Good Old Boat

The sailing magazine for the rest of us!™

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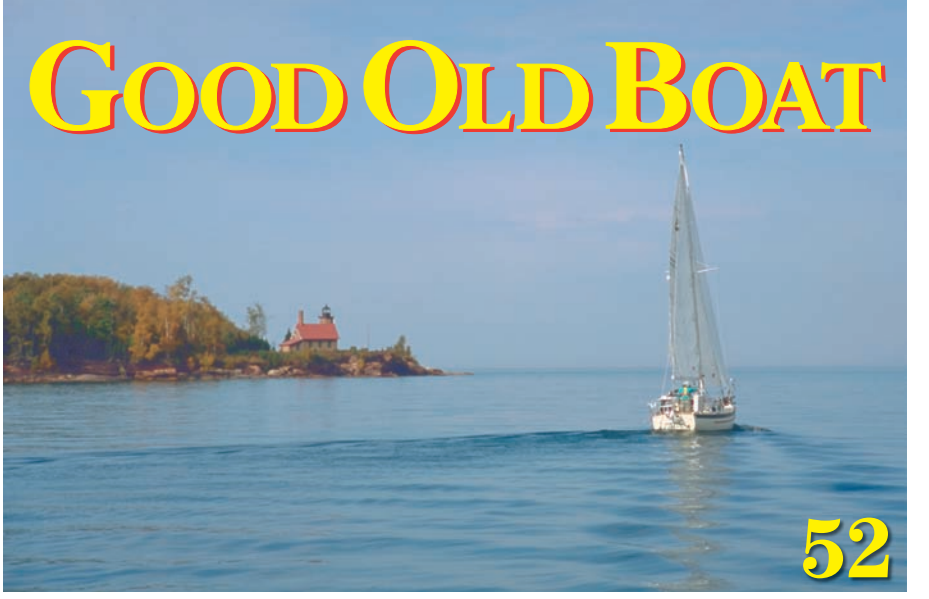

For the love of sailboats

Speaking seriously

About the cover . . .

Michael Hewitt, whose photo appeared on our cover in July 2005, did it again. This image is of *Concordia*, his 1979 Valiant 32, at Descanso Bay near Avalon on Catalina Island, just off the coast of Los Angeles.

Just for fun

What's more

GOOD OLD BOAT

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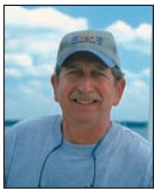
Our contributors

In high school, **Barry Hammerberg** (*Scorpio 35 refit*, Page 4) rebuilt a Snipe and learned to sail. Before too long, he was building fiberglass canoes and kayaks. Midwesterners, he and his wife, Ruth, owned a charter boat in the Florida Keys and have sailed the BVIs and Leeward Islands.



Gregg Nestor (*Newport 30*, Page 8; *Simple solutions: New sun cover*, Page 74) is a contributing editor with *Good Old Boat*. More than 20 years and four boats ago, he discovered sailing and has been an avid trailersailor ever since. He and his his wife, Joyce, sail an O'Day 222, *Splash*.

Richard Smith (*Uffa's great lifesaving design*, Page 12) has owned and built several boats, sailing them in the Irish Sea and Puget Sound. These include an Atkin Red Onion sloop, a 30-foot Alan Pape steel cutter outfitted from a bare hull, an Atalanta 26, and five dinghies. A retired architect, he and his wife, Elizabeth, built their own house which is as much like living aboard as the codes will allow.

Geoffrey Toye (*Fearless foresheets*, Page 17; *Simple solutions: The admiralty hitch*, Page 76) lives in a beach house near Cardigan on the west coast of Wales. He's been involved with small craft for more than 40 years. A writer and journalist, he has published several books.

Fritz Seegers (*illustrator: Fearless foresheets*, Page 17; *The miracle overhead*, Page 29; *Every spring, a bump on the head*, Page 41) has documented Lakes Michigan, Huron, and Superior in his illustrations while sailing in his hand-crafted boat, *Alwihta*. In 2001 and 2003, he circumnavigated Lake Superior, joined by a rotating group of artists. These trips resulted in traveling exhibitions called "Reflections of Superior" and "Maritime Odysseys and Woodland Encounters." His website is <http://www.fritzseegers.com>.

Bob Brintnall (*Confessions of a bottom feeder*, Page 20) is a teacher, writer, and sailor who sails in the neighborhood of Traverse City, Michigan, and beyond. These days he's sailing *Windancer*, a Catalina 30, but he's always stalking the boatyards, classified ad sections, and rumor mills in search of the next great adventure.

Three-time circumnavigator, **Hal Roth** (Whisper's *unique prop placement*, Page 25) has sailed 200,000 miles, much of the time with his wife, Margaret. He is the author of 11 books on sailing, including *How to Sail Around the World*, *The Hal Roth Seafaring Trilogy*, and *We Followed Odysseus*.

Henry Cordova (*The miracle overhead*, Page 29; *The San Francisco Pelican*, Page 46) is a geographer/cartographer who has been a sailor of the military persuasion (U.S. Naval Reserve on the USS *Dewey*) and of the recreational variety (a San Francisco Pelican and a MacGregor 22) for most of his life. He has sailed extensively along the Gulf and Pacific Coasts. Besides sailing, he enjoys amateur astronomy, celestial navigation, and writing.

Kathy Conlan Phillips (*The greenhouse effect*, Page 34), and her husband, Ken, have been boating for 25 years, exploring the San Juan Islands, the Canadian Gulf Islands, Vancouver Island, and the Inside Passage to Alaska from their home berth in Bellingham, Washington. *SeaSund*, a SeaFinn 41 Pilothouse, is their summer home afloat. Kathy is a writer, video producer, and corporate marketing consultant.

For more than 30 years **Bonnie Dahl** (*When the lettuce is gone*, Page 37) has sailed all over Lake Superior with her husband, Ron, writing that lake's best cruising guide, *Superior Way* (now in its third edition). The two have also twice transited the Great Lakes and cruised the eastern Caribbean and South America aboard their Columbia 10.7, *Dahlfin*.

Don Davies (*Every spring, a bump on the head*, Page 41), a freelance writer, sails a 1974 Grampian 30. He lives in Toronto, Ontario, and sails Lake Ontario with the North Channel and Georgian Bay as favorite destinations.

Don Launer (*Nautical Time 101*, Page 42) is a *Good Old Boat* contributing editor. He has held a USCG captain's license for more than 20 years. He built his two-masted schooner, *Delphinus*, from a bare hull and sails it on the East Coast from his home on Barnegat Bay in New Jersey.

John Irving (*Scenes from a sailboat*, Page 44) began sailing dinghies when he was nine years old. He has since sailed in Canada, New Zealand, and along the coast of Maine. He currently sails his Alberg 30 in the Penobscot Bay area of Maine.

Dan Spurr (*Pacific Seacraft's evolution*, Page 52) is research editor with *Good Old Boat* magazine. He has written a score of boating books, including *Spurr's Boatbook*, *Yacht Style*, and *Heart of Glass*.

Loren Lyndaker (*Hard dodger*, Page 58) is a high-school math teacher and **Betsy Lyndaker** is a retired nurse. They have owned their Cape Dory 27 for almost 20 years and have been sailing Lake Ontario for 22 years. They have completed other improvements such as repowering with a 2GM Yanmar and interior cabin remodeling.

Silver Donald Cameron (*Quick and easy: Tires as fenders*, Page 70) is the author of several books about ships and the sea, including the award-winning *Wind*, *Whales and Whiskey*, the story of a circumnavigation of Cape Breton Island in his then-engineless cutter, *Silversark*. He lives in D'Escousse, Nova Scotia.

Phillip Reid (*Quick and easy: Spreader guards*, Page 71), his wife, Andie, and certain other miscreants sail their 1977 Pearson 28, *Mis Bohicket*, out of Wilmington, North Carolina. They finished a five-year refit in the fall of 2005. When not sailing, writing, or boat-grubbing, Phillip teaches a college history course.

Al Lorman (*Quick and easy: Mechanical eye-splice*, Page 72) moved to Washington, D.C., after graduate school to work as a reporter. After a short stint in journalism, he was led astray and became a lawyer. His first boat was a 1965 Pearson Commander. He now sails a Freedom 30 on the Chesapeake and has just bought another good old boat, a 1979 Dyer Dhow that the seller insists has never been in the water.

Alfred Poor (*Reflections: In praise of boatyard tools*, Page 89) grew up sailing on the Chesapeake Bay on his father's boats but only became a partner in his own good old boat, a 1969 Cal 29, named *Pentaquod*, eight years ago.

Four cruising rules

Learn the only real essentials for success

by Jerry Powlas

I RECENTLY READ A PREDICTION THAT IT IS ONLY A MATTER OF time before anyone who is so brave and presumptuous as to command a sailboat will be required to take tests and get a license which permits such. Lacking the license, you may not. That sort of thing already exists in Europe and other countries, and marine safety authorities are considering bringing the practice to the USA.

I'm all for safety and, in the case of sailing boats, I enthusiastically recommend that skippers and crews study their art, learning navigation, rules of the road, weather, and the other relevant skills. The study and the learning make the hobby not only safer but also more enjoyable.

I do not, however, believe that regulators and the regulations they require will make sailing safer. Such things will just make sailing more complicated, bureaucratic, expensive, and less fun.

"These are the cruising rules that Karen and I derived during one of our early cruises."

There are some rules that I recommend, however. I say "rules" in an effort to make a sort of peremptory strike. Actually, I have no more right to make rules than anyone else does and even less right than the regulators who would make sailors safe . . . if only they could.

These are the cruising rules that Karen and I derived during one of our early cruises. It was a happy time when we were learning about our boat, our cruising grounds, and ourselves. We have never seen the need to modify the rules nor add to them, although Rule Four came a bit later than the others.

I offer them here in the hope that regulators will consider these as the necessary and sufficient knowledge needed to cruise successfully . . . all other matters being minor.

Rule One
Eat the muffins when they are hot.

Rule Two
Use the smallest hose clamp that will work.

Rule Three
Never sail downwind with more sail than you can carry upwind.

Rule Four
In the morning, at anchor, tea should be served in bed before any other activity, no matter how pleasurable, is contemplated.

There now. I can only hope that when the regulators come to make us all safe from our hobby they will consider these rules as the basis for testing and licensing a skipper to command his own boat.

Independent of these well-meaning regulators, the real tests are, of course, administered on the water. The tests are not devised by mortals. No two tests are exactly alike, and you must take one every time you uncleat your docklines. All grades are pass or fail. However, the skipper is given extra credit if the crew is smiling when the boat returns to her berth.

Ever thus.

New products page

We have created a new regular column which will allow us to share some new marine products with you as they come to our attention and if they seem relevant to the sort of cruising done by good old boaters.

We're calling the column Product Launchings. This makes sense to us since new products, like boats, must be launched to some acclaim.

To be featured on this page, the items must be brand-new products. But all products, like boats and even people, had to start out new before they could earn their due respect with the title of "good old." We're going to keep an eye on those we select as being worthy of mention.

Our first effort in this direction is on Page 79. Please let us know what you think. As always, if you contact a marine supplier mentioned in our pages (*anywhere* in our pages), please tell the folks there that *Good Old Boat* sent you. That's the best thing you can do on our behalf. It reminds the marine suppliers and our advertisers that good old boaters are indeed a force to be reckoned with.

Refit

Scorpio 35 refit

Hard work (plus cash) saves a classic from the scrapheap

by Barry Hammerberg

Strider's clean white deck and the rich red paint job attracted our attention as she floated in her slip at Sugarloaf Marina in Port Colborne, Ontario. She looked new, yet she displayed classic lines. Intrigued, we wandered over to talk to Dave MacMillan, the owner, and learned that she had gone through a major refit.

Dave's brother, Joe, frequently cruised to the marina in Dover, Ontario. As many sailors are, he was interested in orphaned boats, those that were sitting on cradles while others were sailing. Lost souls. He returned often to a flashy red-hulled sailboat that had been sitting in the parking lot for several years. He mentioned to Dave that this could be a very nice project boat; it just needed a little work. As Joe kept an eye on the boat, the price dropped annually from $69,000 through $29,000 to $20,000 (all prices in Canadian dollars). Dave decided to take a look.

He and Joe headed to Dover one rainy day. As they pulled into the yard, Joe pointed out the boat. Even in the rain, the hull glistened, beckoning. She was bright red with a gold stripe accentuating her burgundy cap stripe, a nice paint job. This was not exactly Dave's choice of colors, but she was attractive. He and Joe climbed her ladder. There they found a dirty, spongy deck with areas that flexed to the point that Dave feared falling through. Inside the cabin it was raining just as hard as it was outside; water was dripping from the overhead. The broker agreed that the boat was about a season from becoming a total scrap, yet it appealed to Dave. This roomier 35-foot project boat, when finished, would be larger and more comfortable than his family's Halman 27. All that was needed was a little money and a lot of work.

> "The broker agreed that the boat was about a season from becoming a total scrap, yet it appealed to Dave."

Made an offer

Dave brought his wife, Diane, to look at the boat. After some thought, they made an offer and bought the boat for $12,000, about the cost of the paint job on the hull. They were now the new owners of a Scorpio 35, vintage 1981. It sorely needed attention. Undaunted, Dave figured others had done it, and he could too. He had space in a heated building built for his earth-moving equipment. He had the boat hauled to his shop to begin the restoration.

The first thing on his list of projects

A newly completed *Strider* on facing page, is not to be missed in the middle of the other boats in the Buffalo Yacht Club basin before the Lake Erie Cruising Race.

— before it caved in — was the delaminated balsa core deck. Dave decided to leave the interior in place to support the deck shape while they worked on it. He removed all deck hardware and fittings: cleats, turning blocks, ports, everything. To preserve the original shape of the deck, Dave and Joe cut the outer skin off the deck in sections.

Dave was amazed at how thin the skins were. He later learned the engineering principle of a cored structure that uses thin skins over a lightweight core to increase stiffness without creating excessive weight. As suspected, the core was wet and, in many areas, rotted. Much of it was literally wood pulp that could be cleared away with a putty knife and wire brush. A portable router with a bit set to the thickness of the core cleanly removed the remaining balsa wood.

They set about rebuilding the deck. Section by section, they sanded the inner skin and troweled on a layer of filled epoxy. They pressed new end-grain balsa core in place and vacuum-bagged it using a small medical vacuum pump and clear film. The film allowed them to see the epoxy flow through the core as the vacuum pressed it tightly to the inner skin.

After a section of impregnated core hardened, they sanded it, troweled another layer of filled epoxy over the core, and set the outer deck skin back in place. The vacuum was again applied to clamp the outer skin in place. They repeated this process until the entire deck was re-cored. As they progressed, they filled all the holes in the deck, including the old portholes. They added solid reinforcements where deck hardware would be placed. They also added ABS plastic core for a pair of genoa tracks.

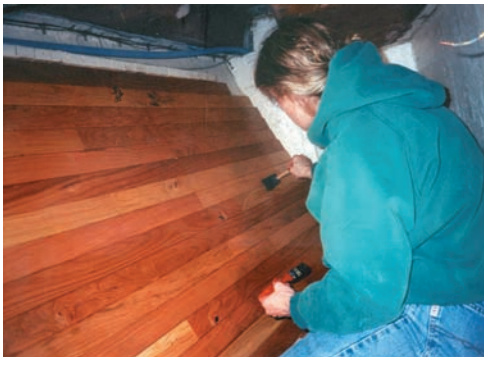
Sanding and priming

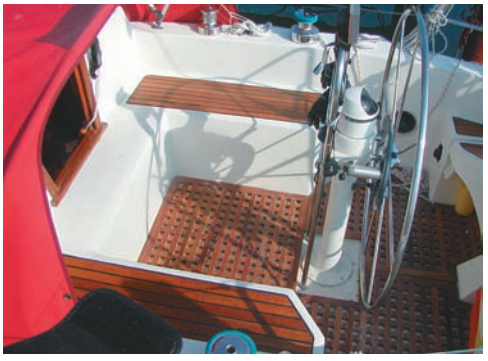
Once the deck was structurally sound, Dave and Joe went to work on the boat's appearance. They applied epoxy and fiberglass over the cuts they'd made in the outer skin. Now came what Joe calls the boring part: sanding, applying epoxy primer, and sanding, repeating the steps until the surface was true. Then the deck was sprayed with Awlgrip epoxy primer and sanded to a better-than-factory-smooth finish. They followed this with a spray coat of Griptex mixed with the first coat of Endura two-part polyurethane. A second coat of white Endura sealed the non-skid. The deck looked like it had just been released from a factory mold: fair and high gloss with no holes or cutouts.

During deck reconstruction the cockpit seats were slightly redesigned with rounder edges to make them more crew-friendly. The teak planking on the seats was replaced. The original teak cockpit floor grate also needed sanding and oiling, but it was then reused.

Dave remounted deck hardware in the original locations and added new running lights and genoa tracks. He cut new port openings and installed modern ports. Below the waterline he

Dave MacMillan bonds the deck skins back together, above, after the top skin was vacuum-bagged in place. Other views at right from top: the balsa core is vacuum-bagged; Diane MacMillan wet-sands the deck between layers of paint; the bow during painting; the cockpit at a similar stage; and Diane does finish work on the cherry tongue-and-groove planking which lines the hull.





Images at left: the completed cockpit and the completed deck. In the center: the completely rebuilt head and the power panels. At right: the saloon and the galley.

and Joe stripped the hull of all paint and gelcoat. Dave located templates and faired the keel. This task was complicated by the fact that previous owners had bought a shoal-draft kit, cutting the draft to 5 feet 4 inches and crudely adding a half bullet to each side of the base of the keel. Dave and Joe faired these to create a smoother transition. They applied Interlux Interprotect 2000 barrier coating below the waterline, following the manufacturer's instructions. Interlux VC-17 provided the final finish.

Interior shambles

A year into the project, the exterior of the boat looked great, but the interior was still in shambles. It would have to be rebuilt. The layout didn't suit Dave's needs, so he gutted the interior during the second winter of the project. Only the head remained in place, sans walls. He discarded all plumbing and wiring. He checked the hull's balsa core and found it to be OK except for some damage around the through-hulls. These areas were cut away and rebuilt to eliminate future seepage.

Dave redesigned the interior with two aft quarter berths, a port galley, opposed saloon benches, and V-berth. He created a navigation station starboard aft of the head with cabinets to accept the electrical panels and electronics. It looked good on paper. Now it was time to build it.

He installed new cherry bulkheads, defining the cabin layout. He built cabinetry using cherry wood that was tabbed in place. Then he bonded ¼ x 2½-inch strips of plywood to the hull on 12-inch centers. He attached tongue-and-groove cherry planking with polyurethane glue and brads, effectively lining the hull — even behind the cabinets.

Dave planed and grooved all the cherry planking from rough kiln-dried stock. He ran out of planking and had to set up to make more, making a mental note to overstock next time he calculated a project. Because he only needed to make one or two of everything, he felt he never got efficient at making any single component. The wood was finished with satin-rubbed-effect varnish to naturally darken the wood to a rich warm look.

Cherry battens

He bonded wood strips to the overhead to accept screws for mounting off-white vinyl wrapped panels. Cherry battens held the overhead panels in place. The results looked professional.

During the construction of the interior, Dave installed 12v DC and 110v AC wiring and led this to the new panel locations. The electrical cabinets were built with key locks that opened to reveal wiring and junctions, all arranged for easy service. The interior is stunning.

The engine had low hours and was in good condition. A new, 2-bladed folding propeller finished the propulsion system. Dave was able to clean and reuse all the original tanks. Fortunately, the sails were good enough for a season, allowing him to select a new inventory based on future needs after sailing the boat for a season. The current sail inventory is a 2004 main; a light and heavy #1, circa 1985; a Mylar #2, circa 1995; a #3, circa 1990; a cruising spinnaker; and two symmetrical spinnakers.

> **In these races *Strider* was a real eye-catcher. She is essentially a new boat with classic looks.**

Twenty months passed before this awesome project was completed. The boat was christened *Strider* and launched July 2, 2003. Unfortunately, Dave's work prevented his attendance at the launching, but Joe and his wife, Linda, helped the yard step the mast. Joe delivered *Strider* to Dave's slip without incident.

When I asked if he had ever looked at the mess and wondered what he'd gotten into, Dave replied that he'd enjoyed every step because it was a learning process and a challenge. The results, he said, were always gratifying. He had Joe, Diane, and another friend, John, to help him throughout the project.

Longer than expected

"What was the worst part?" I wondered. "The last few weeks were hard because every step seemed to take longer than expected," he told me. Joe noted that sanding was the part he liked least. Looking back later, Dave said he'd figured the project wrong. He had expected a lot of work and a little money. Well, he'd missed the target on the cost. He figured he had about $30,000 Canadian in the refit. Based on the results, it's still a bargain.

Strider races out of Port Colborne, Ontario, in the Wednesday-evening fleet. We caught up with Dave and had the chance to take photos during the 2005 Lake Erie Interclub Race series (three distance races between the U.S. and Canada and two triangular courses). In these races *Strider* was a real eye-catcher. She is essentially a new boat with classic looks.

When asked why he chose the name *Strider*, Dave replied, "When I read *Lord of the Rings*, I felt Strider was a cool character: a ranger who quickly and quietly roamed the kingdoms." To Dave, that's what sailing is all about: quietly and quickly roaming the seas. That's exactly what *Strider* does.

Scorpio 35

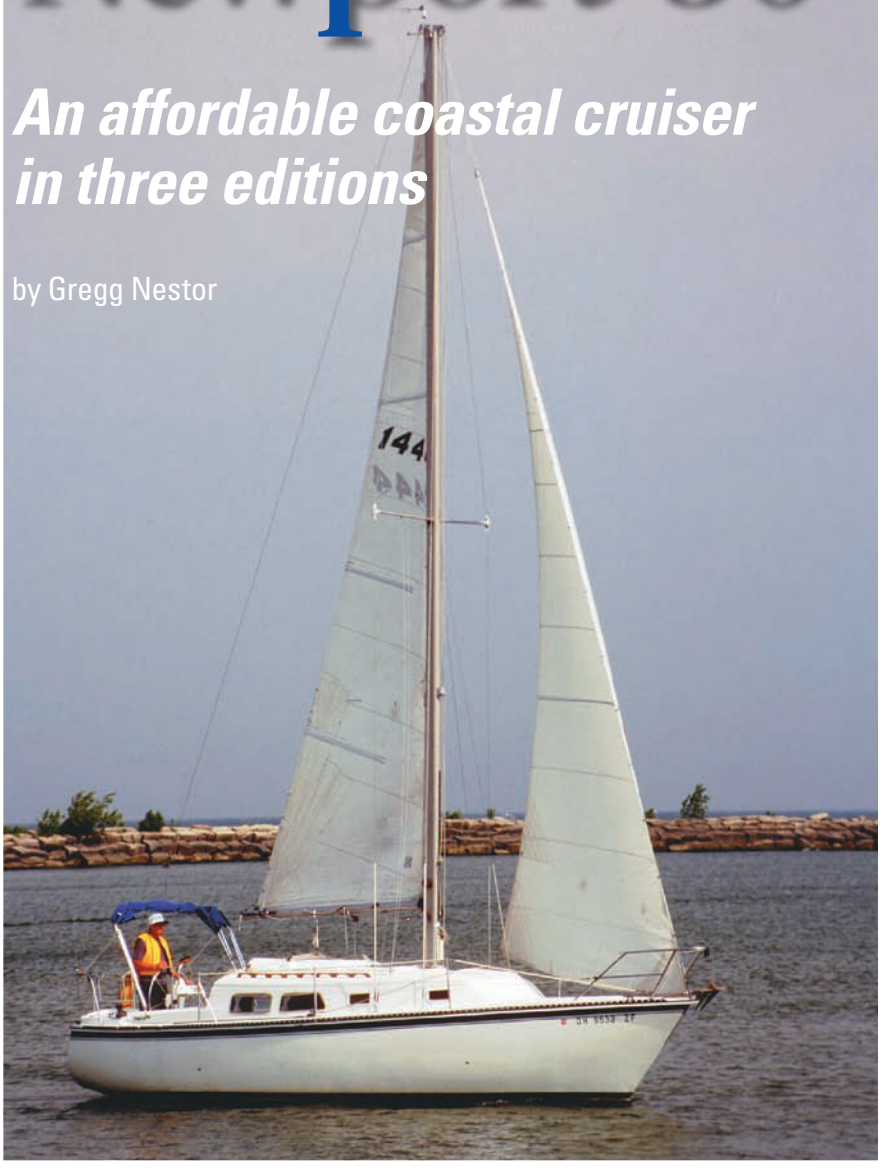
Builder: Scorpio Yachts
Located: London, Ontario
Year: 1981
LOA: 35 feet 0 inches
LWL: 26 feet 6 inches
Draft: Was 5 feet 10 inches; Mars Metal bulb kit shortened to 5 feet 4 inches
Beam: 11 feet 2 inches
Engine: Yanmar 2GM (15-hp)
Tankage: 15 gallons fuel, 30 gallons water, 30 gallons holding tank
Construction: Balsa-cored fiberglass deck and hull

Payoff time after all the hard work: *Strider* sails beautifully. *Strider's* chute is up for a light-air Tuesday-night race.

