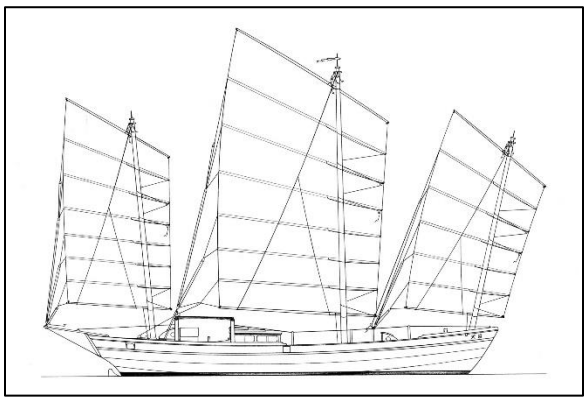
A Friendly Warning

A new owner will have to get used to something – being noticed. Tien Hou garners attention wherever she goes. Not just from avid sailors – people who have never sailed whip out camera and shout "Beautiful boat!" from shore or passing motorboats. Minor crowds congregate at inlets or marina entrances as she passes. When I anchored in Maine in reclusive The Basin, a local couple rowed out to say "It's an honnah to have you in our hahbah." It can get embarrassing, but I can't argue with them. I felt the same when I first saw her.

PHOTOS

Tien Hou at anchor ←

Tien Hou on broad reach ←



Tien Hou with original junk rig ←

Namesake: Chinese Goddess of Heaven ←

PRAGMATIC BEAUTY

by Donnie Mullen

The Vietnam War changed the course of Reuel Parker's life. In 1967 he was a junior at Columbia University in New York, studying mechanical engineering and music. His college enrollment should have protected him from the draft, but a bout of bronchitis had left him one credit below the draft deferment minimum. At the age of 21 he found himself plucked from school and deposited into the Army.

A nonviolent Unitarian, Parker refused to kill people, and during basic training he formally enlisted to avoid being assigned to the artillery. "The military was a nightmare and it radicalized me," Parker recently said. "It derailed a formal career in engineering or physics."

Unfortunately, he received orders that would lead to the frontlines. Pushed to his moral limit, he deserted. "I was dropped straight out of being a good college kid right on down to being terrified on a daily basis," he remembered.

After eight months, Parker turned himself in as a conscientious objector. He was discharged "for the good of the service," and was immediately faced with the need to earn a living. He worked as a carpenter and musician.

In 1971, he moved to San Francisco, where, within three years, he owned his own contracting business (cowboy style: no license, no phone) specializing in high-end residential and commercial construction. He also began to experiment with architecture. Socially, he explored alternative communities and spent a few years living in a commune in the redwood forest. When

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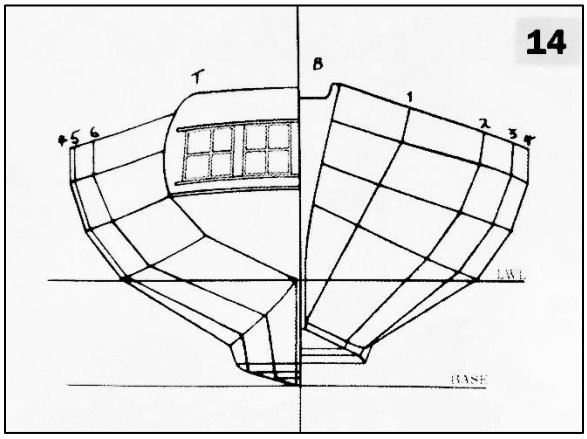
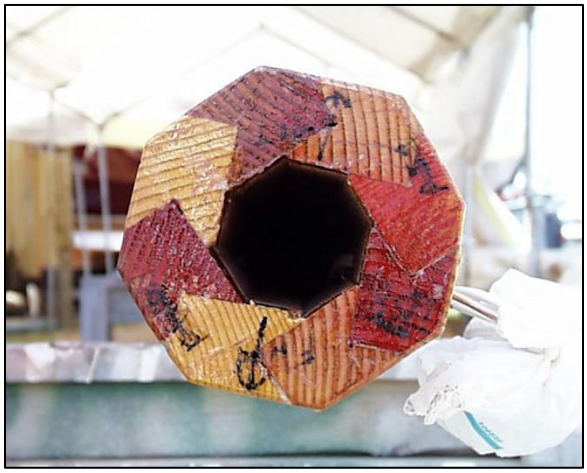
Wooden Boat article on Tien Hou ←