Newport 30

An affordable coastal cruiser in three editions

by Gregg Nestor



During the 1960s and '70s, Southern California was home to the world's largest builders of fiberglass sailboats. While Columbia, Cal (Jensen Marine), and Islander (Wayfarer Yacht Corp.) dominated the market, a number of smaller builders also cashed in on the fiberglass revolution. Among them was Capital Yachts, builder of the Newport model line, ranging from the Newport 16 daysailer to the big Newport 41.

East Coast origins

For close to 10 years, Bill Smith and Jon Williams had been retail sailboat dealers in the Greater Santa Monica Bay area. Both were accomplished sailors and racers and, as part of their retail businesses, each performed commissioning and warranty repairs. Also, both were sailing and selling Newport sailboats manufactured by Elgin National Industries, headquartered in Chicago, Illinois, with a manufacturing facility in New York State.

Bill and Jon believed they could improve on Elgin's quality yet still offer customers a line of open-water sailboats that would sell at a low, fair-market price. The odds for success weren't in their favor. However, their experiences and desire, coupled with the aid of their banker, Sandy Greenberg, made their dream a reality.

Wanting to concentrate on engineering, mining, and industrial manufacturing, Elgin National Industries elected to divest itself of its sailboat subsidiary. In 1971, Bill and Jon formed Capital Yachts, Inc. and bought the tooling for the Newport fleet from Elgin.

They moved the manufacturing process to Harbor City, California, and contracted the design firms of Cuthbertson & Cassian (see *Good Old Boat*, September 2002 for the full story of C&C) and Gary Mull (*Good Old Boat* November 2002) to develop designs for a new and updated fleet of Newport sailboats. Their first year's production was pre-sold and, initially at least, they had a large and steady backlog. Along with the Newport line, Capital Yachts Corporation went on to build Neptune and Gulf sailboats. But boatbuilding is a tough business, and their good fortune did not last. In 1996, Bill Smith and Jon Williams were forced to close the doors.

Gary Mull design

After several false starts, designer Gary Mull made it big as a naval architect. A few of his credits include the Santana 22, 27, and 37; the Ranger 22, 23, 26, 32, 33, and 37; the Freedom Independence 28, 30, 36, 42, and 45; and the Newport 30 and 33. He died in 1994 at the age of 55.

Introduced in 1973, the popular Newport 30 went through several design modifications during its production run, which lasted from 1973 well into the 1980s. While not intended or built as an offshore boat, with reasonable refitting the combination of the Newport 30's fast hull and roomy interior makes for a competitive and rewarding coastal cruiser and club racer.

As originally designed, the Newport 30 displays a rather straight sheer that harmonizes well with the boat's sharp stem and straight stern. The cabintop carries its lines forward to the stemhead, while the portlights are sized to match the roof height. These two features, along with the cove stripe, work together to deepen the curve in this flattish sheer, making it look more traditional. Underwater, the powerful hull carries a scimitar-shaped keel and rudder, which at the time were thought to be most efficient.

This initial design was in production from 1973 to about 1975. Modest changes were then made, and the Mk II version was offered from 1976 to 1985.

In 1986, the Newport 30 Mk III was introduced. While the original Newport 30 and the Mk II designs were drawn by Gary Mull, the Mk III is listed as being designed by the Capital Yacht design team. That means a member of the in-house design team reworked the original lines. Nevertheless, the boat is obviously very similar to its predecessors. The scimitar-shaped keel and rudder gave way to more modern high-aspect-ratio appendages (see drawing on Page 10) and the ballast was slightly reduced. Instead of an inward flange hull-to-deck joint, the Mk III's joint was changed to an outward-facing flange. This probably accounts for the Mk III having 3 inches more beam than the previous two editions.

Construction

Construction of the Newport 30 is straightforward and typical of the era. Both the hull and deck are hand-laid, as opposed to being laminated with a chopper gun. The hull is solid and is comprised of up to seven layers of multidirectional mat and 24-ounce woven roving, a heavy fabric used for quickly building laminate thickness. The deck is cored with a synthetic material called Glasspack. In areas that require both sheer and compression strength, the Glasspack was replaced by marine plywood. The hull-to-deck joint was mechanically fastened with aircraft rivets on 6-inch centers and the seam sealed with fiberglass mat and resin.

To reduce labor costs, the Newport 30 has a fiberglass pan that incorporates basic furniture, like berth foundations. The pan's horizontal surfaces are cored with marine plywood and the unit is bonded to the hull with fiberglass roving. Earlier models featured a molded fiberglass headliner with teak accent battens and trim, while later editions came standard with a padded vinyl headliner. The latter makes it possible to tab the bulkheads to the deck with fiberglass fabric, which is not possible with the fiberglass headliner. According to Bob Johnson, a former Newport dealer and owner of our review boat, *Valkyrie*, some boats with the padded vinyl headliner had bulkheads tabbed to the deck, while on others they were not.

The keel is made of lead. In addition to being epoxied to the hull, the keel is fastened to the boat by means of galvanized-iron keel bolts. Completing the process, resin-saturated fiberglass cloth covered the joint. Inside, a resin and asbestos mixture was poured into the hull's keel recess, covering the keel bolts and permanently locking them in place.

On-deck features

Situated between the forward mooring cleats is a very deep anchor locker, capable of storing at least two anchors and rodes. Also conveniently located in the locker is the deck-fill plate for the 70-gallon potable water tank nestled beneath the forward end of the V-berth. The anchor locker's hatch is fitted flush for obstruction-free footing, however it lacks any means with which to lock it when closed.

The sidedecks are 14 inches wide and, like all the deck's horizontal surfaces, feature a molded-in non-skid pattern. However, the inboard-mounted chainplates and the headsail tracks clutter the sidedecks a bit.

Forward on the cabintop is a flush-mounted opaque fiberglass hatch. Just forward and to port of the mast is an optional small hatch over the head compartment. And just aft of the mast is a flush-mounted smoked Plexiglas hatch, followed further aft by the sea hood. There are four opening

Bob Johnson's Newport 30, *Valkyrie*, heads out to sea, facing page. This page: the companionway (which lacks a bridge deck), the cockpit sole engine access, and the steering station.

portlights, two forward on each side, followed aft by four larger fixed portlights, two per side.

For safety, there are double lifelines, a stainless-steel bow pulpit, and a stern pulpit with centerline swim ladder. A pair of teak handrails mounted on the cabintop and a slotted aluminum toerail complete the picture.

The Newport 30 featured a T-shaped cockpit with tiller steering as standard equipment. Wheel steering was offered as an option. If fitted with a wheel, the emergency tiller attachment fixture, located directly underfoot, can be a tripping hazard for the helmsman.

The seatbacks are 12 inches high, including coamings, and provide fair back support and bracing. For stowage, there's a lazarette with access beneath the helmsman's seat and a port cockpit seat locker, which also provides access to the engine and packing gland. The companionway is large. There's no bridge deck to prevent a pooped cockpit from emptying water below. Four small scuppers are provided to clear water out of the footwell.

Belowdecks

The forward compartment of the Newport 30 features a generous V-berth with insert. The port portion of the berth is 7 feet 8 inches in length, while the starboard portion is only 6 feet long. This shorter side allows for the placement of a four-drawer locker just forward of the large starboard hanging locker. Spanning the tops of both is a convenient bureau top. The door to the hanging locker is oversized and can be swung out across the passageway to create a stand-up changing area and to give the forward cabin some privacy. There are lockers beneath each leg of the V-berth and a pair of outboard shelves. The forward hatch and two opening ports ventilate this cabin.

On the port side, just aft of the V-berth and across from the hanging locker, is the very roomy head compartment with a molded fiberglass sink, head, several stowage lockers, and a shower sump with teak grating. The handheld shower performs the dual duty of showerhead and sink spigot. While many Newport 30s have been upgraded to include pressurized hot and cold water, it came standard with manual cold water. An opening port provides illumination and ventilation and a teak door closes the space for privacy.

The saloon is configured with a straight settee to starboard and an L-shaped settee to port. While the starboard settee functions as a single berth, the port settee converts into a double by lowering the bulkhead-mounted table and rearranging the settee cushions. A pair of teak handrails is overhead for safe maneuvering. Behind the port settee is a pair of lockers with leaded-glass doors and a book cubby. On the starboard side are three book cubbies and a novel TV shelf with a pair of stowage bins. Along with the holding tank on the port side and the batteries to starboard, additional stowage can be found beneath the settees. An opening port, the overhead hatch, and the companionway provide the saloon with good air flow.

The U-shaped galley is aft to port, separated from the saloon by means of a unique and convenient serving island. Located outboard is a three-burner gimbaled alcohol stove with oven. Next is a top-loading icebox with teak grate and an aft-facing double sink with manual foot pump. The galley has adequate stowage for provisions, pots, and dinnerware. It includes a trash chute in the forward portion of the port cockpit locker.

Directly across from the galley on the starboard side is the aft-facing navigation station with its own seat. When not in use, the chart table can be slid aft out of the way and stowed above the starboard quarter berth. The quarter berth itself is quite roomy and is naturally illuminated by means of a translucent panel located in the starboard

Newport 30 Mk III

Designer: Capital Yacht design team
LOA: 30 feet 6 inches
LWL: 26 feet 6 inches
Beam: 10 feet 8 inches
Displacement: 8,500 pounds
Sail area: 425 square feet
Ballast: 2,800 pounds
D/L: 294
SA/D: 16.9

footwell of the cockpit's T. There's chart stowage beneath the chart table as well as general stowage in the form of bins and a full-length shelf. The boat is blessed with lots of stowage.

All cabinets, drawers, handrails, and trim are solid teak, while the bulkheads, doors, and large surfaces are veneered with teak. The sole is of teak and holly, and there's 6 feet 4 inches of headroom throughout.

The rig

The Newport 30 is a masthead sloop with a 43-foot 7-inch mast stepped on deck. Both the mast and the boom incorporate internal sail tracks. The mast features a single pair of airfoil spreaders and is supported by a pair of cap shrouds, dual lower shrouds, a headstay, and a split backstay. Sail area is 425 square feet, giving it a sail area/displacement ratio of 16.9, which is typical of coastal cruisers.

The mainsail came standard with one reef point and jiffy reefing. The original halyards were external wire/rope. A pair of mast-mounted Lewmar single-speed winches provides the mechanical advantage for hoisting sails. Our review boat was fitted with the optional cabintop-mounted halyard winch.

The tracks and cars for the genoa are on the sidedecks and lead to a pair of Lewmar #30 2-speed primary winches on the cockpit coamings. For ease of handling, our review boat was upgraded with Lewmar #40 self-tailers. The main is sheeted mid-boom and is fastened to a cabintop traveler.

Underway

The Newport 30 is a very capable coastal cruiser and respectable club racer. Typical of trends in yacht design at the time, the mainsail is relatively small, so in light air you'll have to set a large genoa to get the boat moving. Under 10 knots of breeze, a 150- to 170-percent genoa will mke a big difference in boat speed. Above 10 knots, things start to get exciting and it performs well. Weather helm becomes a concern at around 15 knots, and at 18 knots the main needs to be reefed in order to balance the boat.

Auxiliary power is furnished by a 2-cylinder, freshwater-cooled Universal diesel. Depending upon the year of manufacture, the horsepower rating can vary from 15 to 18. With the 13-inch sailing propeller as standard equipment, this power plant pushes the boat along at a tad over 6 knots. The 30-gallon fuel tank is located beneath the starboard quarter berth. Access to the engine is above average to very good and can be gained from behind the companionway steps, from the cockpit hatch, which is prone to leaking, and from both sides.

Things to check out

In addition to the typical age-related concerns, three areas of importance require close scrutiny. The first is hull blistering. Several cases of moderate-to-severe osmotic blistering have been reported by owners. If you find a boat whose hull appears to be in pristine condition, question the owner about what was done to correct or protect it. If blistering is present, determine whether the asking price has been adjusted accordingly. As always, seek guidance from a competent marine surveyor.

The second area of concern is the hull-to-deck joint. The outward-facing flange is prone to damage, failure, and subsequent leakage as a result of a "hard docking." Examine the toerail and investigate any areas that are damaged or distorted. This can be a tough repair job.

Lastly, while great pains were taken to make the hull-to-keel joint permanent, galvanized iron bolts can corrode, and resin-encased bolts are impossible to examine. Check for telltale signs of groundings and examine the joint for breaks in the fiberglass. Water seepage will corrode the bolts. This is another tough area to fix.

Conclusion

A comfortable, roomy interior married to a fast hull is always a good combination for sailing fun, and the Newport 30 is just that. Like all boats, the Newport 30 has its shortcomings, but with a little thought and modification it will perform well. By the way, it's not a bad looker! On the used boat market, a Newport 30 sells for $10,000 to $25,000, depending upon year and condition.

Resources

Newport 30 (San Francisco) site
<http://www.newport30.org>

The starboard chest of drawers and hanging locker is opposite a roomy head to port, facing page. This page: the galley, the main saloon, the slide-away navigation station (pulled out and ready for use in this photo), and the port settee and serving island.

Uffa's great

My life with Jane Duck

by Richard Smith

There has never been another boat like her, not before nor since. I remember crossing Rosario Straits, leaving Lopez Island bound for Deception Pass with the air-cooled Lister spewing warm air against my legs on a cold rainy morning. I remember plowing through the short choppy seas of summer bone in her teeth with *Rinky Dink* poppling along behind…it was always a treat.

My love affair started when a student of mine in Liverpool said his dad had a sailboat. His description didn't match anything I could recognize. They sailed it in the Irish Sea…"The best boat in the world," his dad had said. Her home was a mud berth up a North Country estuary surrounded by buttercups and daffodils until the tide brought in the sea twice a day.

But a tidal bore swept the young student's father overboard and drowned him. The boat was taken to a shed in Bolton where she sat on her muddy trailer through many summers, trying to be forgotten under rusting steel trusses amidst broken Massey Fergusons and a Morris Minor or two.

I climbed a ladder to sit in her cockpit and looked over the cabintop blister past the mast lying in a bed of coiled and twisted rigging. I sat and wondered what it would be like to raise the main and rush back to the cockpit, grabbing the whipstaff and feeling her tense up while beginning to move on her own. I sat there looking down into the cabin at a mass of gear and equipment and at the winches incongruously attached to a steel bulkhead. There were sailbags, a few tools, and no sign of berths.

A man wearing a flat hat, a pinstriped suit coat over bib overalls, and a rumpled scarf appeared at the ladder, scowling and saying something I didn't quite catch. I moved out of his way as he came aboard. He lifted the cockpit sole that I held against my knees as he slammed the gearbox lever and throttle control back and forth.

Dropping down to the cabin, he cranked the engine. He cranked and muttered and cranked some more until it shuddered into life, shaking the boat, plates, pots and pans, the hatch cover, and me. Smoke filled the shed as he raced the engine. We smiled at each other, the boatman and I, and I heard him shout over the roaring Lister in a rich Lancashire accent, "Just like tha ol' Massey, matey!"

lifesaving design

One thing led to another, and I became the second owner of *Jane Duck*, Fairey Atalanta No. 158, the most unusual and unforgettable boat I've ever owned.

The Fairey Atalanta

During World War II, too many aviators were losing their lives bobbing about in tiny rubber inflatables that pitched to the mercy of rampaging seas until the men either starved or died of exposure. At that time, the great British yacht designer, Uffa Fox, served as design consultant to Fairey Marine Ltd., a subsidiary of the Fairey Aviation Company. Uffa designed many things including survival clothing, small sails, and paddles to aid fliers shot down over the North Sea and English Channel. Frustrated at the helplessness of airmen who had no way at all of getting home, Uffa got the idea of designing a lifeboat to be carried under the fuselage of a bomber and dropped by parachute to ditched aircraft. This would certainly be an improvement over ping-pong paddles and downwind handkerchiefs.

The design's beginnings

In his 1966 book *Joys of Life*, Uffa recalled how his notion for the life-saving boat came about. "I had the idea at one of our daily tea parties with the office staff in my office and … I made the first model with thick drawing paper and strawberry jam. Immediately after tea I went up to the drawing office … and then went on with boatbuilders and engineers to make a wooden [scale] model of … the boat. We also designed the parachutes, and as the drawing-office was on the top floor of [the] Medina Yard, at midnight, when it was all complete, we threw the model out of the window to a draftsman waiting below. The parachutes opened and unfolded the boat on the way so that the man in the roadway below had no difficulty in catching the complete boat with its parachutes."

The original folding boat idea gave way to a rigid hull form with watertight compartments, wooden daggerboards, and retractable rudders. The boats fitted snuggly against the underside of a Lockheed Hudson medium bomber. Later, larger aerodynamically sleek versions were fitted to four-engine Avro Lancasters and B-17 Flying Fortresses. The lifeboats were light but tough enough to survive the impact forces of a parachute landing in the often-choppy English Channel. They were self-righting and could be rowed, sailed, or motored back home to England. The idea worked and saved many lives, British and American.

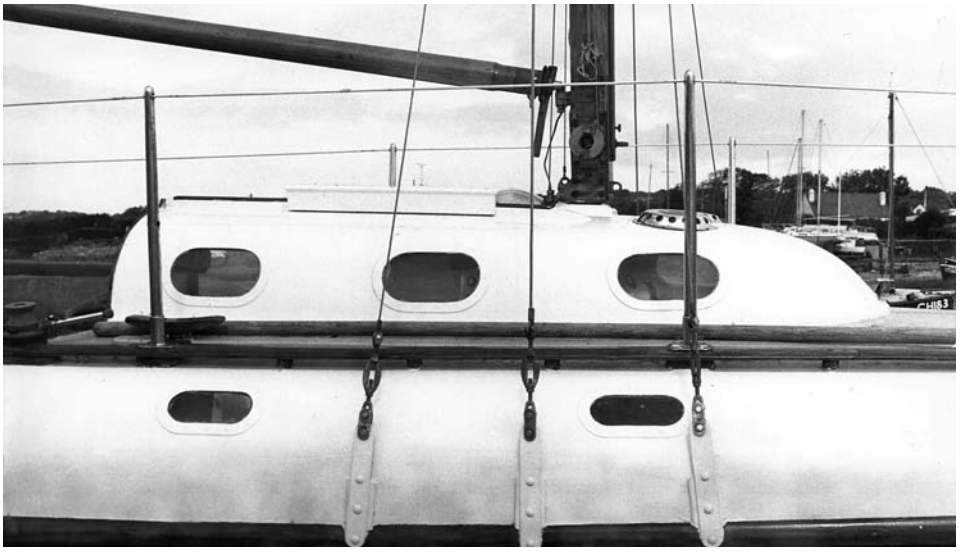
> **"I became the second owner of *Jane Duck*, Fairey Atalanta No. 158, the most unusual and unforgettable boat I've ever owned."**

After the war, Alan Vines of Fairey Marine, who had helped in the development of the airborne lifeboats, was intrigued with the notion of a yacht based on the airborne lifeboat concept. With Uffa's encouragement, he led the development of the Atalanta 26, the name coming from an early Fairey flying boat.

Jane Duck was in generally good condition when I found her, but she needed work. Atalantas were built on the hot-molding method developed during WW II and used to construct such aircraft as the de Haviland Mosquito. The hot-molding process involved placing several layers of thin (5/64-inch) agba planks diagonally over a solid wood mold. A resorcinol-type glue was used which required the application of heat and pressure to set. This was done under a rubber bag placed over the newly glued-up hull. A vacuum was applied until the bag was stretched skin-tight over the hull under pressure. The whole assembly was then cooked in an autoclave at more than 212° F.

It was thought that the synthetic resins used as adhesives were proof against fungus and bacteria and that under heat and pressure they impregnated the laminations to make the hull resistant to water penetration and teredo attack. In 1980, when I began my restoration, *Jane Duck* was about 25 years old. I inquired at Fairey and received a flood of technical help, including repair instructions and a

A modest sail plan, on facing page. Waiting between tides in Heswall, England, at right.



Roller boom reefing gear, small portlights, and substantial standing rigging, at left. *Jane Duck* with William Atkin tender, below, in Eagle Harbor on Bainbridge Island, Washington. On facing page, accommodation plan, at top, and sailing in Eagle Harbor, below.

bundle of agba mahogany strips. When I started probing with my knife I found only small pockets of rot, usually in the way of solid wood and the places where fresh water collected. There was no delamination.

Deep and shallow draft

Twin retractable keels, each weighing 475 pounds, drop vertically through the boat's bottom and produce a rather striking resemblance to the legs of a duck. They are worked by standing in the galley area, facing forward, and simultaneously cranking two winches — a very athletic and, to me, a supremely satisfying activity. The retracting keels can be locked in any position, singly or doubly, by a sort of disc brake mechanism. Upon striking a submerged object, the brake friction is overcome, the keels lift into their trunks and fall back again when the obstacle has been passed. All the forces generated when sailing are taken by the steel-reinforced bulkhead to which the keels are attached, thus relieving the light wooden shell of the ringing stresses normally associated with a keel boat.

Whenever I'd leap below to grab those brass winch handles in both hands and shift the half-ton of iron ballast in her keels up and down, I felt I was back at submarine school operating machinery of extremely serious purpose. I knew I was doing important work. The lifting aluminum rudder is operated with an uphaul and a downhaul that are connected with shock cord to absorb accidental or intentional groundings.

Because many Atalanta owners completed the hulls, accommodation differs from boat to boat, but *Jane Duck's* plan is typical of those I've seen. Two berths are located in the main cabin just abaft the sail locker and anchor well in the forepeak. A steel-reinforced bulkhead separates this sleeping area from a small portside galley that gives access to a quarter berth. Opposite the galley, a navigation table with sliding sink below lifts to provide access to another quarter berth. The after cabin contains a queen-sized berth athwartships, a small settee, and a compact workbench with vise and tool locker.

With only an 18-inch draft (keels up) and robust construction, Atalantas can be beached or worked up shallow streams well away from crowded anchorages. I lived on *Jane Duck* one summer at the village of Heswall on the Dee Estuary where I anchored a hundred yards or so offshore behind a grassy sand bank that disappeared twice a day, alternating my view from beach to the open sea.

There were a dozen or so of us out there in the sand, mud, and water ruts of Heswall: keelboats, centerboarders, barge yachts, twin-keelers, and boats standing to wooden legs . . . all tough little boats in various stages of uprightness at low tide. Arrivals and departures were timed so we could either walk to our boats or take dinghyloads of supplies. I built a William Atkin-designed flat-bottomed dinghy, *Rinky Dink*, that I hauled up on the afterdeck where she rode most comfortably and attractively.

A new home

Eventually, I was obliged to ship *Jane Duck* from Liverpool to Seattle. She was chained to the deck of a container ship and, in heavy seas that would have meant little to her if she had been free to make her own way across the Atlantic, she shifted, separating the transom and hull. When I saw the damage after she arrived in Seattle, I was bitterly disappointed. However a Lloyd's agent made a cash settlement on the quayside, and I set off in good spirits to repair her in the Shilshole Yard.

I had a happy week of good work, which resulted in a transom every bit as strong as the original construction,

thanks to the wonders of epoxy. When we launched her and I backed off the brakes, however, the keels wouldn't drop. Good English mud had dried and cemented them to their trunks. After a couple of hours the concretized mud softened, the two keels dropped with resounding thuds into the waters of Elliot Bay, and we began sailing in Puget Sound and the surrounding archipelagos.

How does she sail?

In light winds, the Atalanta sails like a barge: slowly and gracefully. A cruising chute helps . . . but not a lot. The narrow range of headings possible under this sail rather negates the advantages. As winds increase to about 15 or 20 knots, she stiffens and begins to gain on the reefed-down boats that passed her so smugly in lighter air earlier. Under certain conditions of strong wind and small waves, she planes most dramatically, but this doesn't happen often.

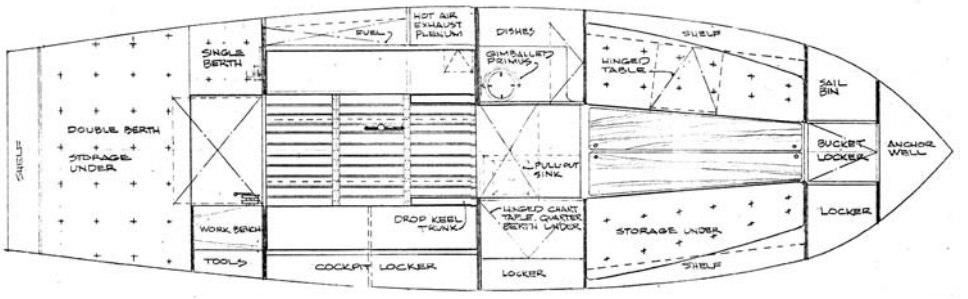
She sails comfortably with a minimum angle of heel and feels like a much heavier boat. She is not very close-winded and is happiest under started sheets. Varying the angles of the keels — together or separately — provides an infinity of adjustment of the center of lateral resistance and center of gravity as well as plenty of exercise. Atalantas are said to be self-righting if the keels are kept 15 degrees up from full down. Cruising logs record dry boats after violent knockdowns at sea.

The whipstaff or vertical tiller is connected to the rudder head with a system of aircraft cables. I find it an excellent steering method — comfortable and convenient — and it frees up the cockpit space.

The air-cooled engine

Jane's engine is a 2-cylinder, air-cooled 12-horsepower Lister diesel. It's noisier than more modern, water-cooled engines but in my view is entirely in keeping with the boat it serves. I never saw fit to replace or repair the erratic electric starter. I preferred to wind the huge flywheel by hand, cranking slowly at first, then faster and faster until the momentum took hold (more good exercise). I then engaged the injectors one at a time and listened as the single explosions merged into a continuous roar. I enjoyed starting that engine almost as much as I did feeling the wind fill *Jane's* sails later on.

Jane was a good motorboat and held her course well. She moved astern predictably. Being designed, essentially, for keeping the sea along tempestuous British coasts, but now sailing in the much lighter winds and narrow,



Fairey Atalanta 26

Designer: Uffa Fox
LOA: 26.3 feet
LWL: 25.0 feet
Beam: 7.7 feet
Draft, keels up: 1.5 feet
Draft, keels down: 5.75 feet
Ballast: 475 pounds in each keel
Light displacement: 3,700 pounds
Load displacement: 4,500 pounds

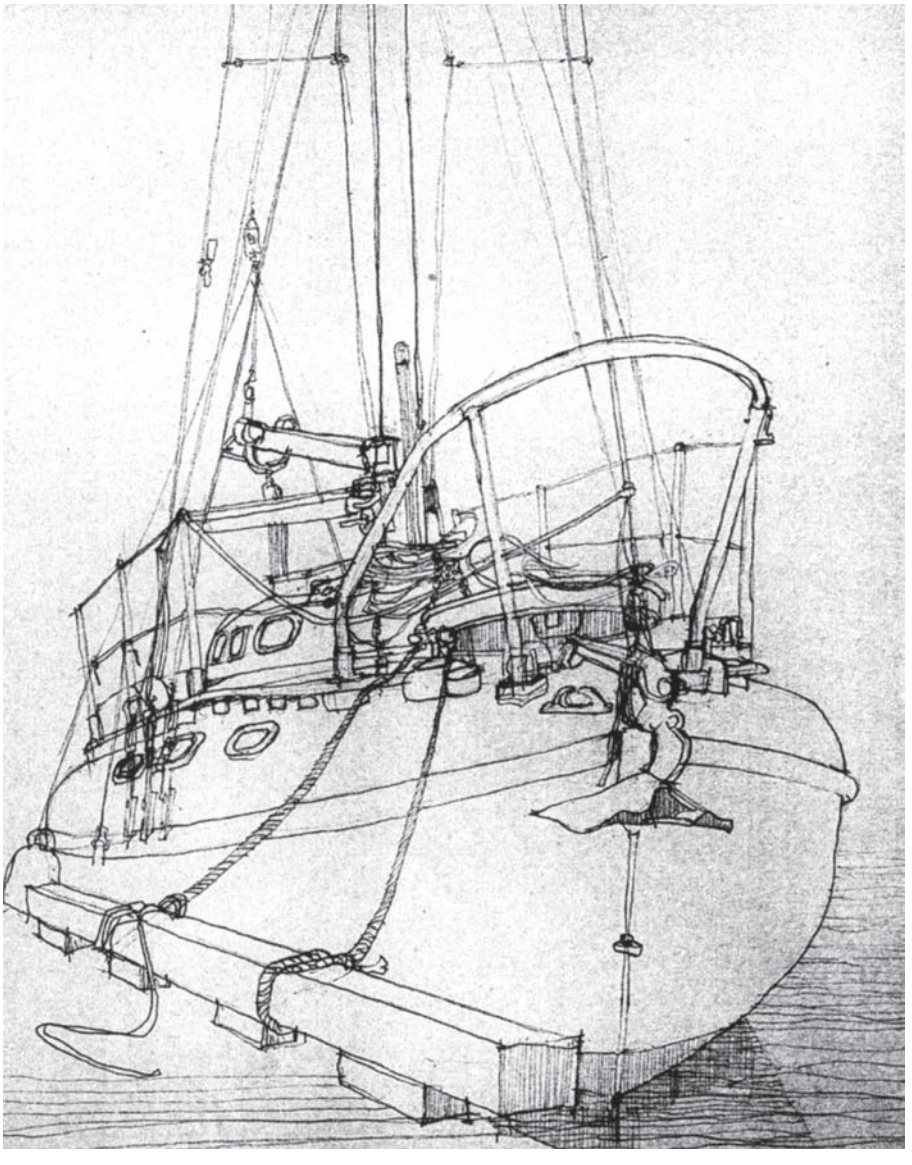
fast-running channels of Puget Sound and the San Juans, meant that I motor-sailed a lot; I could leap down to the crank and have her going in seconds.

Not requiring a battery to start the engine, I used a kerosene anchor light and read by a faithful, hissing Tilley lamp during long summer evenings at anchor. Freedom from electrical power gave me an increased feeling of independence from things I didn't understand, and that seems to me to be at the core of my enjoyment of small boats. The modest sail plan and mighty tumblehome always provided a great sense of security in the Irish Sea, but I gradually gained the feeling that she never took to the summer winds of the Pacific Northwest. She had everything in reserve — waiting to deal with some catastrophe — waiting to serve some higher purpose. Gunkholing, birdwatching, digging for littleneck clams, and picking oysters was never quite her style.

My life had taken some shifts and turns that made it difficult to commute to Seattle from Liverpool every summer. So — as has often happened just when a boat was nearing a perfection of form and function — when I found that I knew all of her idiosyncrasies, every quirk and hidden pleasure, I put her up for sale.

A young man appeared at the dock on Bainbridge Island in answer to my ad. He examined her from stem to stern, on deck and below, and I could tell within minutes that *Jane* and I were to part. He said nothing, caught as he was in the headlights of seduction. As we took her out for a trial sail in Eagle Harbor, he followed the whipstaff and keel lifting operation. He watched fascinated as I ratcheted the bronze roller-reefing gear that wound the spruce boom round and round, lowering the main, and he smiled broadly tending the sheets with the Tufnol, bottom handle winches. Returning to the slip, he said he'd take her — plus my foulweather gear, metal bucket decorated with grebes and California gulls, navigation instruments, binoculars, and just about everything else I couldn't wear.

I left with my suitcase, and I've missed the boat ever since.



PETER RICHARDSON

A postscript

Within this memoir, I would be remiss if I did not mention a less tangible connection with a much-loved boat. Shortly after I sold her, a dear friend and architect, Peter Richardson, gave me a drawing that he'd done of *Jane Duck* for my birthday.

Pete had sailed in her one summer and missed her as I did. It's a beautiful drawing, as fresh and lively as Uffa Fox's jam and paper model of the prototype must have been, and I've kept it near my desk for more than 20 years.

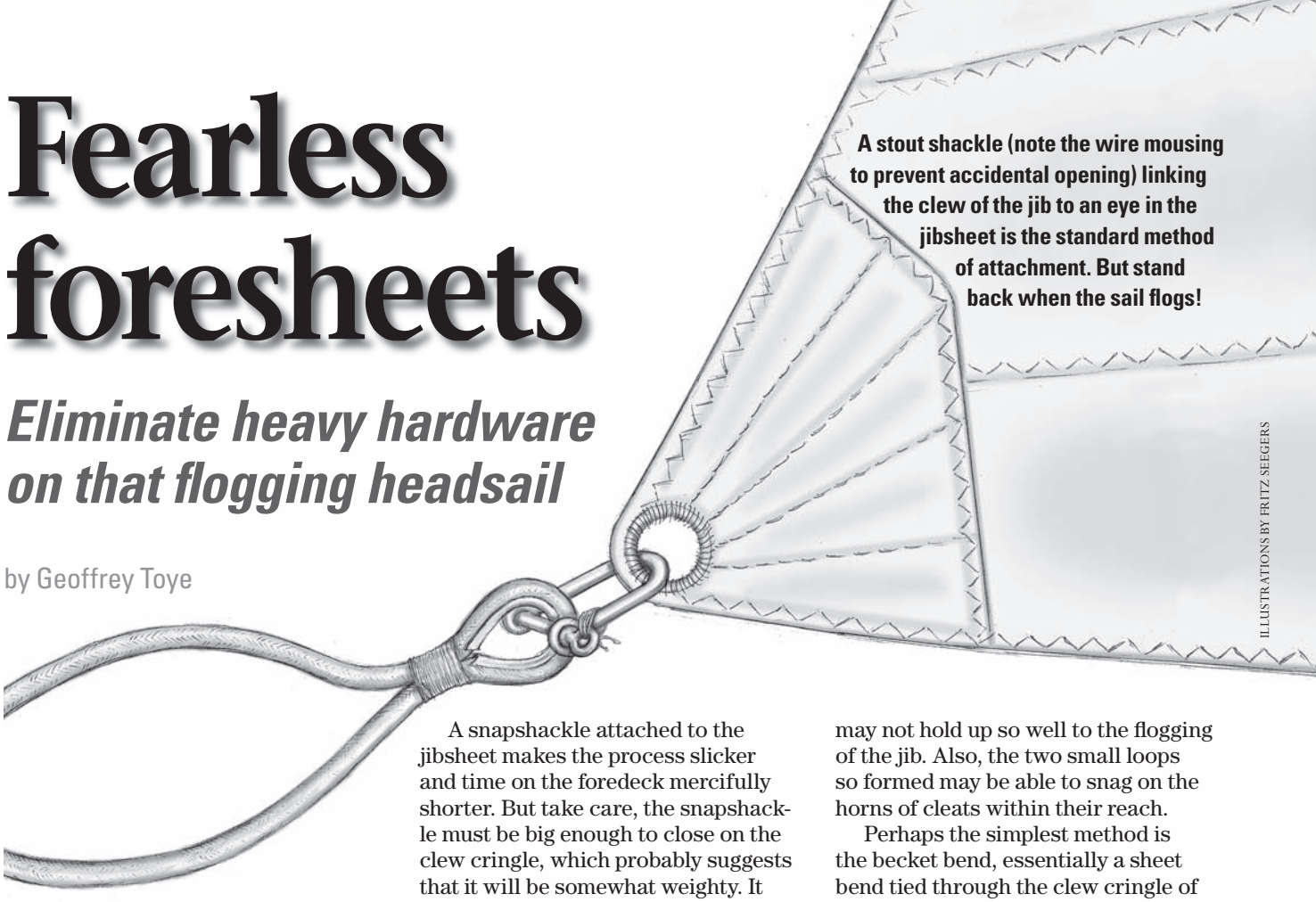
Eventually, Pete found his own Atalanta, sailed her, and died in her one night in Caernarfon Harbor in the north of Wales. Pete's Atalanta is now in the capable hands of his trapeze artist/sailor daughter and her fire-eating/sailor husband who, with any luck, will sail her once again into the Menai Straits and out into the seas beyond.

Author Richard Smith at main bulkhead, above. Drawing of *Jane Duck* by Peter Richardson, at left.

Fearless foresheets

Eliminate heavy hardware on that flogging headsail

by Geoffrey Toye



A stout shackle (note the wire mousing to prevent accidental opening) linking the clew of the jib to an eye in the jibsheet is the standard method of attachment. But stand back when the sail flogs!

ILLUSTRATIONS BY FRITZ SEEGERS

Different skippers, different long-splices, they say. Bending on jibsheets is a task that allows for considerable variety from boat to boat. Some simply have a stout shackle linking a hard eye in the sheet to the cringle in the clew of the jib. In terms of secure fastening, that is hard to beat as long as the pin is moused. But is that a realistic requirement?

Visualize the horizontal sleet of a stormy night on a foredeck that thinks it should have been on a submarine, straining to hold the clew and shackle together while also trying to thread a recalcitrant pin into a shackle which seems suddenly to have grown a different thread. This can lead to all manner of horrors, not the least of which may be having the assembled gear tear itself from cold hands to return with a swift and skull-cracking vengeance.

I've known people to lose a tooth from those things. Square-riggers and shellbacks might be up to this, but when your modern first mate crawls back to the cockpit with that thoughtful expression on her face unique to those who have just swallowed a shackle pin, she might not respond with enthusiasm to, "You did remember to mouse the shackle, didn't you, darling?"

A snapshackle attached to the jibsheet makes the process slicker and time on the foredeck mercifully shorter. But take care, the snapshackle must be big enough to close on the clew cringle, which probably suggests that it will be somewhat weighty. It will certainly seem so when it gets you in the eye.

Other options

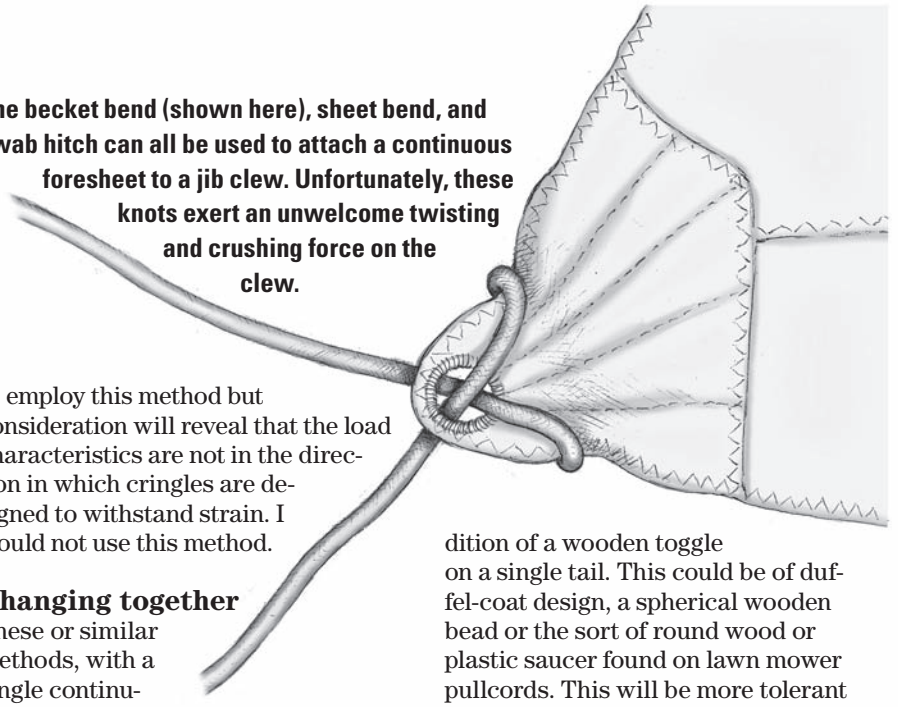
Let's explore non-shackle options I've encountered on vessels while the years, the sea miles, and the odd shackle pin slipped by beneath the keel. Consider first the ideal system. It should be secure, strong, quickly and easily bent to the sail, and unbent… even in darkness, heavy weather, or both. It should have no loose parts. It should be as safe as possible for anyone either using it or being struck by it. It should not get snagged on the ship's gear, nor knock expensive lumps out of spar anodizing or brightwork.

> **"…non-shackle options I've encountered… while the years, the sea miles, and the odd shackle pin slipped by beneath the keel."**

One popular choice is separate sheets, each with the bight of a bowline through the cringle. This is simple but can be bulky: there are two rope ends to locate, two knots to tie, and the bowline in modern synthetic ropes may not hold up so well to the flogging of the jib. Also, the two small loops so formed may be able to snag on the horns of cleats within their reach.

Perhaps the simplest method is the becket bend, essentially a sheet bend tied through the clew cringle of the sail. Since we need two sheets to the same clew, our single becket bend should be tied in the middle of the jibsheet, having what would otherwise be its end continued through to form the full length of the sheet. This is ungainly in my view, apt to crush the clew into wrinkles, and it would imply that the sheet could not easily be unbent from the sail.

Two stopper-knots in a single continuous sheet passing through, one knot either side of the clew cringle, achieves pretty much the same effect with a neater appearance. But appearances can be deceptive. The stopper knots can jam to the point of permanence, thus become ever smaller, which may defeat their purpose, and the cringle had better be very strong and secure because the two-stopper-knot method depends heavily on the cringle not pressing out of the sail. Many, particularly smaller boats, seem



The becket bend (shown here), sheet bend, and swab hitch can all be used to attach a continuous foresheet to a jib clew. Unfortunately, these knots exert an unwelcome twisting and crushing force on the clew.

to employ this method but consideration will reveal that the load characteristics are not in the direction in which cringles are designed to withstand strain. I would not use this method.

Changing together

These or similar methods, with a single continuous sheet threaded through the clew at its mid-point, require that the sheet remain bent on to the sail, so sail and sheet get changed as one. This is not a problem where the vessel has only one roller-furling jib, but if several headsails are used, a disconnection point at the clew is preferable. By getting rid of the ironmongery we have reduced the anti-personnel component. However, re-reeving the sheets with each sail change would not be workable on my boat.

The rope-toggle and the Dutch shackle have no metal parts and each provides a disconnection point at the clew. To make a rope-toggle, find the center of a continuous jibsheet. At its center form an eye with a strong round seizing. The size of the eye, which we will call E1, will be determined by the size of your headsail cringle. Take a short length of rope and form another round seizing, E2, such that this one is captive to the one in the jibsheet. As an alternative, an eye-splice might also be used for E2.

Push eye E1 through the clew cringle. When the eye of E2 prevents it from going any further, there should be just enough of eye E1 showing through so that the tail of the rope-toggle E2 can be threaded through it and held firmly in position across the cringle and preventing E1 from withdrawing, like the cross-bar on a fortress door. The diameter of the sheet when doubled should be a firm fit in the cringle, the rope toggle tail should be long enough to be in no danger of shaking loose.

It will be more secure with the addition of a wooden toggle on a single tail. This could be of duffel-coat design, a spherical wooden bead or the sort of round wood or plastic saucer found on lawn mower pullcords. This will be more tolerant of variation in design or dimension but slightly more troublesome to unbend from the sail. Be aware that wooden toggles can shatter if the sail flogs against something hard. A solid toggle is tougher on the skull than rope but more forgiving than a metal shackle.

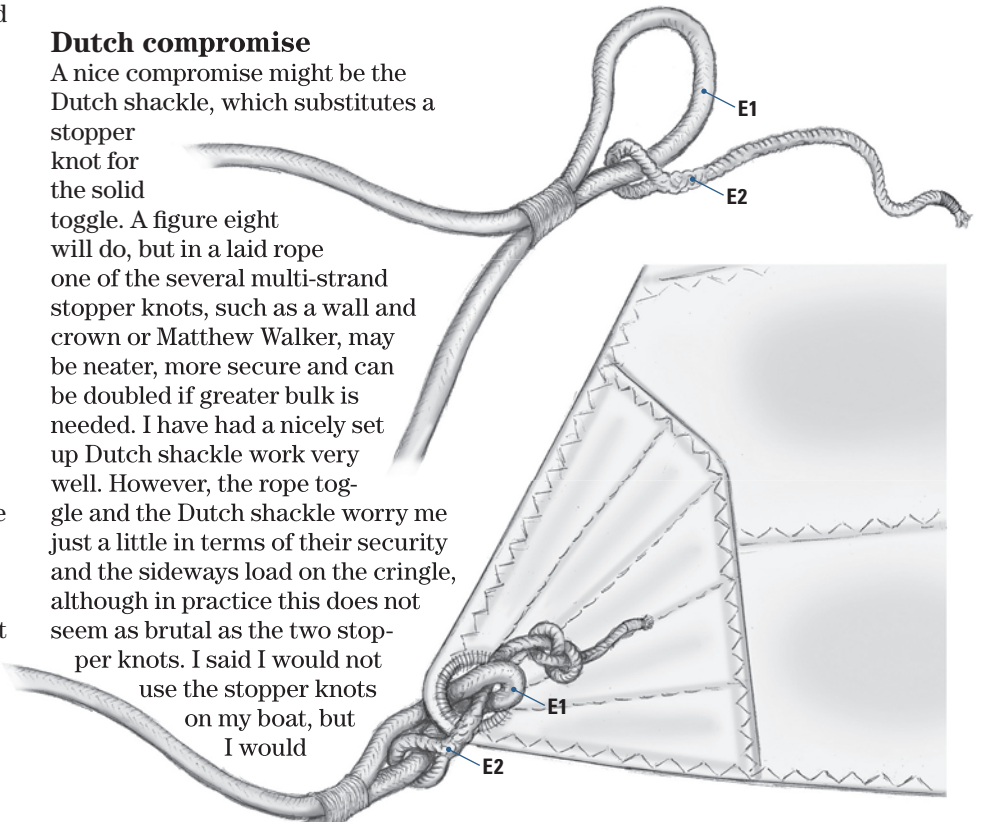
Dutch compromise

A nice compromise might be the Dutch shackle, which substitutes a stopper knot for the solid toggle. A figure eight will do, but in a laid rope one of the several multi-strand stopper knots, such as a wall and crown or Matthew Walker, may be neater, more secure and can be doubled if greater bulk is needed. I have had a nicely set up Dutch shackle work very well. However, the rope toggle and the Dutch shackle worry me just a little in terms of their security and the sideways load on the cringle, although in practice this does not seem as brutal as the two stopper knots. I said I would not use the stopper knots on my boat, but I would consider the Dutch shackle, which is more seamanlike.

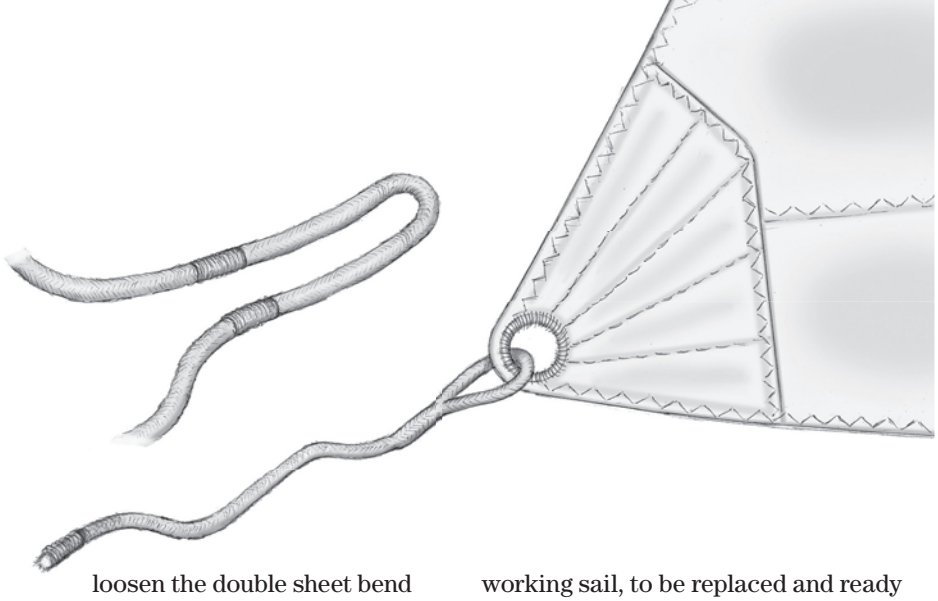
My preferred system, tried over many years, so far without failure nor, as far as I can judge, any downside at all, is the permanently bent-on tail, one for each sail. This comprises an eye-splice made through the clew cringle with a simple rope tail of a few inches finished with a strong whipping. It will surely be tested when the sail flogs in a blow.

A round seizing at the center of the continuous jibsheet can be bent to the tail with a double becket bend. This would be more secure, I suppose, than simply bending on to the center of the sheet and it would be easier to locate in the dark. But I have never found the need for it.

On my boat the center of the sheet is indicated as the span between two American whippings, about 18 inches apart. When they are pressed together, the bight is formed for a double sheet bend. The draw of the sail should not



No heavy hardware is involved in this Dutch shackle system, above, which captures an eye formed in the middle of the continuous jibsheet and prevents it from shaking loose. The advantage is that it doesn't require two knots (in single sheets) while providing a method for disconnecting the sheets at the clew when a different headsail is called for.

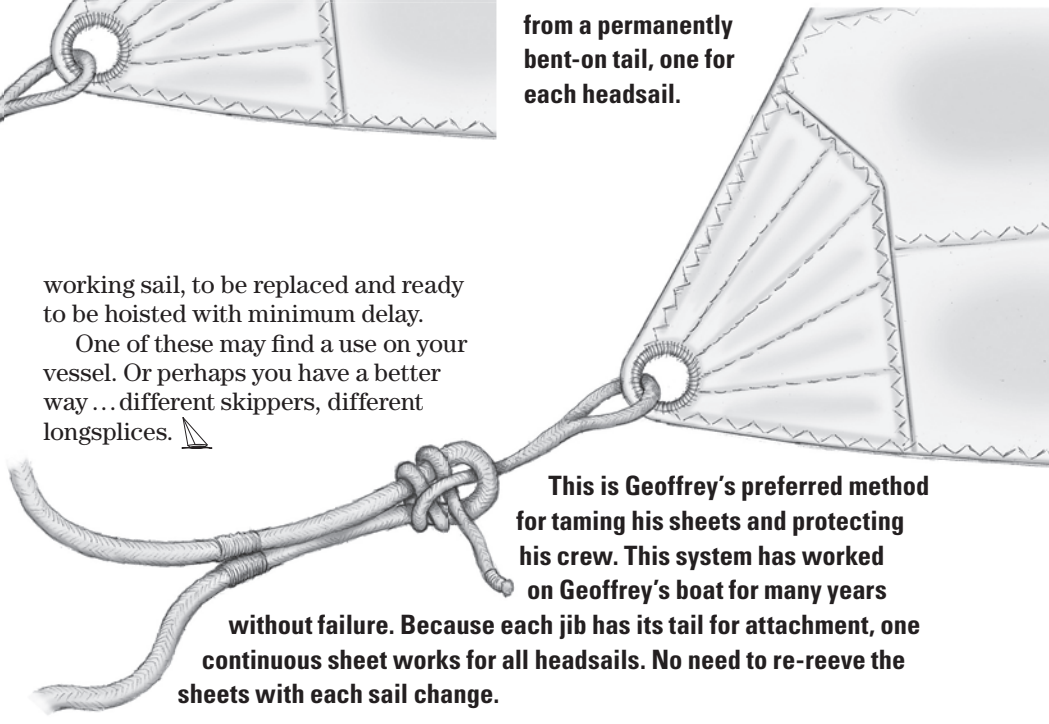


The center of a continuous sheet can be located by a pair of whippings about 18 inches apart. Pressing them together forms a bight which can be used with a double sheet bend made from a permanently bent-on tail, one for each headsail.

loosen the double sheet bend since, unlike the single sheet bend, it has no left-handed form and seems to be able to take the strain equally well on either standing part, in this case port or starboard sheet. Like the shackles and bowline, this method places the strain along the proper axis of the cringle.