NYC skyline ←

Bird & beard ←



Tien Hou body plan ←

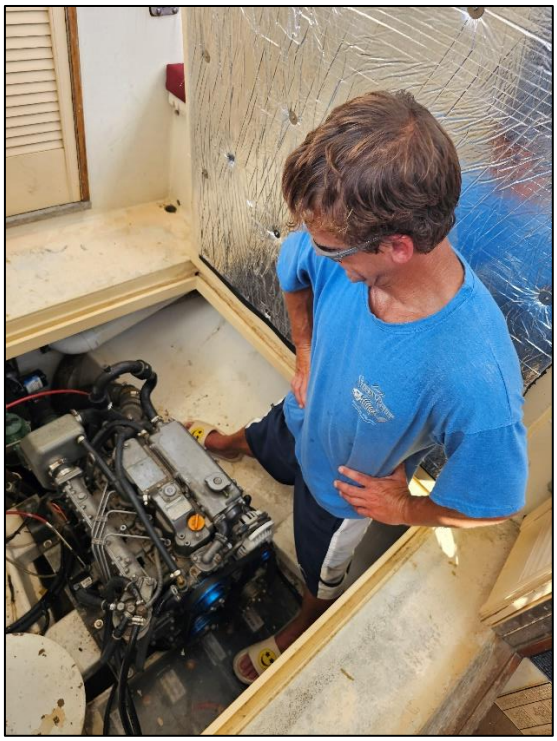


Hollow box mast construction ←

Tien Hou at rest with 10’ Gig Harbor dink ←

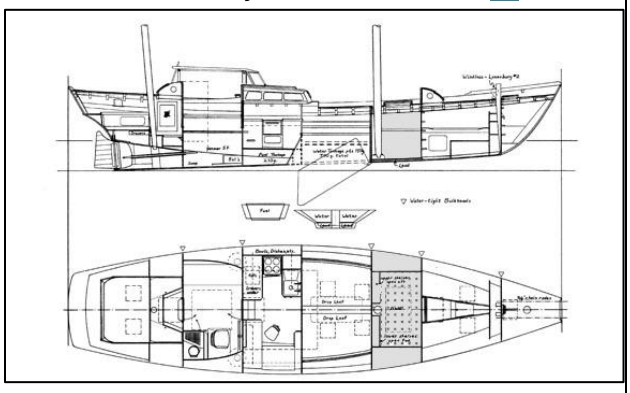
Captain’s desk ←

Galley ←



Engine access ←

Trestle tree and staysail boom traveler ←

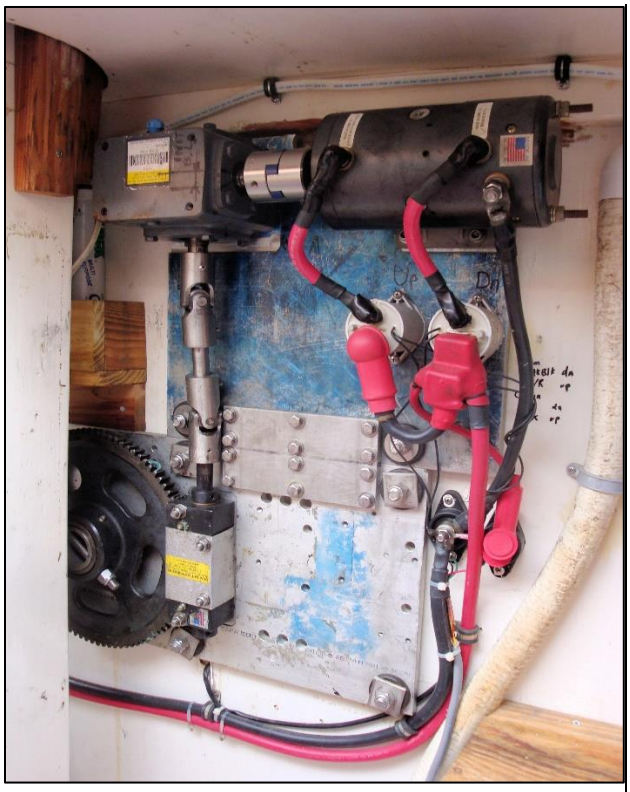


Profile & plan - cargo hold is shaded area ←

Keel with wing, fully extended ←

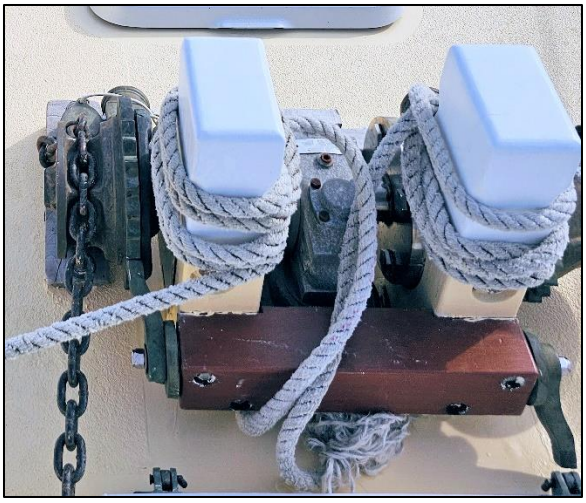
Keel trunk with Lexan cover opened ←

Support beams on trunk *(under constr'n.)* ←