A possible bonus of the continuous sheet and use of the double sheet bend is that it might make it possible for the tail of the replacement jib to be bent to the lazy part of the sheet beside the tail of the working sail, to be replaced and ready to be hoisted with minimum delay.

One of these may find a use on your vessel. Or perhaps you have a better way… different skippers, different longsplices.



This is Geoffrey's preferred method for taming his sheets and protecting his crew. This system has worked on Geoffrey's boat for many years without failure. Because each jib has its tail for attachment, one continuous sheet works for all headsails. No need to re-reeve the sheets with each sail change.

Confessions of a bottom feeder

How to fix bargain boats and make a modest fortune

by Bob Brintnall

"I KNOW ABOUT GUYS LIKE YOU," THE old yard worker said as we strolled the back fence. "You're a bottom feeder. You look for old hulks that nobody wants anymore, make a few insulting offers, and if nobody bites, you move on to the next yard 'cuz eventually somebody will."

I tried to laugh him off. "Got anything with deck rot?" I gibed. The truth is, he was right. I am the poster child of bottom feeders. It started in college. I bought three small boats from a YMCA camp for $50 and made two sailable vessels from the three hulls. I sold one for $275 and the other for $500 and almost dropped out of school. Fortunately, my next boat — a soggy wooden Lightning that I ended up scrapping — convinced me to finish college.

Once I started teaching, I realized the *only* way I was ever going to afford cruising on such a salary was to bottom feed. I've made some money, but mostly I've stayed in boats and thus made the most of my profession's three great perks: June, July, and August.

I had a couple of advantages going into bottom feeding. I grew up in my dad's body shop and had access to some tools and equipment that most would not. However, the best thing I obtained from my father's shop was a bit of experience and confidence in doing work requiring epoxies, sanding, priming, and painting. I found boats much easier to work on than cars.

The greatest advantage I had was a mentor, an older brother-in-law who became a big brother/second father and got me into sailing as a teenager. If I became the poster child of bottom feeders, it is only because I trained under a Zen Master.

First weekender

My first boat big enough to weekend on was a 1970s-era Hunter 25 that had sagged on a wooden cradle for years. When we went aboard with the owner, she held more than a foot of water. My mentor assured me that a boat full of water on a cradle will likely float.

I stepped to the settee, as the ladder was missing, but as I shifted my weight my foot crashed through the soft wood to the hull. We bought this boat in the fall for $400, were sailing her by the next spring, and sold her three seasons later for $4,000.

My current boat, a 30-foot Catalina, was purchased at an auction for $6,000. In between, I bought and sold more than a dozen boats in the 22- to 27-foot range. During the same time, I watched my mentor buy 35- to 40-foot boats that were under water with only masts sticking up to show what was there, find divorce specials with prices teetering on the verge of piracy and, in general, make my bottom-feeding accomplishments seem pretty modest by comparison.

I don't think just anyone can become a Master like my old mentor, but I do think anybody with modest skills like mine can keep themselves in cruising boats with minimal financial investment. All that's really needed are some basic repair skills, determination, courage, and sound advice.

Basic principles

Do your homework – When the boat is an oddity at an estate auction, it will draw a lot of attention. You see the questions in their eyes. What does it *cost* to move a boat like that? What would it take to get it in the water? Is it all *there*? What is a boat like that *worth*? If you know the answer to those questions before the bidding

Daryl, Bob's Zen Master, works to scrap a Hunter 34, above. After salvaging the parts, he disposed of the hull by cutting it up with a chain saw and putting the sections in a rented dumpster. Bob purchased the Hunter 25, on facing page, for $400 and sold it for $4,000.

starts, you are halfway there. More than 50 people toured the Catalina 30 I bought at an auction where everything from law books to kitchen appliances and even the property was for sale. I was the only one to put up a bid on the sailboat and got it at reserve (the lowest acceptable amount set by the buyer). I knew it was all there, I had a boat mover bid in my pocket, I was pretty sure I could have her sailing by the next season, and I knew I could

get between $12,000 and $17,000 once she was clean and running sweetly. Do your homework; let the others watch with wonder in their eyes.

Be patient – Plan that only one or two deals out of 10 are actually worth taking. Remember that there are always more deals out there, and don't let your hunger for a boat cloud your judgment. It is always better to pass on a deal than to get burned by one.

Have a money plan ready – When the ridiculous deal finally comes along, there's seldom time to apply for a loan. The first money usually gets the boat. Savings, a home equity line, an empty credit card . . . you need some way to lay down the cash in a hurry.

Have a boatwork schedule – Lack of time to spend on the boat waylays most potential bottom feeders. The boat will take some work. If you don't have some off-season Saturdays scheduled into your calendar and a place to work on the boat, you shouldn't try bottom feeding. Working on a boat is what keeps me sane through the winter. The off-season Saturday is always "boat day," whether updating the current boat, prepping the next, or putting together a nice little trailersailer to sell.

Hunting grounds

Publications are where many people start sniffing for boats. Therefore, they are pretty well sniffed over. Also, people who have bothered to write and pay for an ad usually have some idea of what their boat is worth. A bottom feeder can't buy a boat for what it's worth. He has to sell at that price.

Since publications are an easy place to look, many people look there. When a ridiculous price appears in print, you have to move fast. Call as soon as you see it. Don't think about it for a day before checking it out. Most of the time it really *is* too good to be true. But when the true deal does show up, it won't last long, and the person who gets it simply got there first.

Auctions are better hunting grounds than publications. There are two types to consider: the boat-place auction and the general auction that happens to have a boat.

The problem with boat auctions is all the bottom feeders will be there, lurking around with notepads, inching across decks, turning shafts, picking at chainplates, licking their lips. I've often done well, but never great, at these auctions. Homework is the key here. The more you know about your target boat the better. Don't trust what the auctioneers tell you or put much stock in listing specs or outdated surveys. Your best tactic is to find errors in these documents in your favor.

My mentor once bought a 32-foot Ericson that had a survey indicating a bent shaft. We tested the shaft on land with calipers and couldn't find the problem. In the water, the shaft thumped horribly. But in reverse the folding prop unstuck, and the boat purred along nicely ever after. That boat was bought for $8,000 and sold within two months for $16,000.

Thumping heart

The general auction that happens to have a boat is what makes my heart thump like that stuck prop. These are hard to find. You want to get on the mailing lists for auctioneers in sailing areas, and not just your home port. It helps to have friends and relatives who know your bottom-feeding lust and will pass along tips when they find them. Even then, you may go a year without coming across one that's worthwhile. And there is always the chance of not being the only bottom feeder there. But *if* you are, have done your homework, have a plan, and have some cash, *then* you may well find yourself in bottom-feeding nirvana.

The Internet auction is the new playing field for bottom feeders, and I've had to enter this realm without my mentor's guidance, as his ashes now bless the Caribbean. The Internet is a new venue, but the old rules still apply. Do your homework, have a plan, and be patient. Do not bid on a boat you haven't inspected.

Sounds obvious, but the last boat I sold on eBay went to a "blind bidder." Also, my experience suggests that most lower-end boats don't make reserve, but still get sold to the best offer or some negotiated price in-between. Don't give up if you don't make reserve, or even if you're not the top bidder. The owner may well end up talking to the top two or three bidders. And, of course, by the time the owner seeks the third bidder, the price should have taken three steps down.

"Walkabout, talkabout" is a proactive approach. The old yard worker calling me out as a bottom feeder was a memorable moment, but the truth is I've not had the success in this area

Bob's personal chandlery is impressive. No wonder he likes to stroll about with a cup of coffee re-acquainting himself with the available gear.

that others have. The idea is to find the boat before it's for sale. Learn about the boats in the back of the yard that haven't seen the sea in years. Who owns them? Why aren't they being used? What's wrong with the boat? What's going on with the owner? Are there delinquent yard fees? Is the owner ill or destitute?

Sniff the garbage

You may have to sniff through a lot of garbage, but sometimes you can find truly remarkable deals. Try to get the owner to the boat before you make an offer. Chances are they remember the neglected hulk far more favorably than its actual state. Make sure you explain that you will fix the old girl up and get her back in the water, as she should be. And before you make your insulting offer, try to soften the impact by going over how much time and effort you will have to spend to get her sailing again, how the market for used boats isn't so hot, and so on.

Take the price you might get if the boat was clean and sailing, subtract any obvious major expenses you see, like a bad motor or trashed sails. Then cut that number in half…more if you dare. Most owners will be annoyed, some will show it, but the old yard worker was right, eventually someone will bite.

Pitching the low price is never enjoyable to me, I don't like seeing the disappointment in an owner's eyes or hearing the hint of injury in their voice. Making the kill, the thrill of getting much for little, may warm the bottom feeder's pirate blood. But for every person getting a super deal, there's usually another getting shafted. Playing pirate isn't always playing nice.

If there is one redeeming element to the bottom-feeder's game it is restoration. For me, this is the most rewarding part, and always the most challenging. Taking what was once neglected and befouled and getting her into the water with wind in her sails, adding another mast to the harbor view, produces a great feeling of satisfaction.

Getting from the great sale to the great sail is a battle of skill, wits, and luck. While there might be a Zen to the art of bottom buying, Nietzsche provided a philosophy more appropriate to sailboat restoration: "That which does not kill us makes us stronger."

> **"Taking what was once neglected and befouled and getting her into the water with wind in her sails…produces a great feeling of satisfaction."**

Repair philosophy

Tips for fixing old boats could fill an article, a book, even a magazine's entire scope. So instead of going into repair details, here are some general guidelines.

Get dirty – Put down your books and magazines, except this one, and go get your hands dirty. You can get good ideas and motivation from written sources, but you'll learn more by doing. Not ready to rip out your decks and re-glass them? Then be the first on your block with a fiberglass mailbox and work your way up. It's OK to screw things up the first time and even the second. As long as you don't give up, you'll get better.

Don't over-restore – The very term "restoration" highlights the problem, as it conjures up visions of museum-quality reconstructions and trophies at an auto show. Bottom feeding is a game scored in dollars and cents and common sense. When you're done, you'll have a nice older boat that is still worth considerably less than a nice newer boat. Keep a realistic price for what the end product is worth, but don't keep too close an eye on the hours spent. Kid yourself that lying on your back in the void around a rudder post to apply epoxy and cloth over your head is fun and all part of the joy of your hobby.

Be a pack rat – Never, never, ever throw away anything sailboat-related. Ever. This may *not* be a good formula for marital bliss, but having my own private chandlery of spare parts, old hardware, new parts, and lots of etcetera has saved my bottom-feeding bottom many times. Bottom boats are almost always gorged with miscellaneous gear, spare parts, and odds-and-ends. Sell the boats with a couple of fenders and lines, and you'll start building stock.

I've made my best boat-parts hauls at yard and boat-store liquidation auctions where shelves of new hardware were being auctioned as lots. But in sailing ports you may often find yard sales with boating gear. It's also worth peeking at online offerings. I keep my gear at home displayed on shelves like a little store; sometimes in the winter I like to just walk the aisles with a cup

of coffee and dust things off and move them around. It's much cheaper than therapy.

Be resourceful and creative – Creativity and resourcefulness counts with every dollar spent. Even though paints, primers, and epoxies are things you just can't avoid paying for, there are always things you can do to save. Mat and roving, for instance, are cheap in bulk. The little bag of it at the boat store is about a 1,000-percent markup from what it costs by the roll. For an even better deal, find people who have recently completed a major rebuild or a build-from-the-kit boat; they're sure to have leftovers. Don't be afraid to search aggressively.

My mentor once found a factory making pallets for the military to drop equipment out of airplanes. They used a lot of balsa, and he bought their scrap for a song. When body shops in sailing ports go out of business, their liquidation auctions are a must. RV supply sources should also be checked; a stainless-steel sink in a RV catalogue can be up to 50 percent less than the same sink in the boat-supply catalogue. Many freshwater plumbing components are also interchangeable and much cheaper through an RV supply.

Consider your comfort zone – When you buy, remember your repair capabilities, but don't be afraid to push the envelope a little. All boats at the bottom of the market have problems. Look for the types of problems *you* can repair efficiently. Your list of comfort-zone problems will differ from mine. I'm not sure I could rebuild a diesel… even with Nigel Calder's help. I have "sewing issues" as well. Someone who could machine a diesel block or make settee cushions may look for such problems, even though I might look away.

Here's what I look for:

Filth – The dirtier, the better. Nothing lowers the price more, yet is easier to fix than just being really dirty.

Soft decks – Soft decks are not fun to fix, but they're not expensive. Major glass work is my zone. The bottom feeder's dance is toe-to-toe, creep a few inches at a time, eyes straight down, jostle the weight a bit, and look for movement. Check very carefully around deck fittings and stanchion plates, as the plate may lend false strength to the area. Dance carefully so you find all of it. Then add 20 percent to any area you discover, as it always goes a bit farther than you think. Make sure the owner sees every spot you find. The ghastly look on his or her face is hundreds of dollars coming off the price.

Interior work – Plumbing, wiring, and bad settee wood are all bottom-feeder pluses in my book. When my foot dropped through the settee wood on that Hunter 25, I could feel the price dropping as well. However, the surface-wood panels were made of better material and were solid, though they had a cheap fake-wood finish that discolored a bit underwater. Replacing the bad wood under the settees was easy. A couple spray cans of automotive vinyl/leather paint made all the fake wood look better. Bottom feeders are seldom called upon to repair the fine joinery of a Cabo Rico, but the higher end the boat, the more you need to attend to the quality of the interior. I wouldn't dress up the insides of an Alberg with vinyl paint, nor would I build hardwood cabinetry for an old Hunter or Buccaneer.

Rigging, stanchions, hardware – If I didn't have my own little one-customer chandlery I would look at

***Windancer*, Bob's Catalina 30, home from an auction sale, below, and underway later, at bottom. The auction price was $6,000.**

Bob considers this deal — a 27-foot US Yacht purchased for $6,000 and sold for $9,000 — to be "a good deal but not a *great* one."

hardware issues with much more skepticism. Buying new turnbuckles, winches, blocks, and travelers will eat up a refit budget. But when the boatyard goes to auction, I am there. Almost every boat I've bought and sold had some extra hardware lying around in it that went into my chandlery. I expect to replace some rigging on any boat I buy, but 80 percent of my rigging and hardware problems are solved by my private boat store.

What I don't want to fix (again):
Keel bulge – Moisture that leaks down a keel bolt freezes in the winter and expands, making a cavity. The next year that cavity holds more water and freezes and expands again, making a bigger cavity that lets more moisture in next year, and so on. The boat I bought had a softball growing out of its keel. I kick myself to this day for not being more careful and noticing how bad it was. I drilled two small holes into the cavity, dried everything thoroughly with compressed air, injected a slow-set epoxy, then sledgehammered it flush.

My hope was the epoxy would seal small spaces around the keel bolt seat and prevent more moisture from coming in. The pilot holes closed in the lead after 15 sweaty minutes of swinging the sledge with full force. I glassed it all over anyway. Taking the rusty keel nuts off after the repair was stressful. Would the bolt move? It took both legs pushing a 3-foot pipe on my 1-inch breaker bar, but they all came free without moving the keel bolts in their seats. Five years later, the boat showed no signs of re-bulge. I lucked out that time and learned my lesson. I now inspect any northern boat's keel much more carefully.

Shaft-strut leakage – Clean off the bottom paint, if they'll let you, and look for faint lines around where the strut is glassed into the hull. Then look for indications of leakage from the inside. Strange-colored epoxies stuck here and there like gum under a school desk show that something was not right. Look carefully around the place where the strut comes through the hull or at the edge of a glass panel. If you can't see everywhere, look for signs of things like the gas, water, or waste tanks having been removed and replaced. Do this especially if the tank looks original, as that most likely means it was removed just to get underneath it.

Reseating a glassed-in shaft strut to make a desperately leaking cruiser a dry bilger was a personal triumph for me. But the procedure is too involved to explain in a paragraph. Suffice to say, it can be done, and my material investment was only about $75. However, this is major glasswork where strength and quality can't be left to chance and shouldn't be attempted without some experience in the area. I would do it again if I had to, but I would prefer not to.

Severe cradle sag – Ask yourself, "How bad is it and how cheap is the boat?" The Hunter 25 had it, but for a $400 pocket cruiser I took the gamble. With propping that took the cradle pressure off the sag, we used strips of marine plywood at the interior zenith of the problem area and pushed out slowly with a 4-ton Porta Power. By "slowly," I mean a couple pumps each day for a week. Once it was back to its correct position, we glassed in the strips of plywood we had pushed against and added glass-tube rib support to the entire area, letting the repair cure for two days before releasing the Porta Power.

Freeing the hydraulic pressure on the jack was the moment of truth, but the hull held its contour. I always joked that if I ever hit a reef or got rammed, I hoped it would be in that repair quarter as it was the strongest part of the hull by far. Our technique was successful, and the material cost of the repair was minimal. But that boat was only about 4,500 pounds. If I had pushed a jack foot through the hull I could probably still have gotten enough salvage out of the boat to cover my investment. I would prefer not to try it again on a larger, more valuable, boat. But if the boat were cheap enough, I'd try most anything.

The launch

Launch day is the re-birth of what was once neglected and condemned. But let's face it, birth is not an aesthetically attractive event. Launching the project boat for the first time takes thick skin and broad shoulders. Remember that giving the rest of the marina something to watch and talk about over cocktails in their cockpits is a noble gesture. It's all part of boating.

Personally, I find the tension thrilling and enthralling. You've tested the seacocks with pressurized water, but will they leak in the bay? What about the keel bolts? Will the engine run under load as well as it did on the cradle? Are the chainplates as good as they look? Will a halyard break or a top mast pulley give? You bring everything you can imagine you might need to fix anything you can imagine might go wrong. But don't let your imagination overwhelm you. You're doing what few would dare, saving a hull from some yard's death row, and having fun too.

Never-ending quest

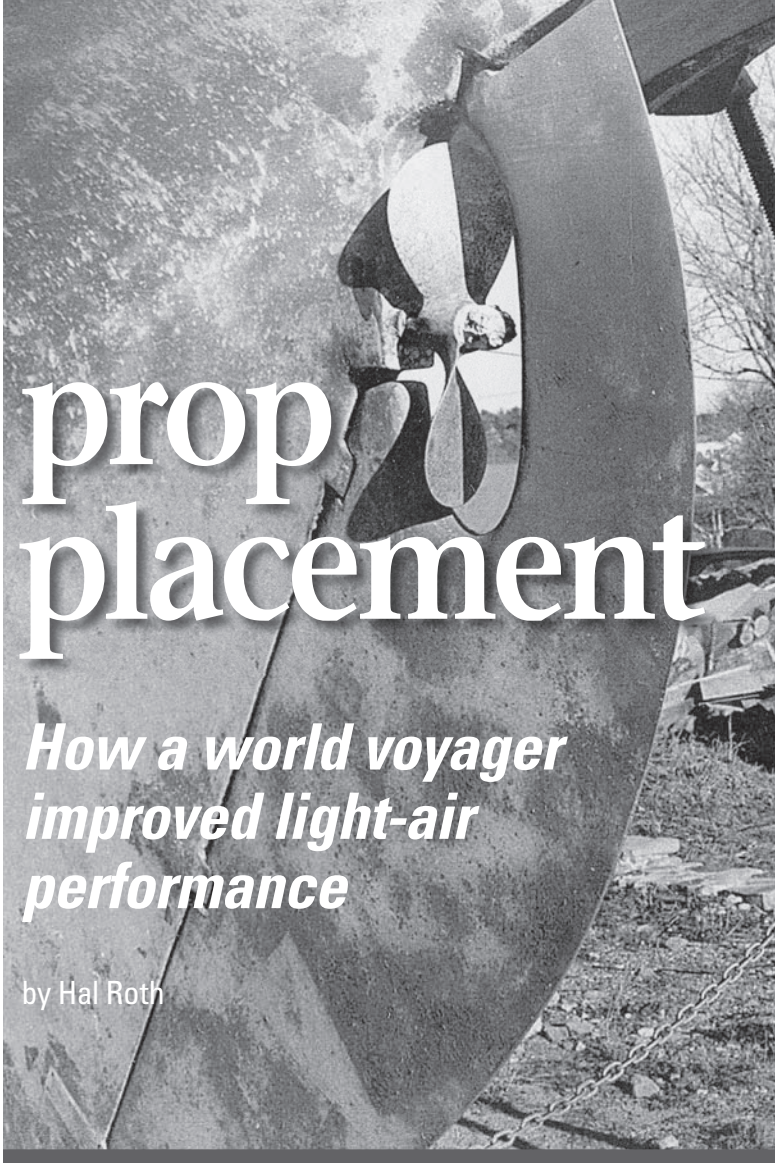
I may never have the perfect gelcoat, the completely dry cabin, a spotless engine room, or a fantastic console of matching instruments. But I can improve my teak this year and fix that bigger gelcoat gouge above the rubrail. I can re-oil the cabin wood, re-seat that leaky head window, fix that anchor locker latch, and probably use something from the chandlery to make a better cover for the rode locker . . . all without serious expense.

My quest is not to have the perfect boat, but to make every boat I have better with the passage of every year, no matter where I may start. The most important part of TLC is L. Anyone who has fixed up and sailed a bottom-feeder boat knows this satisfaction.

Whisper's unique prop placement

How a world voyager improved light-air performance

by Hal Roth



***Whisper's* original rudder and propeller arrangement. Note the large aperture, marginal fairing, and fixed 2-bladed propeller. This is a conventional scheme and long a source of poor performance at low sailing speeds.**

If you wonder how much drag and hindrance a 2-, 3-, or 4-bladed propeller puts on a sailboat, I suggest you toss a large metal bucket over the transom and hang on to it with a stout lanyard. Wait! Don't heave the bucket over the side and try to hold it by hand. Take a round turn around a mooring cleat or a winch beforehand. I can tell you that if you're going, say, 5 knots, the drag of the bucket may yank you over the lifelines and into the water.

Consider, then, the drag of a stationary propeller and how it slows a yacht at low sailing speeds. This is why there's been a long-standing effort to perfect folding and feathering propellers.

Margaret and I sailed *Whisper*, our Spencer 35, to many places and, like all sailing nuts, we wanted to go faster with less effort and fuss. I had increased the sail area slightly, bought better sails, reduced weight aloft, stored heavy things amidships and low, and worked hard at filling and smoothing the bottom during haulouts.

Once, when we were hauled out in a boatyard in Puerto Rico, a fellow rubbed his hand along the copper paint and said: "*Whisper's* bottom is better than most people's topsides."

I was flattered. However, I know that any increase in sailing performance because of a super-smooth bottom is only one step on a whole staircase of points leading to better performance.

Two areas

It seems to me that good light-air performance depends on attention to two general areas:

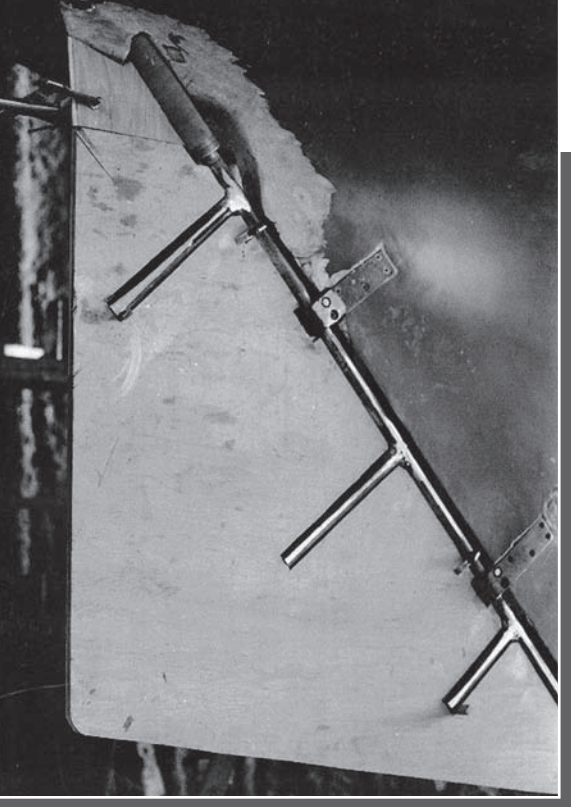
- The hull design, its proper lofting and construction, and the design and fairing of the rudder and keel. You may think your hull is perfectly fair, but if you and a friend take a 6-foot flexible batten and start going around a hull, you may be astonished at how unfair the hulls of many boats actually are, even those from famous builders. Try doing this in a boatyard. You'll be amazed. If there are any people around, they'll soon be watching to see what you're doing. And they'll be amazed too.
- The drag from protruding through-hull fittings, poorly fitting centerboards, rough bottoms, exposed engine shafts, struts and, most of all, propellers, is significant. All this is relevant, particularly in light air when the vessel is sailing slowly. Lots of wind forces the yacht through the water, regardless of bottom drag. In my years at sea, however, I have found that 50 percent of the time the wind is 15 knots or less — even out in the middle of an ocean. Anything that helps light-air performance gives you a real advantage.

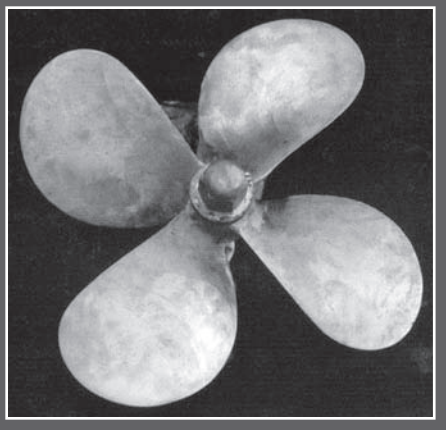
A Spencer 35 has a mid-1960s CCA-type hull with gentle overhangs, a cutaway forefoot, and an 8-foot-long keel (see *Good Old Boat*, September 2004). The rudder is hung on the angled sternpost at the back of the hull on three cast bronze gudgeons. Each is bolted to a solid glass layup at the sternpost with 6¼-inch bronze bolts. A 2-bladed propeller is (or was) set in an aperture.

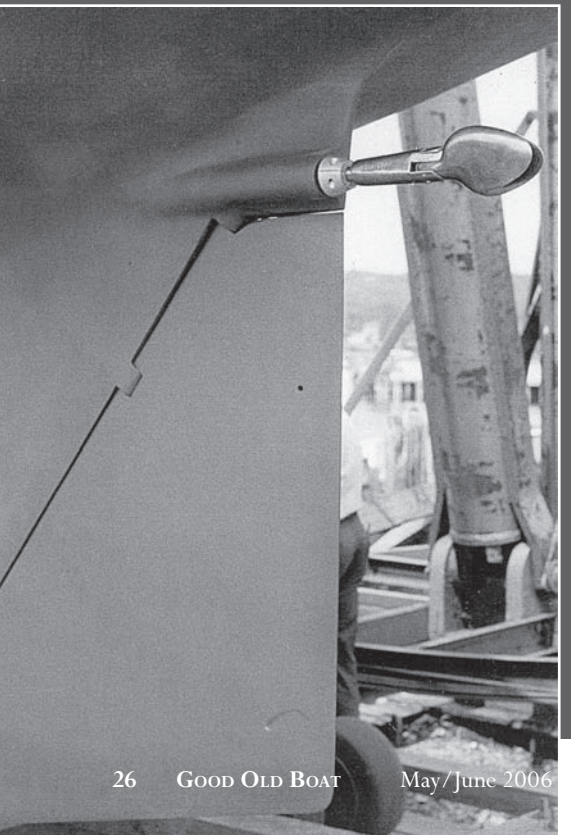
Turned vertically

Normally when sailing, I turned the propeller vertically to fit within the aperture to reduce drag and locked the propeller in place by putting the engine gearbox lever in reverse position. I used a painted mark on the propeller shaft (viewed from inside the boat) to line up the propeller. This kept the propeller blades from sticking out to pick up lines and supposedly reduced the drag of the blades by hiding them within the aperture. Of course, this was all fairly standard stuff.

My naval architect friends told me the flow through the







Hal built the rudder, at left, of plywood after the horizontal bronze rudder pieces were brazed to the rudder stock. He wrapped fiberglass mat and roving around the stock and glassed the material to the plywood and metal. To prevent separation of the plywood and glass layers, he drilled 1-inch holes through the plywood and filled them with resin and mat to connect the glass on each side of the plywood.

The culprit, at center: the blades of a fixed propeller will ruin any reasonable slow-speed sailing performance.

A view of the new rudder and propeller arrangement, at left, from the port side showing the Martec folding propeller, the shaft and propeller zinc, and how the new rudder has been carefully faired into the hull.

aperture from the high- to the low-pressure side of the hull was significant and that the drag of the propeller blades was disastrous for good sailing performance. I envisioned various schemes to get rid of the terrible aperture and propeller blades, but I didn't know how to do it. I sighed and resigned myself to the restrictions inherent in the basic design of the yacht.

In 1980, just before Margaret and I set off on a sailing trip around the world, I decided to install a new engine. Since my weight-reduction program (for the yacht, not the captain) was continuing, I chose a 1-cylinder 11-hp Farymann diesel that weighed 245 pounds instead of the 485 pounds of 23-hp Volvo MD2B that we had used previously.

I wondered if I could install the new engine on mounts so the engine shaft would be horizontal rather than inclined 15 degrees downward as the old Volvo was. If I did this, maybe I could run the shaft and propeller out behind the rudder (but still well below the waterline). To solve the resulting conflict between the new shaft and the rudder, perhaps I could lower the area of the rudder slightly. This would place the propeller above and behind the rudder. This step would necessitate a change in the shape of the rudder, but the naval architects told me that the shape of the old rudder was obsolete.

"Make a new rudder with straight lines like a 12-Meter," Germán Frers Sr. had advised me when we were hauled out in Buenos Aires on an earlier voyage.

> **"Anything that helps light-air performance gives you a real advantage."**

"I'm sure the yacht will steer better with more rudder area down lower," counseled the late John Brandlmayr, *Whisper's* designer, when we were in British Columbia.

Who was I to argue with experts?

Shaft problem

I still had the problem of how to get the propeller shaft past the rudder shaft. Certainly I couldn't run the propeller shaft through the rudder stock. In an old book by Eric Hiscock I saw a photograph of a yacht with an offset propeller. Why couldn't I move the new shaft to one side or the other to miss the rudder stock? The torque of the small diesel was modest. A 5-degree shaft offset was trifling. I decided to chance it and go ahead with the project.

It was a frosty autumn day when we took the boat out of the water and put her in a shed at Southwest Boat Corp. in Southwest Harbor, Maine. I hired an assistant, George, and we quickly removed the old Volvo and ripped out the engine mounts. In a few days George and I had new mounts made from two big slabs of mahogany and glassed them into position. It was easy to install the new German diesel because it was small and light. Now we turned our attention to the rudder.

Our boat was already 14 years old. Margaret and I were about to head out toward great unknown places where a

rudder failure was unthinkable. What was the condition of the rudder shaft and the rudder tube? Were the metal pieces still good, or had they been eaten up by electrolysis and galvanic action? Would the rudder fail at some crucial moment? Since I planned to build a new rudder, I decided to replace all the metal parts. I would need a rudder shaft with three brazed or welded metal fingers that would be built into the new rudder. In addition, the new engine would require a longer shaft and a new shaft log. Six new pieces in all, seven if I replaced the heavy-walled rudder tube.

Expensive Monel

"By all means use Monel for your rudder parts," advised an engineer friend. "You can weld it, and nothing is stronger and more corrosion-resistant."

I telephoned a metal salesman in Massachusetts. "Only $2,200 for the seven pieces," said the man. I almost dropped the telephone. (A quote in 2005 was $3,647.)

That afternoon a man in the boatyard showed me a Monel shaft that was half eaten away by corrosion, probably from an electrical leak. Since *Whisper* had had bronze before, I decided to continue with the same metal. However, there were half a dozen varieties of so-called "bronze," some with up to 37-percent zinc. I telephoned an engineer at ASARCO in New Jersey.

"Why didn't you call before?" he counseled. "I'm here to help people like you. Of course you don't want high zinc content around salt water. I think you need bearing bronze, which has only a trace of zinc." He suggested a stainless-steel propeller shaft of AQ-22 and advised hanging a few sacrificial zincs on the metalwork. The seven new pieces cost $301. (A quote in 2005 was $1,348.)

It was a big job to remove *Whisper's* rudder. Because of the long rudder shaft that extended up into the cockpit, the standard techniques are either to dig a deep hole in the floor of the boat shed or raise the vessel in order to slip the rudder and shaft out from the hull. Since the boat shed had a floor of reinforced concrete, we had no choice. We began a series of jacking and blocking moves while constantly adjusting the shores to keep the yacht from falling over.

With a small hydraulic jack, large wooden blocks, and patience we managed to get the bottom of *Whisper's* keel 3 or 4 feet above the concrete floor, high enough to drop the rudder and its long shaft.

Shaft hole

With the old rudder out of the way, we cut a hole for the engine shaft and fitted and began to align the 30-inch stern tube. We now had to deal with bearings for the propeller shaft inside the stern tube. At the after end of the stern tube I gently tapped a rubber Cutless bearing into place. To support the forward end of the shaft I had a machinist press in a small bronze bearing about 3 inches from the forward end of the stern tube. We tapped the stern tube at this point for a small copper line that would lead upward for a couple of feet to a convenient screw-down grease fitting. (Today I would make the bearing of Delrin plastic, fit it at the forward end of the stern tube, skip the grease fitting, and figure on sea water to lubricate the plastic.) The stern tube jutted forward into the bilge for about 3 inches to leave room to slide on the stuffing box hose and two Grade 316 stainless-steel hose clamps.

Hal built up the small addition to the hull formerly taken up by the old rudder. To fair the entry of the new rudder, he added glass along the length of the matching hull area by building up a slightly concave area of glass and Marine-Tex epoxy.

Since I am the world's greatest fusspot, I was concerned about the bond between the stern tube and the hull, so I had the machinist knurl the thick-walled bronze pipe. I reasoned that glass and resin would stick better to a roughed up metal pipe than a smooth one.

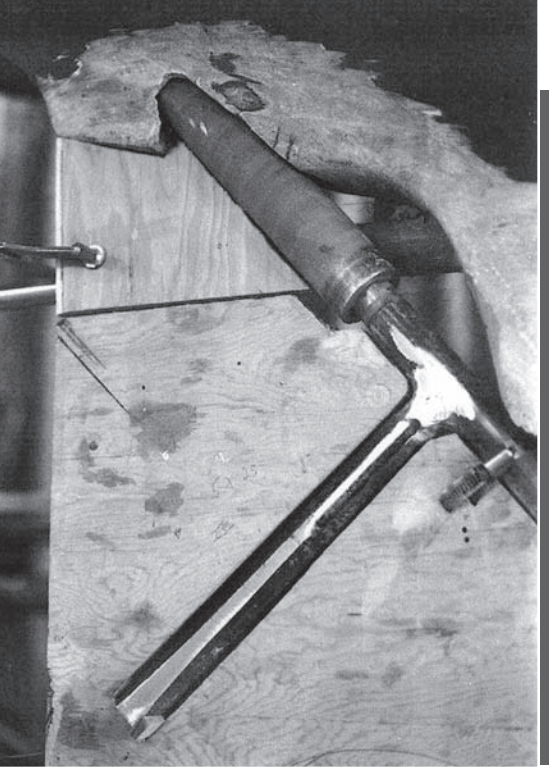
George and I then wiped off everything with acetone, coated the surfaces with epoxy, and slipped the stern tube into place. We fitted a small rectangular bronze plate (about 3 inches x 5 inches) over the stern tube to secure its forward end. We sank four ⅜-inch lag screws into the glass layup (with Marine-Tex epoxy) to hold the plate. The whole assembly would never leak.

Wouldn't budge

Now I was free to turn my attention to the new rudder. Since I had decided to replace the rudder tube I had to remove the old one. I hammered and pushed and pried and swore, but the old tube wouldn't budge. Even a small hydraulic jack did nothing. I finally discovered that the Spencer Boat Co., the builder, had brazed a flange on the rudder tube and then had glassed the flange in place inside a hull stringer, a fiendishly clever (and strong) installation but one calculated to drive future mechanics to despair. After removing the old rudder tube (and half-destroying it in the process) I concluded that the metal was in perfect condition. Still, I was pleased to have removed and replaced the metal pipe to ease my nagging doubts about its condition.

An expert welder carefully brazed the bronze fingers to the new rudder stock. I made a plywood core and laid up laminations of glass and resin around the stock and over the plywood. The scheme was labor-intensive and slow, but I gradually built up a strong assembly. With carefully scribed centerlines, a long straightedge, a red grease pencil, a grinder, and patience I began to get a streamlined fin. To fill in the hollows and to achieve a feather edge on the aft and bottom edges, I used micro-balloons and epoxy, a superior and easily sanded compound. When I was through I put one layer of glass cloth and epoxy over the fairing to tie everything together.

Over time, I have learned that the best grinding scheme for me is to lay a 3-foot metal ruler over an area to be smoothed and to mark the high areas (mountains) with



Hal knurled the rudder tube to ensure a good bond with the hull during installation, at left. Here a piece of scrap plywood is added to the hull as a base for glassing when the rudder area was lowered a little. The old aperture has been partially filled. Fairing the rudder, at right, was a slow, tedious job. A carefully scribed centerline, a long straightedge, a red grease pencil, a large grinder, and lots of time and patience were the main ingredients. Hal found that a mixture of epoxy and microballoons was an ideal compound for the last five percent of the fairing. He put one layer of glass cloth and epoxy over the final product.

a red grease pencil. Then I hit the red marks with the big grinder (or sander), taking care to keep the machine level. Depressions (valleys) need to be brought up with filler. If it's a structural area I add layers of fiberglass mat and epoxy or Marine-Tex epoxy by itself; if it's merely cosmetic, I use lighter fillers.

Morning person

I'm best in the morning when I'm rested and have steady arms and hands. By grinding a little and then re-marking with the ruler and red grease pencil, it's astonishing what I was able to accomplish. I find that if I get tired and my hands and arms tremble, my work suffers.

I fitted the new 48-inch rudder tube (also knurled) and glassed it into place, both inside and outside the hull. Next, I filled in the old propeller aperture and shaft log hole, and put a piece of plywood above the new rudder to serve as a base for building up the hull, which now came down a bit lower (see photo above). Little by little, everything went together. I faired-in the gudgeons after I hung the new rudder.

With the new appendage in place, George and I lowered *Whisper* from her tippy perch. Now I could easily reach the new shaft to install the Martec folding propeller and zincs. One day we called in the yard gang and dragged *Whisper* to the dock crane and lowered her into the water.

"What about the performance?" I can hear you say. "Did the scheme work out, or was it all a waste of time?"

The little 11-hp Farymann worked to perfection and drove *Whisper* about 5½ knots in smooth water, almost the speed that the old Volvo produced, with half the weight. Under power, she tracked almost straight ahead. I believe the reason for the improved performance was because the propeller operated in clear water and was unencumbered by the restrictions of the old propeller aperture. Another factor could be that the propeller diameter, pitch, and design combination was better suited to the yacht and her weight. When I spoke with the Martec people, they asked me for a dozen numbers, which they put into their computer before recommending a propeller diameter and pitch. Of course the first question I always heard was "What happened in reverse? Did you hit the dock or did the propeller actually pull you astern when you put the engine in reverse?"

Worked well

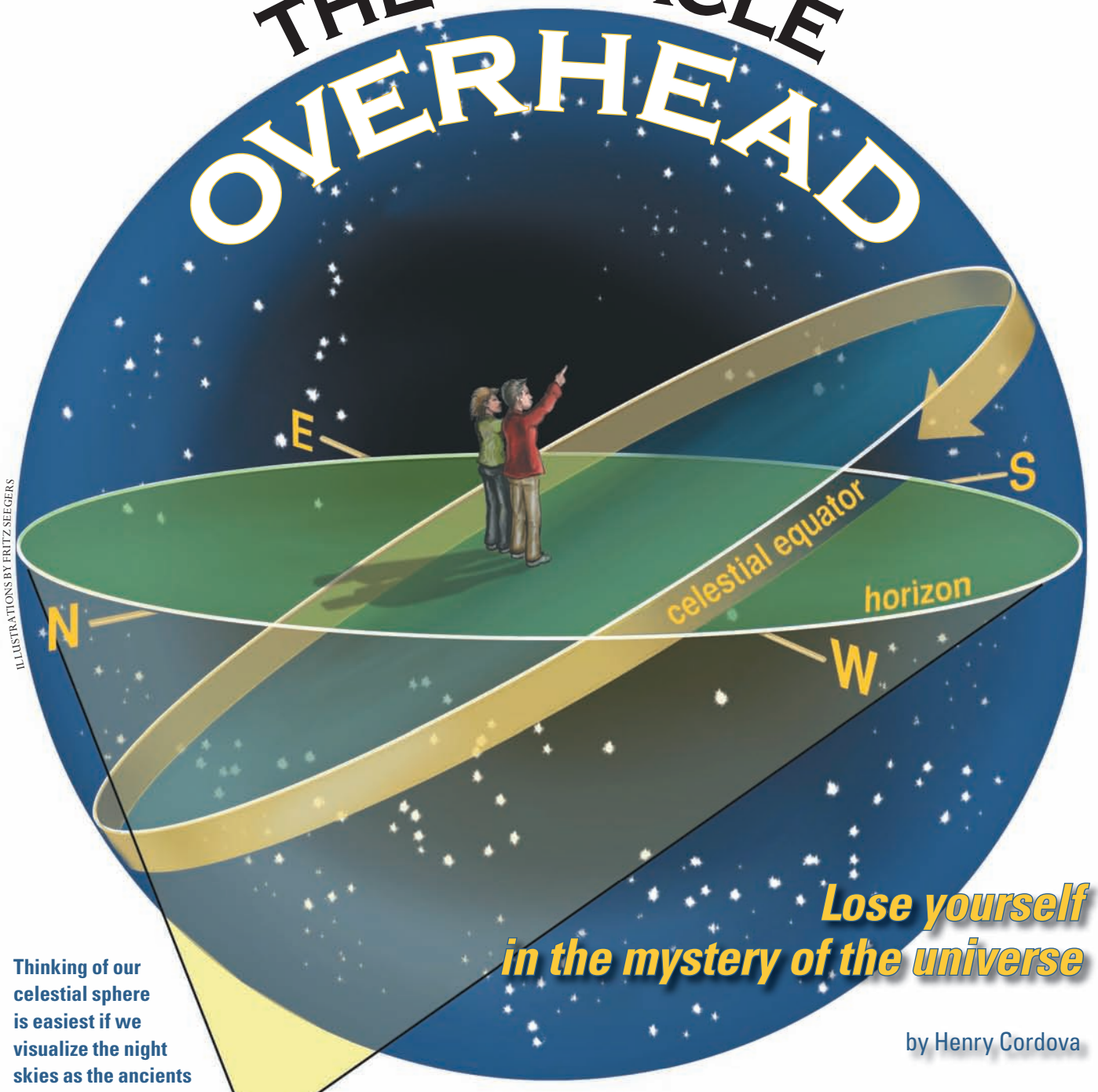
I can say honestly — I paid cash for the propeller, a 16-inch diameter, 14-inch pitch model — that the Martec prop worked well in all conditions, both ahead and astern. However, I don't approach docks at 5 knots because I think such maneuvering is ill-advised. I come in at 2 or 3 knots and, when I put the engine in reverse and speed it up, the boat stops smartly. In truth, I really don't have much to do with docks and marinas because I prefer to anchor out somewhere. But that's another story.

Much of my sailing pleasure comes from sailing in and out of complicated harbors and anchorages. However, I'm the first to admit that the occasional use of a little engine is handy, especially if you have to shift your anchorage in a crowded harbor at night. And for generating a little electricity.

With regard to sailing performance with *Whisper's* folding propeller, no aperture, and streamlined rudder, I can tell you that she sailed very much better at low speeds. At 2 to 4 knots the little boat definitely glided along easier and was more maneuverable. With stronger winds and higher speeds, I don't think the propeller made any difference because the increased drive (horsepower) available from the wind and the gain from the rudder and propeller improvements was a less meaningful fraction of the total drive equation. Or you can change the words and say that at low speeds the improvements from the lessened propeller and aperture drag mean more.

Of course, with such an arrangement we had no worries about picking up lines from lobster pots or fishing traps because the hull was as smooth as a dolphin, with no propeller blades sticking out to snare things. I suppose that I'm prejudiced and really have no way of measuring these changes quantitatively, except that when we sailed along with other yachts in light air we generally slipped past the yachts dragging fixed propellers. At sea in very light going, when every advantage is a big step, I think we were way ahead.

THE MIRACLE OVERHEAD

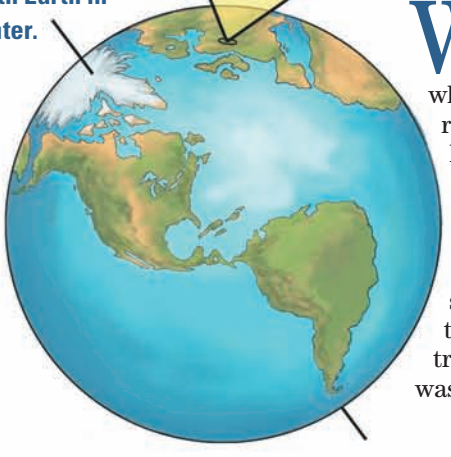


ILLUSTRATIONS BY FRITZ SEEGERS

Lose yourself in the mystery of the universe

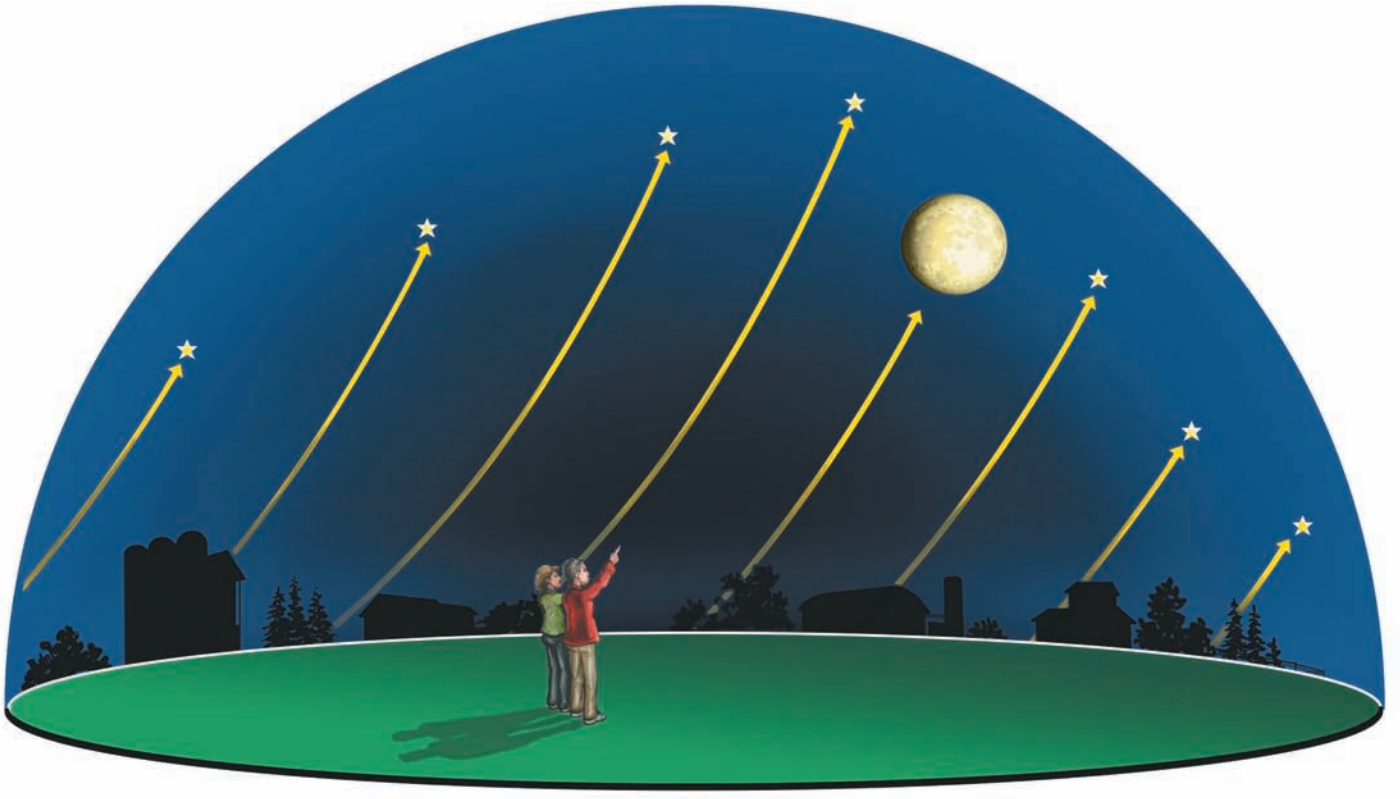
by Henry Cordova

Thinking of our celestial sphere is easiest if we visualize the night skies as the ancients did: with Earth in the center.



We hardly get to see the sky at night anymore; electric light has all but banished it. Anywhere near a city, the atmosphere reflects the glare of our streetlights, causing even the clearest sky to glow dimly and obscure all but the brightest stars. Even away from town — in the country or near the water — there seems to be a bright light nearby to ruin our night vision and distract us from the heavens above. It wasn't always this way.

Before artificial lighting, even city dwellers were familiar with the stars and the constellations, the motions of the Moon, Sun, and planets, and how it all relates to time, tides, seasons, direction, and location. In ancient times, people may have been ignorant of the true nature of the universe and Earth's place in it, but at least they were able to experience it directly. Now, even those who work outdoors after dark — policemen, farmers, and mariners — rarely look up at a clear, moonless sky and just wonder.



The view facing east for a mid-latitude Northern Hemisphere observer. Southern Hemisphere observers see a similar scene, except that the star paths lean to the north.