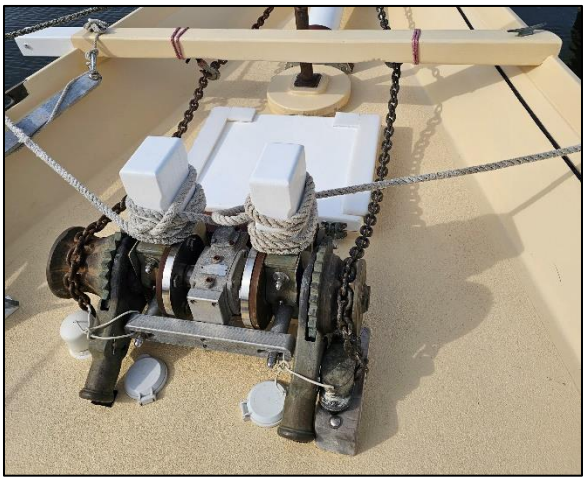
Keel lift drive and transmission ←

Lockdown rods folded on top of keel flange ←



Samson posts ←

Original Lunenburg manual windlass ←



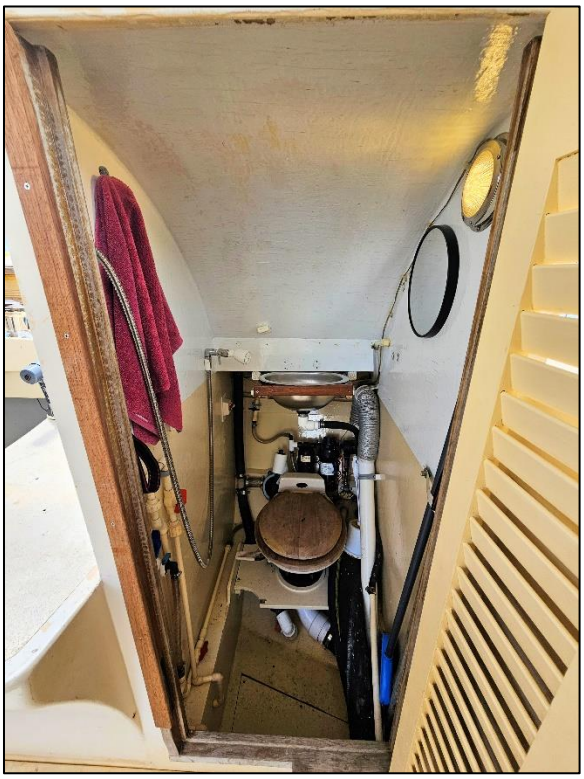
Windlass with electric drive conversion ←

Starboard berth, table folded ←

Starboard berth, table up ←

Foredeck workspace ←

Head compartment ←



Head Interior ←

Helm, from inside head compartment ←

Reinforced keel slot ←

Head light ←

Rub rails ←

Enlarged and reinforced skeg ←


Reinforced main mast top ←


Anchored in Maine fog ←