In order to see the stars as our ancestors did, professional astronomers retreat to remote mountaintop observatories and amateur stargazers drive for hours or contemplate buying retirement homes in wilderness communities. Sadly, most of our children have never really seen the sky at all.

Fortunately, people with boats have access to the heavens, and not just for navigation but as a profound experience in its own right. On a long passage or at anchor in some remote lagoon, a starry night is an invitation to stretch out on deck and just look up. At times like this we can all see the sky as our most distant ancestors did.

Forget what you've learned…no telescopes, textbook diagrams, Carl Sagan, or Astronomy 101. This isn't about what the sky is or how it works, it's about experiencing it directly, on an emotional and spiritual level. See it the same way the Polynesians did from their ocean-going canoes and the way Odysseus did on the way home from Troy. Learn the sky by actually *looking* at it, the way you learned the sea and the weather. You may be surprised by how little you really know and how much those ancient mariners understood that you don't.

Lie on deck

Choose a clear dark night with no moon. Lie down on deck. Look up and memorize a few of the brighter stars and constellation patterns. The first thing you'll notice is that they move. They don't move among themselves, but the sky itself moves, as a unit, slowly, at half the speed of the hour hand of a clock. It's as if the sky is a huge black sphere completely surrounding the Earth and the stars are glowing dots painted on the inside of it. Actually, this is what everyone believed until after the Renaissance. It's the celestial sphere, or the firmament, as the translators of the King James Version of the Bible called it.

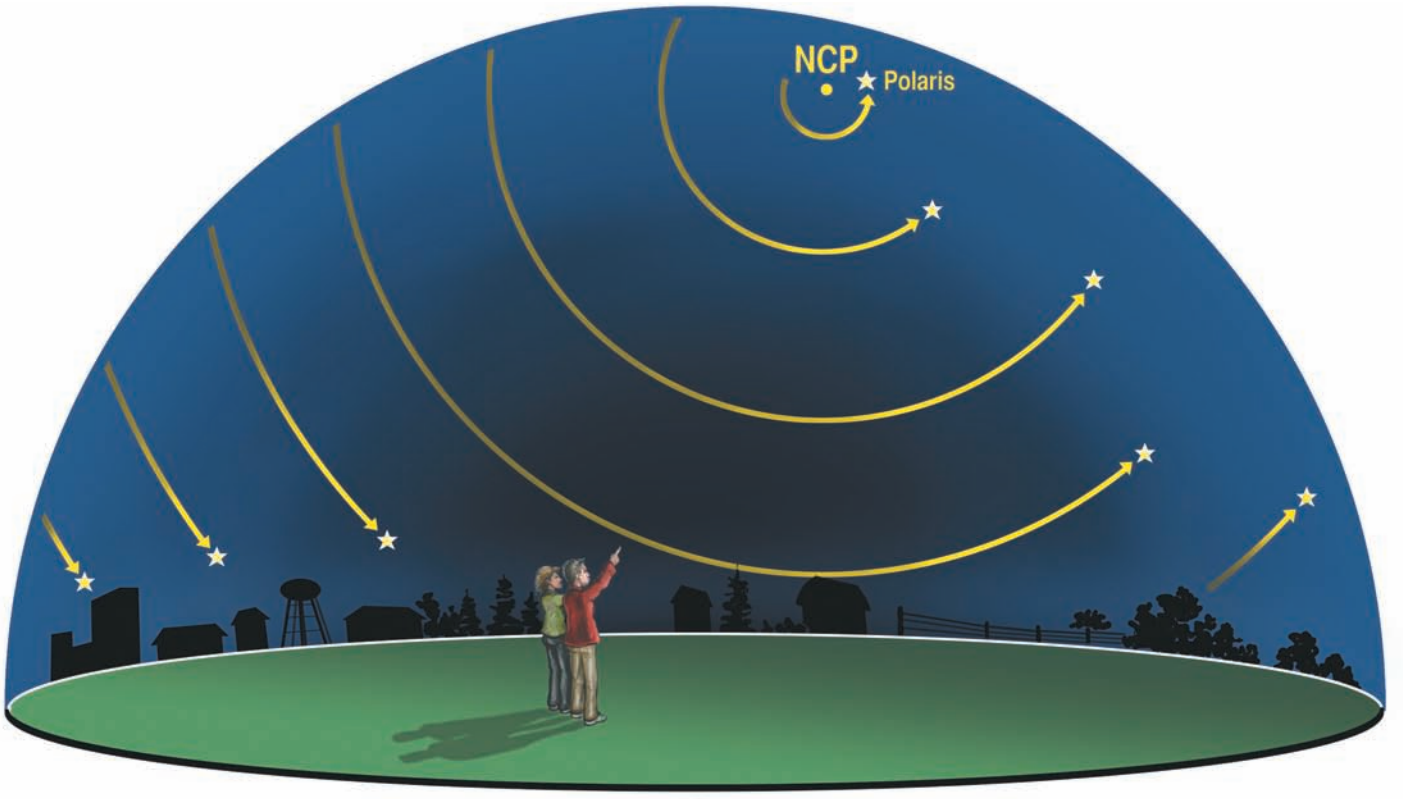
Although we know today that we're really not in a big black sphere, it is still a useful metaphor to help understand what we see above us. The old-timers were able to navigate ships and predict eclipses with this concept, so it's nothing to be scoffed at. As the celestial sphere slowly rotates about the Earth, the stars are dragged along with it since they remain rigidly attached to the inside. This is why they are called the fixed stars.

It takes the sphere about 24 hours to rotate around the Earth. The stars become visible as they come out of the sea in the east. They then travel slowly around the sky to set eventually in the west. The Sun is attached to the inside of the sphere, too, and it will eventually rise out of the sea in the morning and follow the stars around the sky until sunset. The fixed stars will still be there, but they won't be visible because of the glare. The ancients called the amount of time it took the celestial sphere to go once around the Earth a sidereal day. We know it today as the amount of time it takes the Earth to spin once around its axis, relative to the distant, fixed stars.

But we set our clocks by the Sun, not by the stars, and if we go out the following evening at the exact same time (one solar day later) we will notice that the stars will be just a little bit ahead (west) of where they were the previous night. In fact, every one of the fixed stars rises about four minutes earlier than it did the night before.

Quite noticeable

This isn't immediately obvious from day to day, but over the course of a few months it becomes quite noticeable. Stars that were just starting to rise around sunset are now quite high in the sky when it gets dark, while stars setting shortly after sunset will now be too close to the Sun to be visible at dusk. In this way, the stars that are lost in the Sun's glare during the day gradually change places with those on the



The view facing north for a mid-latitude Northern Hemisphere observer. The stars near the north celestial pole are circumpolar: they never rise or set. Southern Hemisphere observers see a similar view to their south, but the sky rotates clockwise and contains different stars.

night side, so that half a year later the daytime stars are visible at night, and the nighttime stars of six months earlier are invisible in the daytime. For this reason, we have spring, summer, fall, and winter stars and constellations.

The reason for this is that the Sun is not a fixed star. It is free to move on the celestial sphere, creeping among the fixed stars from west to east in the opposite direction of the sphere's turning, like an ant walking around on the surface of a spinning basketball. It takes the Sun a full year to travel all the way around the celestial sphere. Of course, we know now that the Earth rotates on its axis every 24 hours and revolves around the Sun once a year.

As the Earth spins out one sidereal day, it has also moved along its orbit about a degree, so it has to turn for four minutes more before the Sun returns to its original position (one solar day). But the old-timers saw the celestial sphere turning at a constant daily rate with the Sun slowly moving along it on its own yearly path through the fixed stars, the ecliptic. The 12 constellations along the ecliptic they named the "zodiac." It is a testament to the failure of our educational system that most people today know the meaning of the latter term, but not that of the former.

The ecliptic

It takes the Sun an entire year to travel around the celestial sphere. The Moon, on the other hand, makes the trip in about a month. If you watch it for several hours during the night, you can actually see the Moon moving very slowly among the fixed stars from west to east, in the direction opposite to which the sphere is turning. The Moon's path on the sphere is close to, but not the same as, the ecliptic, which means the two intersect at two places. This is where lunar and solar eclipses can take place.

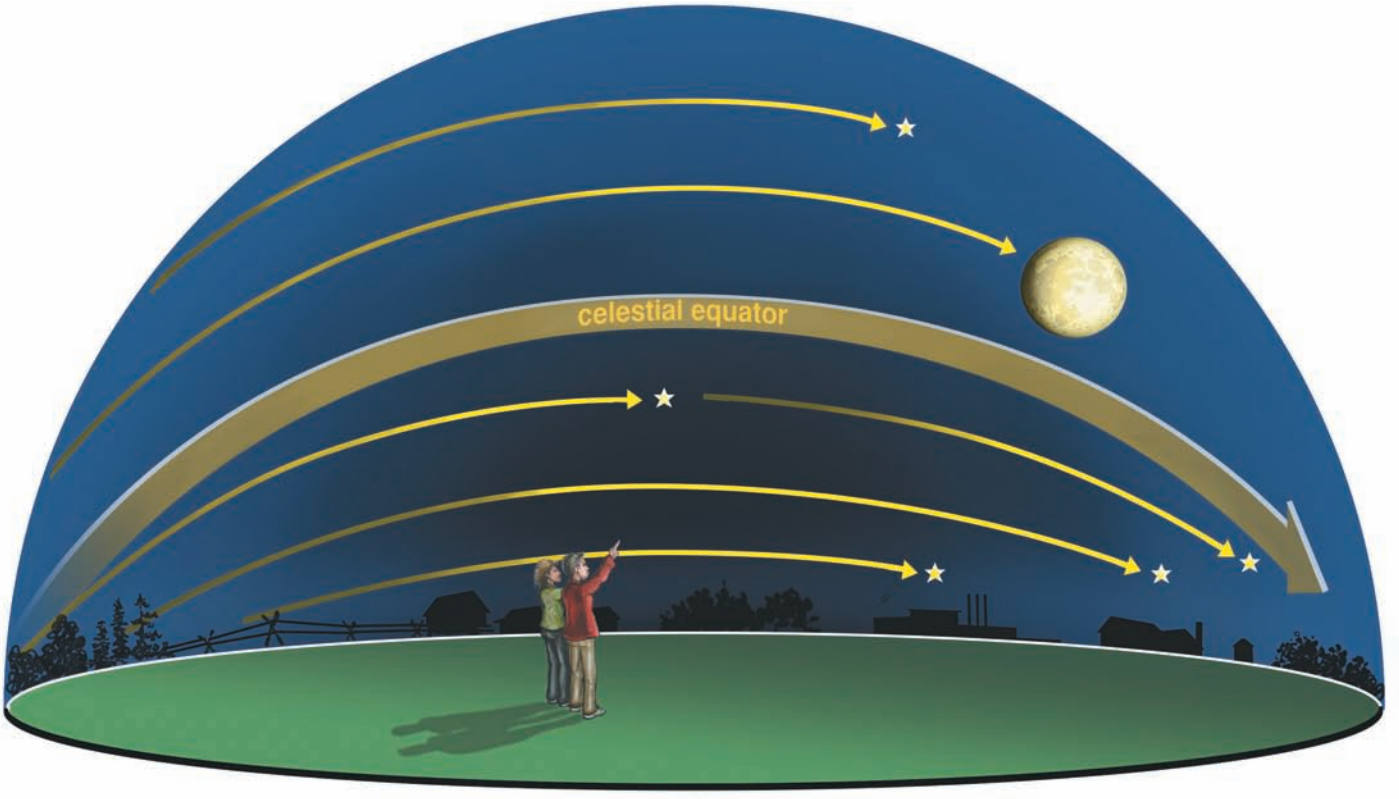
The Moon revolves about the Earth, but the planets revolve about the Sun so their paths on the celestial sphere are quite bizarre, although they, too, are close to the ecliptic. The inner planets, those closer to the Sun than Earth, are always near the Sun on the sphere and can usually be seen only shortly after sunset or before sunrise. The quaint term is "evening star" or "morning star."

The outer planets, which circle the Sun further out than the Earth does, can be found anywhere along the ecliptic; their positions, brightness, and speeds vary enormously depending on the relative positions to us, their positions on their orbits, and Earth's position on its orbit. The planets will move among the fixed stars, but their motion is slower, not noticeable over just one night. Confusing? You bet. That's why it took mankind 5,000 years to figure it out.

Still, once you learn the brighter stars and constellations along the ecliptic, you'll quickly be able to pick out the planets as the ones that don't belong there. But don't worry about the wanderers yet. Focus your attention, for the time being, on the celestial sphere itself and the stars fixed on it.

Angled paths

The second thing you'll notice about objects on the sphere is that they don't rise straight up out of the horizon; their path is at an angle to it. In other words, the stars and other celestial bodies' paths are not perpendicular to the horizon when they rise or set. It's as if the celestial sphere were tilted at an angle, or more precisely, its axis of rotation is tilted relative to the surface of the sea. Remember, the sphere completely surrounds the Earth, so there are spots on the sphere directly above each of the Earth's poles, conveniently named the celestial poles; likewise, that part of the sphere over the equator is called the celestial equator, an imag-



inary line which divides the sphere into a northern and southern hemisphere, just like the Earth below it.

As the sphere rotates on the axis through its (and the Earth's) poles during the course of a sidereal day, its appearance will depend on your latitude (how far north or south of the equator you happen to be). For example, if you are at either pole, the stars don't rise and set at all. They travel around the sky on paths parallel to the horizon and the celestial equator coincides with your horizon. That's how the midnight Sun works.

At the equator, the stars do rise straight up out of the horizon on a perpendicular course. And another thing, the celestial equator is directly overhead there, going from east to west with the two celestial poles precisely at the northern and southern horizons.

Equal to your latitude

At latitudes between the equator and poles, the spin axis of the sphere is at an angle, and that angle is equal to your latitude. So in my home in Florida, at latitude 26 degrees north, the north celestial pole is 26 degrees above the northern horizon. Fortunately, there is a fairly bright star, Polaris, very close to the pole so I can easily locate it (and the direction of true north) by just memorizing the star patterns around it. Furthermore, stars less than 26 degrees away from the pole never set for me, they just go around it in a big circle. They are called circumpolar stars. Using similar reasoning, it is easy to visualize where the southern celestial pole is, 26 degrees below my southern horizon. Of course, I can't see it, the Earth is in the way. But south of the equator it is clearly visible and higher in the sky the farther south I travel.

The view facing south for a mid-latitude Northern Hemisphere observer. The fixed stars rise in the east, reach their highest point due south of the observer, and then fall to the horizon to set in the west. Southern Hemisphere observers have a similar view when facing north, except that the stars rise on their right.

Unfortunately, our friends Down Under don't have a bright star to help them find it. They have to memorize the surrounding constellations to locate their south pole. Consequently, as sailors travel north or south on the sea, they can actually see the angle of the sphere's axis change, the whole bowl of the sky will shift, exactly one degree for every 60 nautical miles they travel north or south.

Congratulations

You now know all the astronomy you need to do celestial navigation. From the geometry described so far, it should be clear that unless you are precisely at the equator, there are parts of the celestial sphere that you will never see, since the body of the Earth will be in your way. At the poles you can see only one hemisphere of the celestial sphere and at points nearer the equator, as you leave the poles, you get a chance to peek further down into the other hemisphere, but never all the way. Even at my southerly location in Fort Lauderdale, I can't see any star located less than 26 degrees from the south celestial pole. They will never rise above my southern horizon.

By now you may be wondering, "Why is the ecliptic, the solar path among the fixed stars, not the same as the equator?" To put it another way, why is the ecliptic tilted with respect to the equator (about 23½ degrees) so that the Sun spends six months north of the equator and six months south of it? The short answer is that the Earth's axis of rotation is not perpendicular to the plane of revolution of its orbit around the Sun. The Earth leans over 23½ degrees, its axis pointing at the north celestial pole, locked into place by the powerful gyroscopic force of a planet spinning over 1,000 miles an hour at the equator.

Incidentally, this means that the Sun can never be directly above you unless you are within 23½ degrees of the equator. This is why the Tropics of Cancer and Capricorn, two parallels of latitude 23½ degrees north and south, respectively, are defined on maps. They

mark the extreme limits of the Sun's path through the celestial sphere, or the summer and winter solstices.

The equinoxes

The points where the Sun crosses the equator on its yearly journey around the sphere are the spring and fall equinoxes. When the Sun is at the solstices, any observer less than 23½ degrees from the appropriate pole can see it all day long; it will not set. At the opposite pole, the long polar night will reign, and the Sun will not rise. The parallels that mark these limits, the Arctic and Antarctic Circles, are located 23½ degrees from the Earth's north and south poles, respectively.

The motions and geometry of the night sky can best be appreciated by going through the cycle for several years, watching the daily repetition of rising and setting, the monthly cycle of the Moon, the yearly path of the Sun, and the gradual rolling of the bowl of night as your ship crosses, at a human pace, a substantial portion of the planet you live on.

The Milky Way

Also attached to the celestial sphere is the Milky Way, a cloud-like glowing band of starlight that completely circles the sphere, cutting across the celestial equator at an angle of about 60 degrees. With even the slightest optical aid, such as your binoculars, it resolves into a mist of stars, untold millions of them, stretching off into infinity. To the naked eye it is a mysterious object, very like a cloud, although it is clearly fixed to the celestial sphere and shares its motion. The unaided eye reveals knots and clusters, bright and dark nebula, sudden brightenings and clumpings of starlight. The slightest light pollution, even the natural kind from our Moon, will cause it to disappear, but on a dark clear night its icy-pale glow and the belt of bright stars that accompanies it is one of the most breathtaking sights nature has to offer.

The Milky Way used to be available to everyone; now most people have never seen it, and those who have been lucky rarely saw it under ideal conditions. It is absolutely staggering, particularly near the bright central bulge, most easily visible from the tropics and farther south. The Milky Way is our home galaxy, seen edge on, the only way we can see it because we are embedded in it.

> "Just a little knowledge will go a long way to attuning you to these rhythms and cycles."

The planets also impose their own complex rhythms, each one changing wildly as they race each other around the great circular tracks of their orbits, passing and overtaking, falling behind and ducking into the blue glare of daylight, their complex motions being a projection onto two dimensions of the simple and elegant three-dimensional architecture of the solar system.

Just a little knowledge will go a long way to attuning you to these rhythms and cycles. Like the old Babylonians, you will come to accept the night as not just undifferentiated chaos, but a functioning clockwork, the mechanism of the universe beautifully explained and even more magnificent in its grandeur and majesty than when it was clouded in mystery and ignorance. What's more, your appreciation of these simple geometric relationships of time and geography will allow you to look beyond to other levels and deeper into the sky itself.

Our Sun is just one of billions of stars in the galaxy and everything we see with our naked eye at night is part of that great round and flat stellar system. Our Sun is about halfway out from the center, and when we look about the celestial sphere we only see the thin mist of Milky Way stars between us and the cold and dark of extragalactic space. But when you look at the Milky Way you are staring into the disk along a hundred thousand light years and a hundred billion stars.

Fear not that a little knowledge of astronomy will destroy the beauty and wonder of the night sky. The more you know, the better it gets.

The greenhouse effect

Kathy's basil thrives in the sunshine of the Barkley Sound anchorage on the west side of Vancouver Island.

Fresh produce from a cruising ketch's deck

by Kathy Conlan Phillips

Heading north from Nanaimo to begin our circumnavigation of Vancouver Island on Canada's west coast, we passed another sailboat heading south, returning to the United States. As our sterns were side by side the skipper pointed and asked, "What is *that*?"

"That" was our summer garden. Resting on the cabintop, secured with a bungee cord, was our pot of herbs and lettuce protected by a greenhouse. Sometimes it's the little things that make a voyage memorable.

Our 41-foot pilothouse ketch, *SeaSund*, made by SeaFinn in Finland, has lots of creature comforts designed for coastal cruising. But having aboard a bounty of fresh-picked lettuce leaves, parsley garnishes, and the tang of cilantro in a catch-of-the-day seviche gives us a welcome treat for the long weeks without provisioning opportunities for fresh greens.

Why a greenhouse? The summer before, cruising the Inside Passage to Alaska, I'd tried growing a pot of herbs without benefit of protection. My abject failure began with a litany of weather onslaughts. Consider that it rains about 335 days a year in southeast Alaska. So I was always trying to dry out the pot in our steaming cabin filled with wet slickers and dripping condensation. The unfriendly wind stripped budding leaves from scraggly plants that had been deprived of sunshine and warmth. Add poisonous salt spray. It doesn't take a horticultural specialist to predict the outcome.

In spite of nursing the sickly pot of parsley, rosemary, basil, and cilantro for more than a month, nothing was growing. Generous dollops of fertilizer did not help. Talking to the plants to coax them to grow didn't help either. Finally my husband, Ken, in hushed funereal tones, asked if we could please put it out of its misery and conduct a burial at sea. I couldn't watch as the pot of herbs hit the briny deep. It was like giving up on a friend.

> "Resting on our cabintop…was our pot of herbs and lettuce…Sometimes it's the little things that make a voyage memorable."

Sawdust flying

The following winter, Mr. Handyman was whistling while he worked in the garage. The table saw was buzzing and sawdust flying when I came out to investigate. Ken was grinning. "I'm making you a present for your birthday," he announced and showed me the drawing he created for his latest woodworking project. I'm used to his overbuilding/engineering tendencies. But even I was skeptical that a greenhouse could withstand the punishment outside on deck all summer. He was so pleased with his idea, I didn't have the heart to express my doubts. Good thing too.

As I saw it take shape I marveled at his ingenuity. It was roomy, with spacious headroom for growing and an acrylic cover to warm and protect the tender starts. It fit on top of our pilothouse without interfering with the lines, sails, or companionway slide.

Spring planting time came, and I was excited. Gourmet lettuce planted, herbs tucked among the greens, the saucer-shaped pot filled to capacity,

Continued on Page 36

Building the greenhouse

What you need

- **Materials:** boards; 1 x 1s; piano hinges; screws; wood glue; acrylic sheets; varnish stain to seal the wood.
- **Tools:** table saw; drill; screwdriver; paintbrush for stain.

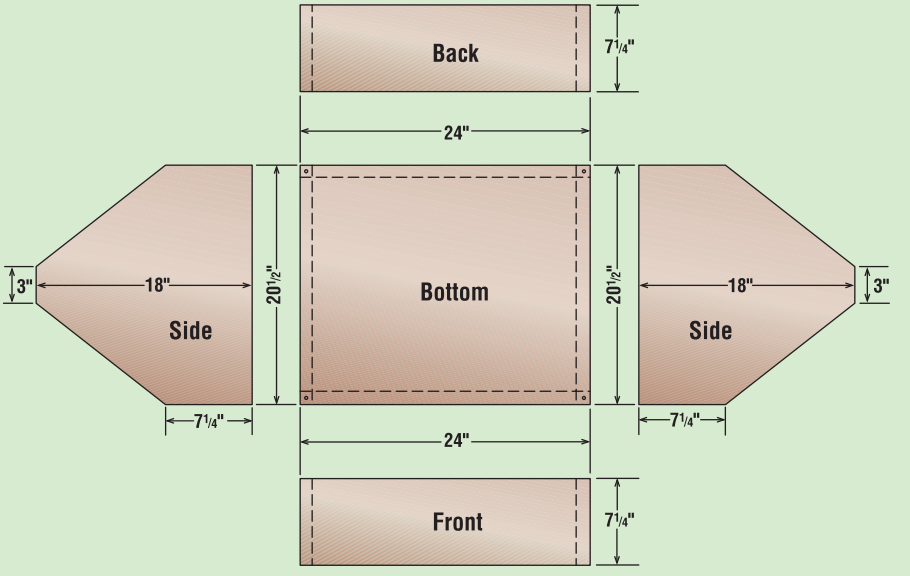
Description

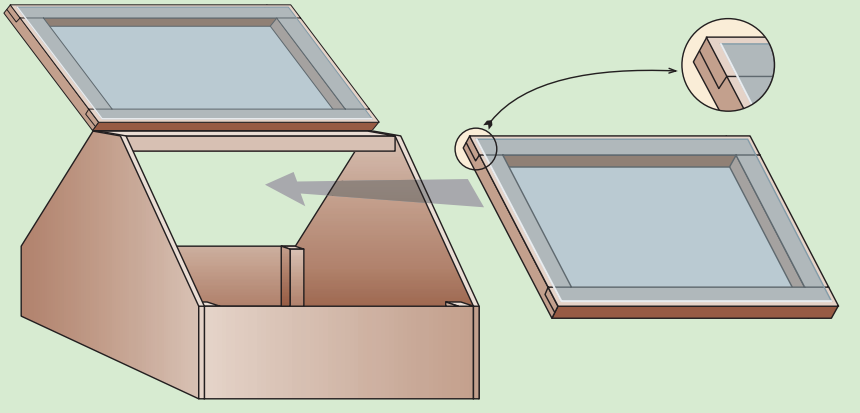
Our greenhouse was built to accommodate the main saucer pot, which is 16 inches across and 3 inches deep. Ken designed the greenhouse to be 20½ x 24 inches, with a height at the top of 18 inches. Build your greenhouse to a size that comfortably fits a space on your boat where you can leave it outside while cruising. The container of dirt, water, and plants is too heavy to move inside via the companionway ladder.

Ken has added sticks attached to the two rectangular sides with a screw. These swing down inside the greenhouse and out of the way when the acrylic top is closed, but will swing up into position to prop the acrylic doors open when needed. When we want the top fully open for airflow or to allow the rain to water the plants, we attach a length of fishing line tied around one screw holding the acrylic in place and then looped around the opposite screw on the other side.

Construction

- Cut all pieces to size and stain before assembly.
- To the bottom floor, attach 1 x 1s along each side as an attachment frame.
- Attach 1 x 1s to the vertical sides of the two rectangular sidepieces.
- Attach these two sidepieces to the floor frame.
- Attach the two peaked sides.
- Fit top crossbar in place.
- Build frame for two top roof sides by using glued lap joints or rabbet joints and square it up.
- Using two piano hinges, attach two roof sections to top crossbar.
- Attach acrylic pieces to roof sections.





ILLUSTRATIONS BY TED TOLLEFSON

The greenhouse effect,
Continued from Page 34

Planting hints

My planting pot is round and the greenhouse is square. The first year, I planted all the herbs and lettuce in the main pot, with other gourmet lettuce starts in smaller pots at each corner. Unruly growth by the parsley, chives, rosemary, and cilantro, even with pruning, blocked the light and space for the slower-growing basil. A better solution is to plant these weed-like herbs in their own pots to contain their robust growth.

Plant the slower-growing basil, oregano, and thyme with the lettuce in the main pot. The lettuce grows best in the middle of the pot, enjoying the full height of the greenhouse. We picked lettuce leaves individually, until the plants sprouted seeds. At that point, the pot was too overgrown with my gleeful planting, so I just cut off the tops of the lettuce and left the roots. Removing the roots would have dug up too many other roots that had intertwined by the midsummer growing season.

Plants that thrive during long summer days include: parsley, cilantro, rosemary, basil, oregano, chives, thyme, and many varieties of lettuce, including romaine, green- and red-leaf, and gourmet blends.

After planting, slip the pot into the greenhouse. Once your greens get growing, the full pot is too difficult to maneuver through the opening. Water the plants well at first, fertilize each week, and then thin and harvest as needed for space. You'll know your lettuce needs more water when it droops and is limp to the touch. Wash it well before making a salad. How those green garden spiders find us at sea, I'll never know.

While underway, keep the greenhouse roof that faces forward closed to protect the plants from wind and salt spray. You can leave the aft roof open for air circulation. Open both sides at anchor when weather permits.

we were ready to install it aboard. You might imagine the stares and questions from our dock neighbors. As we prepared for departure day with a flotilla of 11 other sailboats on our voyage around Vancouver Island, you might also imagine envious looks from other provisioning spouses.

When we rounded notorious Cape Scott in heavy winds, the greenhouse was secured with just a bungee cord. The stretch in the line had the wooden structure sliding and slamming from wave to wave, the greenhouse "catching air." We augmented the design by adding a sturdy line.

No fresh produce

We finally landed at Winter Harbour, expecting to replenish supplies. There, a small store serves the three year-round residents and the summer fishing boats. Skippers and spouses left the dock to find the boardwalk, charging hopefully into the walk-in produce cooler. The only fresh provisions left were one onion and a bag of potatoes. Unluckily for us, 20 raceboats, competing in a race around Vancouver Island, had been docked there the night before. They'd wiped out all fresh supplies. The next delivery wasn't due for a few weeks. Now our fellow cruisers were sending *very* envious and longing looks toward my greenhouse. Unfortunately, we didn't have enough lettuce to share.

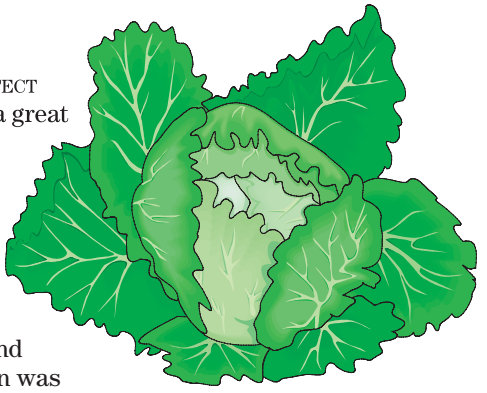
The following summer, sailing by ourselves, we skipped the marinas dotting the Inside Passage and stayed strictly on the outside, greenhouse aboard. We took our time exploring the wild west coast of Vancouver Island, and we made improvements in our spring planting. This time we had lettuce to share when we met other boaters. The greenhouse was also a great conversation starter in every anchorage and dock. Many cruisers had heard of the sailboat with the greenhouse and were eager to see it themselves.

Kathy at the helm on the west coast of Vancouver Island, above. Ken snags a 25-pound ling cod to enjoy with fresh herbs from the garden, at left.

When the lettuce is gone

A gourmet cruiser's tasty substitutes for fresh produce

by Bonnie Dahl



It was the end of a perfect day. Earlier, we'd had a great spinnaker run along Lake Superior's Ontario wilderness shoreline into a pristine anchorage. Now we were enjoying a meal of freshly caught lake trout grilled on the barbecue with wild rice and a tossed-lettuce salad. Ron was murmuring something about the great meal and the good life, to which I replied, "Well, enjoy it now because that's the last of the lettuce."

With 10 days to go to our next port, we both knew what that meant. It brought back memories of cruising in the eastern Caribbean: in many of those smaller ports, lettuce in any form was non-existent. We had learned to make do with salad substitutes, often just made from cans.

Even with special care, lettuce is one of the first things to deteriorate in the fresh-produce department of any ship's stores. Drying it before storage and allowing it to breathe seems to help. Compact-head lettuce, such as iceberg or Boston lettuce, lasts longer than its leafy counterparts such as Romaine lettuce or even spinach. Yet, even with refrigeration, the shelf life of head lettuce is a little more than two weeks.

Lettuce substitutes

One of the easiest substitutes for lettuce in sandwiches is thinly sliced dill pickles layered on a piece of bread or bun before adding the main sandwich ingredients. The extra crunch and flavor make a nice addition to most sandwiches.

Cabbage is a great substitute for the fresh crunch of a lettuce salad, as it can last up to four weeks without refrigeration. It is grown in many of the remote areas of the Bahamas and Caribbean and is more readily available. In fact, coleslaw is almost a staple in many islands. It seems that everyone has a favorite coleslaw recipe.

Coleslaw consists mainly of shredded cabbage and thinly diced onion with any of the following options: shredded carrots, chopped green pepper, or celery. Some even add raisins for a little extra flavor or peanuts for an added crunch.

There are two basic types of coleslaw: one made with a creamy dressing, the other with a vinegar-and-oil dressing. The following dressing recipes are used with half a head of shredded cabbage and one small onion thinly diced, along with any of the above options thrown in.

Creamy coleslaw dressing

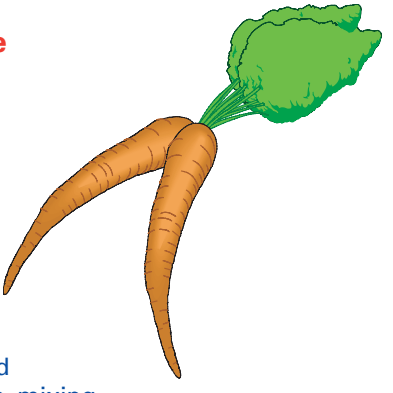
¼ cup mayonnaise
2 Tbsp. milk, or mixed powdered buttermilk, or sour cream*
2 Tbsp. white vinegar
1 Tbsp. sugar
½ tsp. celery seed
¼ tsp. salt
⅛ tsp. pepper

*Jury-rigged sour cream can be made by adding 2 tsp. lemon juice to 1 cup of milk and chilling while it clots, adding a little more lemon if necessary.

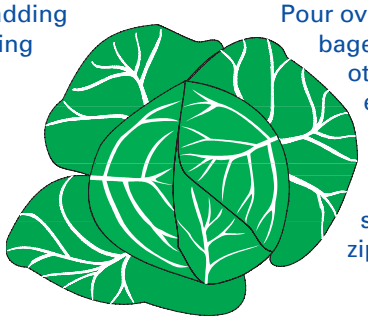
Mix the ingredients and add them to the shredded cabbage, onion, and any of the other veggie options. A handful of raisins or peanuts goes especially well with this one. If possible, chill for a couple of hours before serving.

Coleslaw vinaigrette

3 Tbsp. white vinegar
2 Tbsp. vegetable oil
1 Tbsp. sugar
½ tsp. celery seed
¼ tsp. salt
⅛ tsp. pepper



Combine the ingredients and beat well. Pour over cabbage, onion, and other veggies, mixing evenly. If possible, refrigerate a couple of hours before serving.



With either recipe, a tablespoon of spicy brown mustard will add a lot of zip to the salad.

Continued on the next page

Salads from cans

As good as coleslaw and other cabbage salads are, there comes a time when the cabbage is gone, too, or you're looking for some variety. That's when we turn to our can lockers, and creativity takes on new proportions as we put together salads made primarily from canned veggies. Like coleslaw, another favorite with sailors is three-bean salad and its variations.

Three-bean, four-bean, five-bean salad (take your pick)

1 can (16 oz.) green beans
1 can (16 oz.) yellow wax beans
1 can (16 oz.) red kidney beans
1 can (16 oz.) garbanzo beans (optional)
1 can (16 oz.) baby lima beans (optional)
1 medium onion, thinly sliced

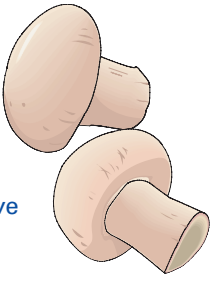
Marinade:
½ cup white, cider, or wine vinegar
½ cup vegetable oil
½ cup sugar
½ tsp. salt (optional)

Drain beans and combine them with the onion in a large bowl. Mix the marinade ingredients in a separate bowl and add this to the bean mixture. Cover and chill at least two hours, the longer the better for flavors to blend. With refrigeration, this salad will keep a long time. If you are going to make the five-bean version, it's a lot of salad, especially for two people. In that case, this is one recipe you might want to reserve for taking to potluck dinners.

There is another bean salad we have used throughout the years, especially when we were cruising in the eastern Caribbean. It is amazing in its simplicity and quite tasty with slivered water chestnuts adding a decided crunch.

Green bean and mushroom salad

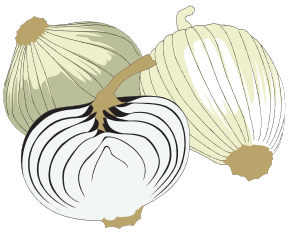
1 can (14.5 oz.) French-style green beans
1 can (4 oz.) mushrooms stems and pieces
1 can (8 oz.) water chestnuts



Drain all cans, cut water chestnuts into slivers, and mix. We particularly like to add a vinaigrette dressing, either from a bottle or made from seasoning packets. In a pinch we have used diluted soy sauce with this one.

Another salad that is incredibly simple is one made from canned beets and onion and then marinated in vinegar and oil.

Marinated beet and onion salad



1 can (15 oz.) sliced beets
1 small onion, cut in thin slices

Marinade:
¼ cup white or wine vinegar
2 tsp. sugar
1 Tbsp. cooking oil

Drain the beets, cut into thin slivers, and add the onion. In a separate bowl, dissolve sugar in vinegar and oil before adding to the beet and onion mixture. Note that this recipe doesn't have to be chilled before serving, but it should be allowed to sit for about an hour for the flavors to blend.

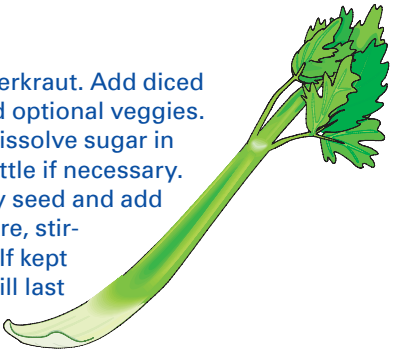
In the earlier years of sailing exploration (1700s), sauerkraut was sometimes added to a sailor's diet in an attempt to stave off scurvy, a disease caused by a vitamin C deficiency. Since cabbage was known to be a good source of vitamin C, it was thought that sauerkraut (fermented cabbage, which didn't readily spoil) was the answer.

Modern-day sailors needn't worry about scurvy, yet canned sauerkraut still finds a useful spot in the galley, particularly in making delicious salads. Although there are many variations of sauerkraut salad, this is one we have adapted from a number of recipes.

Sauerkraut salad

1 large can (27 oz.) sauerkraut
1 jar (2 oz.) pimentos, diced
1 medium onion, diced
1 cup diced green pepper or celery if you have it

Marinade:
⅔ cup white or cider vinegar
1 cup sugar
⅓ cup cooking oil
1 tsp. celery seed



Drain and rinse sauerkraut. Add diced pimento, onion, and optional veggies. In a separate pan, dissolve sugar in vinegar, heating a little if necessary. Mix in oil and celery seed and add to sauerkraut mixture, stirring to coat evenly. If kept chilled, this salad will last indefinitely.

There may come a point when you want a fancy salad to serve to guests but all you have are cans. The following concoction, from a number of recipes, may serve. With the added red color of the pimentos, it looks quite festive. This is another good recipe for a potluck dinner.

Marinated artichoke and hearts of palm

1 can (14 oz.) artichoke hearts
1 can (14 oz.) hearts of palm
1 can (4 oz.) mushroom stems and pieces
1 jar (2 oz.) canned pimentos, diced

Marinade:
¾ cup vegetable oil
½ cup lemon juice
1 Tbsp. sugar
1 tsp. dry mustard
½ tsp. each: salt, garlic powder, basil
Dash of black pepper

Drain all cans and pimento jar. In a large bowl, break artichoke hearts and hearts of palm into smaller pieces with a fork. Add mushrooms and diced pimento. Mix marinade in a separate bowl until well blended. Pour over veggies and mix thoroughly. Chill in marinade for at least 4 hours.

Note: If you don't want to make the marinade, a nice substitute is Italian-seasoned vinaigrette dressing from a bottle.

Growing sprouts

More variety? You're looking for that extra crunch of something crisp? For many sailors, sprout gardens provide the answer. Sprouting is simply taking seeds and giving them enough water so they pop open and grow. Nutritionally, sprouts are higher in proteins, enzymes, minerals, and vitamins than the mature plant. They are an excellent source of vitamin C and many of the good B vitamins. Eaten raw, they are deliciously fresh and add texture and color to many recipes.

There are a number of reasons why growing sprouts is so adaptable on a boat. One is that the seeds take up little space. With sprouting, many seeds increase 20 times or more in volume. The cost of growing sprouts is relatively inexpensive when compared to buying the mature plants. A couple of tablespoons of seeds will fill a quart jar with sprouts. But the main reasons sprouting works so well on boats are that it is so easy, takes up little space, and can be done without sunlight.

Sprouts have three requirements for growth.

- ***Air.*** Sprouts need to breathe or they will mold and start to rot. They shouldn't be put into sealed containers.
- ***Water.*** Initially, sprouts need a good soaking for at least eight hours or overnight. Then they need to have a good rinse with fresh water at least twice a day. If you miss a rinsing in the first few days, they will be permanently set back. If they dry too much, they will die. On the other hand they need good drainage. It is important that they don't get too much water or they will drown.
- ***Temperature control.*** Although there is some leeway in the temperature range for germination and growth, the best temperature for sprouting seeds is between 70°F and 75°F. Cooler temperatures are good for storage once the sprouts are grown, but during the growing process cooler temperatures will slow the growth. In extremely hot temperatures the sprouts will wilt and die. These temperatures can be controlled somewhat with the temperature of the rinse water used. When sailing in cooler climates use warm water; in warmer climates use cool water.

There are some secondary conditions to consider. One is space. Because the seeds are so small, it is tempting to put a larger number than necessary in a sprouting jar. When tempted, remember they will increase to 20 times their volume. As they grow and fill the jar, their growth will actually be retarded if there is not enough space for expansion. Another consideration is that although sprouts don't need light for initial growth, if you want them to "green up" they will need some light toward the end of their growth period. However, avoid direct sunlight. A few hours a day in indirect light toward the end of sprouting should do the trick.

Types of seeds to use. Any kind of seed or bean can be sprouted, but some are better than others for eating. Some of the most common for eating raw are: alfalfa, cabbage, clover (red), lentils, mung bean, radish, and sunflower. A nice alternative to sprouting single seeds is to get a sprout mix. It is important to avoid using seeds from plants that may have poisonous parts. Do not eat potato or tomato sprouts; they are poisonous. Avoid seeds that are produced for planting. Make sure that any seeds you'll be eating have not been previously treated with chemicals. To be on the safe side, it is prudent to purchase seeds packaged for sprouting. Certified organic seeds have been grown and processed to minimize all types of contamination. Health-food stores and cooperatives are a good source for sprouting seeds.

There have been a few news stories relating to salmonella contamination in sprouts. It appears that these seeds had been

Bean sprouts are easy, nutritious, and fun to grow. From the seed stage, top photo, the sprouts grow in 3 to 5 days to the eating stage, bottom photo. You can almost watch them grow. Bean sprouts are a welcome addition in any kind of salad and many sandwiches.

> **The concept of 'jury-rig' is one that definitely has its origins in shipboard existence. Yet this doesn't necessarily imply hardship.**

contaminated with animal waste and were intended to be used as a farm crop. To be on the safe side, use designated organic sprouting seeds. It also is important to refrigerate harvested sprouts until used.

Tools for sprouting. To grow sprouts, you need a container to hold them as they grow and a means for draining off the liquid. Any container, such as plastic bottles and glass jars, can be used. Even a cottage cheese container will work. Some people will use a paper plate with a wet paper towel over the seeds and sprouts. Serious sprout growers often use large trays. Some even use hemp or linen drip bags. In the small confines of a boat, however, jars seem to work best. Sprouting jars should have a wide mouth for rinsing the sprouts and getting them out when grown. A glass jar allows you to watch the progress of the sprouts.

You also need to provide some means of draining water from the sprouts. A piece of cheesecloth or muslin held over the mouth of the jar with a rubber band is all that is needed. We have also used a fresh disposable washcloth. You can buy manufactured lids with holes of varying sizes. We particularly like using glass quart canning jars as the screw-on rings hold the drainage cloth in place. After rinsing, tilt the jar in a bowl to allow for complete drainage.

Steps in sprouting. There are three basic steps in sprouting seeds.

- ***Soak*** organic seeds in water for eight hours or overnight in a warm dark place. For a quart jar, use 2 tablespoons alfalfa, cabbage, clover, radish, or ½ cup of mung beans or lentils. During this time the seeds will absorb 2 to 3 times their dry volume in water, so be sure to add enough water to keep them covered.
- ***Rinse and drain twice a day.*** Fill the jar with water, swirl, and drain. Some sprouting advocates suggest rinsing 3 or 4 times a day. Particularly if you are cruising in salt water and rationing the ship's fresh water, rinsing twice a day is sufficient. The important thing is to keep the sprouts moist without soaking. After a few days of growth, loosely separate the tangled mess, airing the sprouts in the center.

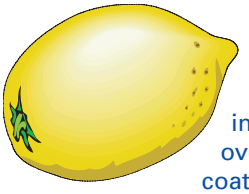
  After draining, invert the jar at an angle in a bowl to allow for additional drainage. Seeds allowed to sit in residual water will rot. However, do not mistake the fuzzy white root hairs of radishes and some other sprouts for mold. Return the jar to the dark warm place. In the last few days of sprouting leave the jar out in indirect light for a few hours to promote "greening-up."
- ***Harvest your sprouts.*** When they are between 1 and 2 inches long, your sprouts are ready to eat. This varies according to the type of sprouts but usually in 3 to 5 days. Not all sprouts will mature at the same time. It may be necessary to remove just the ripe sprouts and let the less-developed ones continue growing. This promotes a continuing harvest. Sprouts left too long before harvesting will have a strong bitter taste. Although the hulls can be eaten, some sprouts taste better if they are removed. To do this, just swish a handful of sprouts in water to loosen and remove the hulls before storage. Drain any excess water and store in a closed container, such as a plastic bag, in the icebox or fridge. Sprouts should keep up to a week, but they must be rinsed and drained every three days.

Using sprouts. One of the biggest advantages in growing sprouts is their versatility in the galley. They are a welcome addition in any kind of salad, especially those made from cans, as they contribute color and a fresh crunch. Sprouts can also be used as the main component of a salad, as seen in the following recipe.

Marinated sprout salad

2 cups of mixed sprouts (alfalfa and mung work well, or a commercially prepared mix)
1 can (8 oz.) water chestnuts cut into slivers

Marinade:
3 Tbsp. white vinegar
1 Tbsp. lemon juice
2 Tbsp. sugar
⅛ tsp. each salt, pepper, basil, and thyme



Mix sprouts and slivered water chestnuts in a bowl. In a separate bowl mix thoroughly all ingredients for the marinade. Pour over sprouts and water chestnuts, coating evenly. A bottled vinaigrette is just as good, if you don't want to make your own marinade. A half-cup of peanuts can be substituted for the water chestnuts.

Sprouts also substitute well for lettuce. Use sprouts instead of lettuce in sandwiches. They are especially good with tuna or ham salad sandwiches. Sprouts work well in pocket bread and sub sandwiches. Even grilled cheese sandwiches get an extra kick with sprouts. For a main course, chilled chicken salad over a bed of sprouts is delicious. We have used sprouts in place of lettuce in tacos and California hamburgers as well.

Most sprouts that can be eaten raw are equally good cooked. They are a natural component in stir-fry meals. They are good when added to soups. Adding a handful of alfalfa sprouts to omelets just before folding adds an interesting flavor and crunch. Some people even add sprouts to yeast breads, as they seem to help the yeast in producing a higher-rising loaf.

One of the challenges of long-term cruising is making do without. The concept of "jury-rig" is one that definitely has its origins in shipboard existence. Yet this doesn't necessarily imply hardship. Often our substitutions are as good as, or better than, the original because they add variety.

FRITZ SEEGERS

Every spring, a bump on the head

It's his boat's way of warning him to pay attention

by Don Davies

AHHH . . . AT LAST. Spring is here. I can tell by the bump on my head . . . near the hairline on the right side, same as every spring. Well, every spring since I bought *Affinity*, my 1974 Grampian 30. At first I thought it was the clever ploy of boat designers, all of whom must be 5-foot-5 or less and use their design skills to extract revenge on tall people. The original sales brochures for a Grampian 30 proudly boast of greater than 6- foot headroom in the main saloon and the V-berth. That part is true.

What the brochures don't tell you is that to get from the saloon to V-berth you must pass under a bulkhead that is a deceptively tall-looking 5 feet 11 inches. And so it is that every spring for the past six years, the first thing I must relearn about sailing is to duck under the bulkhead when moving about belowdecks. The lesson invariably has had me seeing stars, and twice it has drawn blood. It leaves a bump in the same place every spring and teaches me a lesson I remember all summer long.

The first time it happened, after the long diatribe full of language unfit to be reprinted here, I evolved my "evil short designers' revenge" theory. I still think there's some credibility to it. But the next year, after the cursing and writhing, I was mad that I had done it again. I *knew* the bulkhead was there and what would happen. I'd just forgotten. Unfortunately, I've forgotten and paid the same painful price every year since. But I've developed a new theory. Now I'm convinced that it's *Affinity's* way of giving me a very clear and indelible message.

All winter long, I'm like a kid with his nose pressed up against the windowpane looking out and waiting. I love that first day when the weather breaks and I can go down to take the cover off the boat and let the whistling wind whirl all the mustiness and cobwebs of February away and breathe new life into the old hulk.

With indescribable anticipation I climb the ladder to the cockpit, unlock the cabin companionway; go below and forward . . . being careful to duck under the bulkhead. I throw open the forward hatch to let sunlight and fresh air run through from bow to stern.

There is so much to do, so many small, lazy jobs with a skill requirement that make an accompanying beer not only permissible but almost obligatory. Batteries to be charged. Cushions to be put out to air. Brightwork to be sanded. Sparkplugs to be pulled and cleaned. And a close inspection with pencil and paper in hand to make up the detailed list of "to do" projects that must be accomplished before launch. All this with the sun shining overhead, a beverage close at hand, and a self-satisfied smile on my lips.

Other than a day on the lake with a brisk wind and taut sails, could there be anything to match this? Winter is gone, and the entire sailing season lies ahead with its seductive promise of challenge, adventure, and the pure pleasure of having nothing better to do than let the wind take you away.

That's when it happens. When that feeling of exhilaration, excitement, and anticipation has its hold on me and I'm belowdecks and suddenly remember that there's something I have to get from the other cabin. I turn quickly, take that big step, and "bang." Next thing I know I'm on the floor, holding my head, making very rude suggestions of a physically impossible nature about what the designer can do with his boat.

> ". . . the entire sailing season lies ahead with its seductive promise of challenge, adventure, and the pure pleasure of having nothing better to do than let the wind take you away."

But now I see what has become my annual rite of spring as *Affinity*, not so gently, telling me something I must remember all season long: never stop thinking about what you're doing.

The message is to never stop anticipating what has to be done and what you have to look out for when you're aboard

Continued on Page 80

The way we keep time at sea

by Don Launer

The concept of latitude and longitude have been known since the early days of sail, but without accurate timepieces longitude readings required long and cumbersome mathematical calculations, and the instruments for measuring latitude were very crude at best. Sailors primarily depended on dead reckoning (or ded reckoning, which was a contraction of deduced reckoning) to determine their position. But even dead reckoning required rudimentary timekeeping, since to calculate the distance traveled you had to multiply speed by time: D = S x T.

Clocks existed during the Elizabethan era, but they generally used a pendulum, which was incompatible with a rolling, pitching vessel. Even the best of these clocks had to be corrected frequently by sun sightings. Water clocks and sundials were often much more accurate, but both had serious disadvantages at sea; so the sandglass or hourglass became the early timepiece of choice aboard ship.

Sandglasses

The most commonly used sandglass was the half-hour sandglass (although four-hour sandglasses were sometimes also used). The ship's boy or the seaman at the helm tended the half-hour sandglass. As soon as the sand ran out he would turn it over and strike the ship's bell, adding one bell every half hour until, at the end of the four-hour watch, it was eight bells. These bells were grouped in twos, with each group of two signaling an hour. Thus, at two-and-a-half hours into a watch it would be five bells rung as two bells, pause, two bells, pause, one bell.

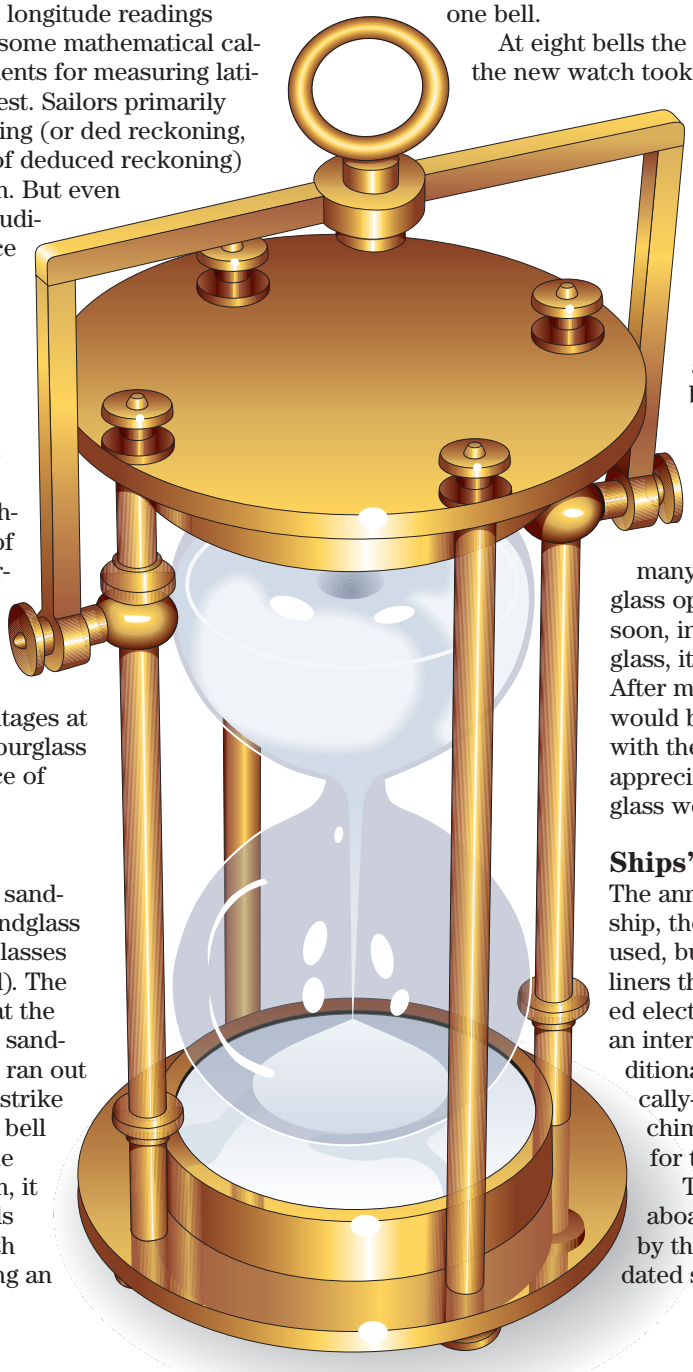
At eight bells the four-hour watch was finished, the new watch took over, and the process was repeated.

During the 1700s and 1800s, whaling voyages and voyages of discovery could last two years or more. For voyages of this length, several sandglasses were part of the ship's inventory. Not because of breakage — always a possibility — but because a sandglass would wear out. Sand was going through the narrow neck of the glass from one chamber to another 24 hours a day, and sand is abrasive. After many months of use the narrow glass opening became larger and soon, instead of a half-hour sandglass, it was a 25-minute sandglass. After months at sea, a new glass would be brought out and compared with the old one. If there was an appreciable difference, the old sandglass would be retired.

Ships' bells

The announcement of time aboard ship, the ship's bell, is still often used, but these days on large ocean liners the bell sound is now generated electronically and broadcast on an intercom. Nevertheless, many traditional ship's clocks, sold to nautically-minded customers, still chime the four-hour watch bells for telling time.

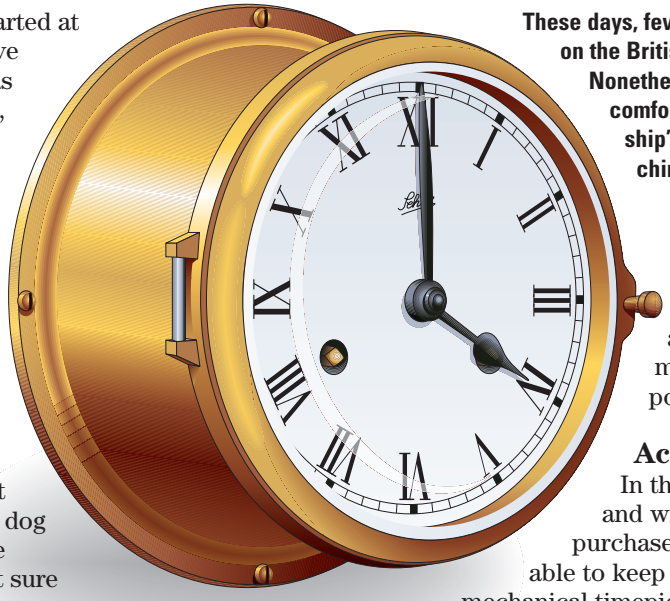
The standard watch system aboard ship was first established by the British Navy, which mandated six watches each day of four



Although various-sized sandglasses could tell time in half-hour, one-hour, and four-hour increments, the half-hour glass was the most common aboard ships.

Layout and illustrations by Ted Tollefson

hours each. These watches started at 12, 4, and 8; so if you heard five bells you would know that was 2:30 a.m., 6:30 a.m., 10:30 a.m., 2:30 p.m., 6:30 p.m., or 10:30 p.m. To prevent sailors from always being on the same watch and to allow both watches to have supper, the watch between 4 and 8 p.m. (1800 and 2000) was modified into two two-hour watches. The first of these watches, from 4 to 6 p.m. was called the first dog watch, and the second two-hour watch was called the last dog watch. Although the term dog watch has been used since the 1700s, naval historians are not sure how that term originated.



These days, few cruisers set watches based on the British Navy's six-watch schedule. Nonetheless, there's something comforting in having a traditional ship's clock aboard which quietly chimes the four-hour watch bells.

Name that watch

Each watch was given a name. The watch starting at 8 p.m. (2000) was called the first watch; the midnight watch was called the middle watch; the 4 a.m. watch was the morning watch; the 8 a.m. watch was the forenoon watch; then came the afternoon watch; first dog watch; and last dog watch. The two watch crews aboard ship were often given the names of the port watch and the starboard watch.

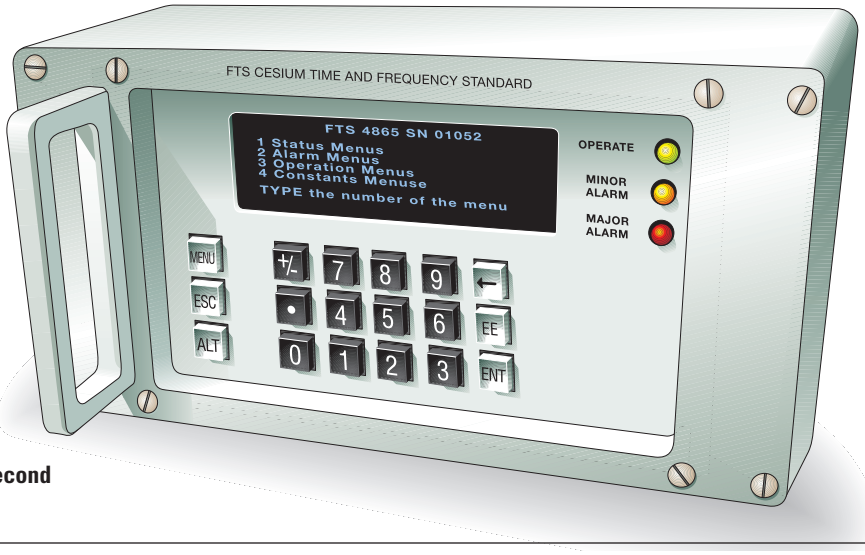
In the 1700s the search for a reliable method of measuring longitude intensified. Many scientists believed it would never be possible to create a ship's clock accurate enough for this task because of the large variations in temperature and humidity, coupled with the ship's wild gyrations. They opted, instead, to find an astronomical solution.

But finally, in 1764, carpenter John Harrison refined his ship's chronometer to an accuracy that resolved this dilemma. However, these new clocks were rare and expensive and only found aboard government and naval vessels. It wasn't until well into the 1800s that the average sea captain or packet company could afford a clock that would make determining longitude possible.

Accurate timepieces

In the mid 1900s quartz clocks and wristwatches, which could be purchased for a few dollars, were able to keep time better than the best mechanical timepieces ever made. These watches made practical use of the piezo-electric effect, which was first discovered in 1880 by scientists Pierre and Jacques Curie. Now we have clocks and wristwatches that can pick up the time signals broadcast from the atomic clocks in Fort Collins, Colorado, and our GPS receivers show the time from the atomic clocks aboard the GPS satellites, giving us access to time within a small fraction of a second.

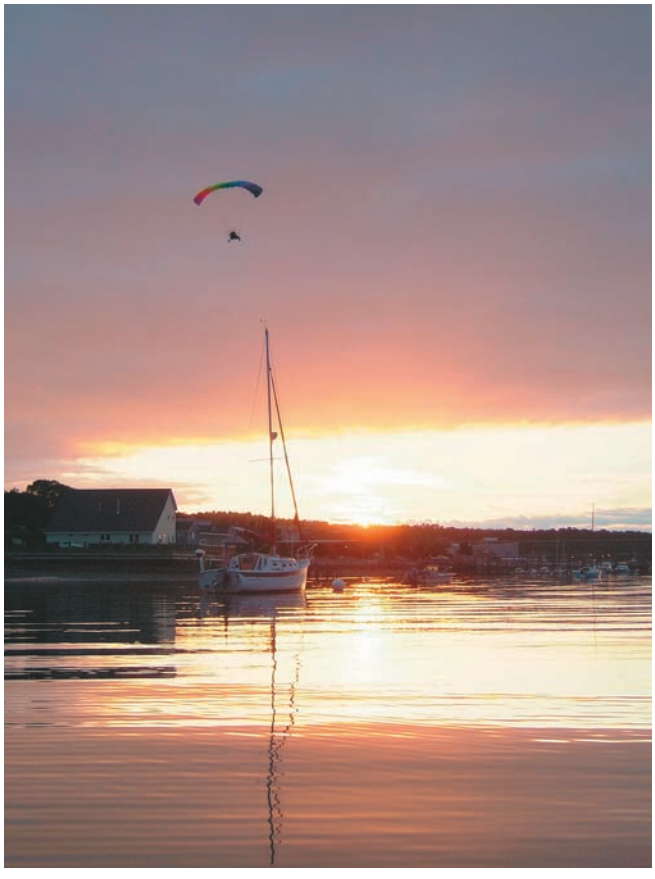
Although the sandglass has now been relegated to the mantelpiece, it's still a nostalgic reminder of our nautical past.

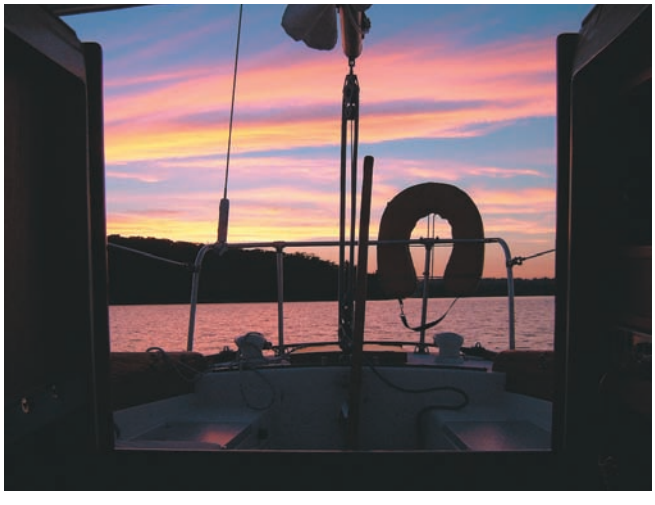


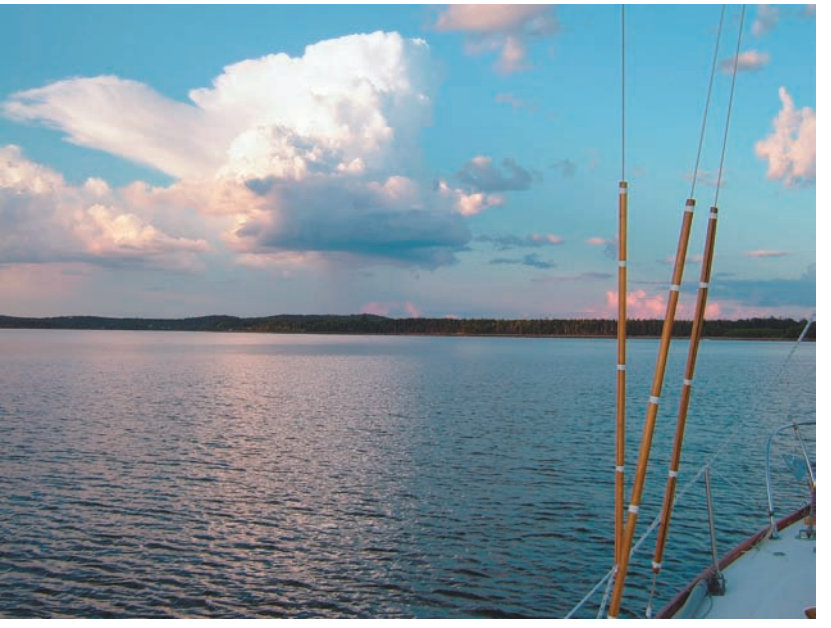
Atomic clocks, such as this one, have been used by many time-sensitive businesses (such as television stations) to coordinate the split-second timing of broadcasts and other events.

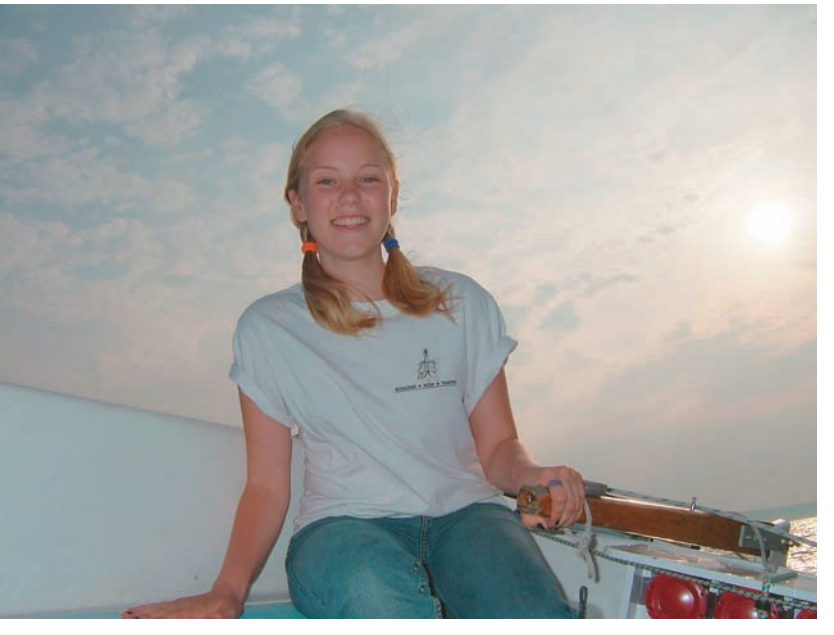
Scenes from a sailboat

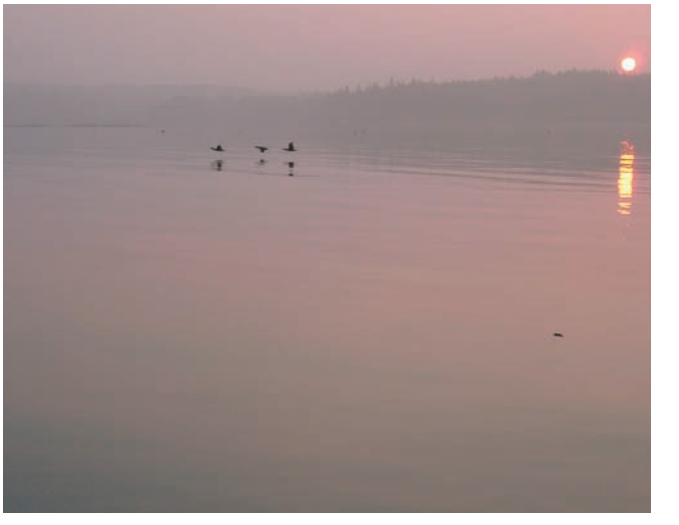
by John Irving

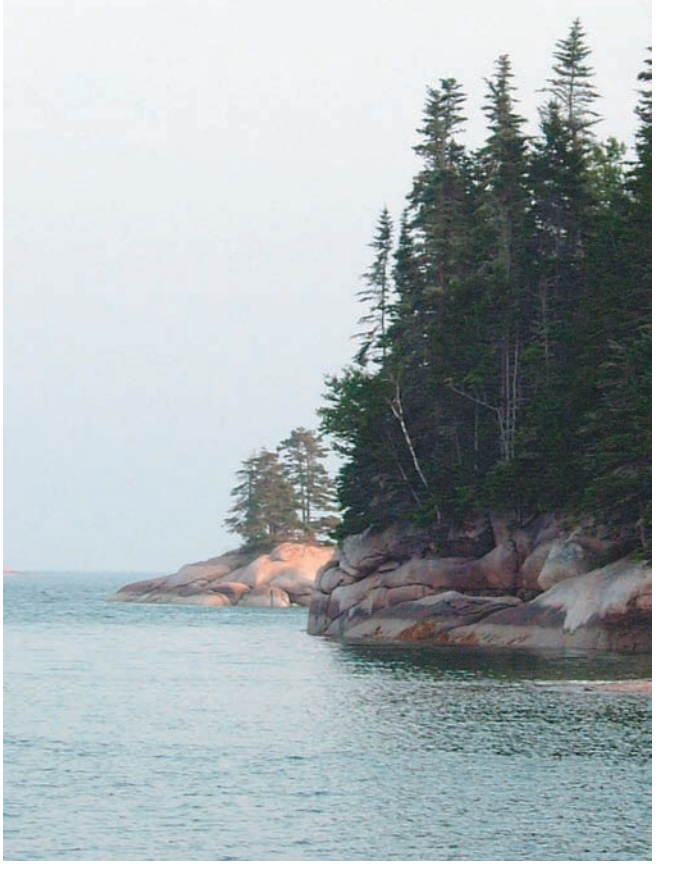








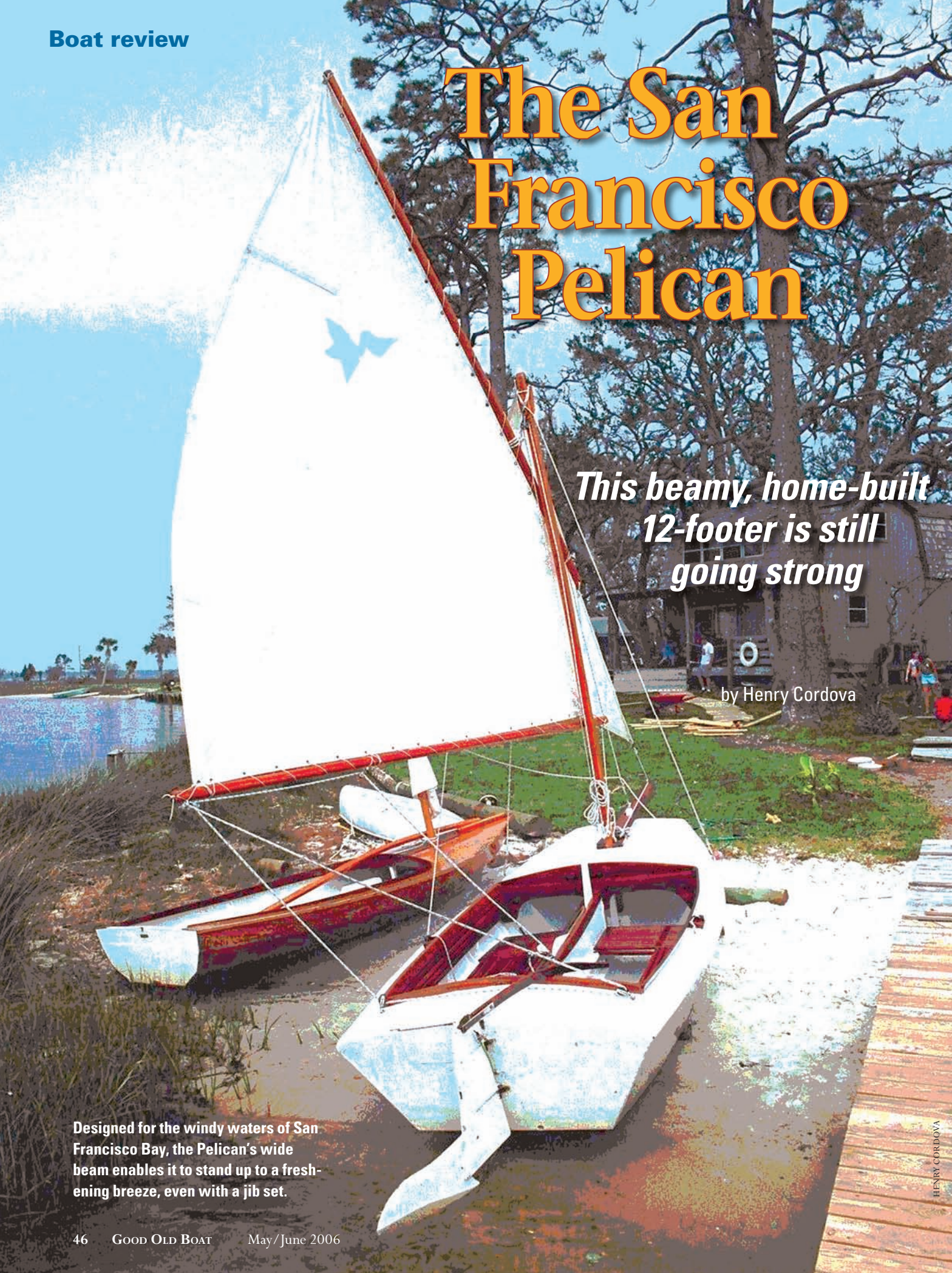




The San Francisco Pelican

This beamy, home-built 12-footer is still going strong

by Henry Cordova



Designed for the windy waters of San Francisco Bay, the Pelican's wide beam enables it to stand up to a freshening breeze, even with a jib set.

HENRY CORDOVA

All during the long, clear California summer, the rising sun heats the rich black soils of the Golden State's vast central valley. As the day progresses, the air in the basin absorbs this warmth and rises. Surrounded by mountains, it can only be replenished through the Sacramento River Delta that empties into the northern part of San Francisco Bay. Blocked by the coastal ranges, the only replacement source is the Northern Pacific, from which cold, dense sea air, driven by the eternal northwesterly trades, rushes into the North Bay through the only path available — the Golden Gate.

This combination of circumstances creates a venturi effect, giving the bay the powerful afternoon winds that bless and torment sailors there. Added to the mariner's challenge are the extreme tides and currents complicated by islands, rocks, steep swells, bridges, heavy commercial traffic, and sudden fogs. The locals like to say, "If you can sail the bay, you can sail anywhere." It is like no other place in the world.

> "Captain Short's design incorporated elements of the Banks fishing dory, an oriental sampan, and Joshua Slocum's *Liberdade*."

Built for the bay

Captain William H. Short knew the bay well. He commanded a steam tug, pushing heavy barges around San Francisco's inland sea for 28 years and was an avid sailor and student of boat design. His own boat, therefore, was based on a list of personal requirements and detailed knowledge of the waters he worked on. The result was the San Francisco Pelican daysailer.

The Pelican demonstrated that an unballasted centerboarder, suitable for children and families and easy to build in a home workshop with minimal skills and basic materials, could handle the waters of the North Bay and still be trailerable behind a compact car. Captain Short's design incorporated elements of the Banks fishing dory, an oriental sampan, and Joshua Slocum's *Liberdade*.

The hull was constructed of ⅜-inch plywood with ¾-inch stock for the bow and stern transoms. Monocoque design concepts were applied to give a shape that was strong, light and roomy with a minimum of internal bracing. Pelican #1, *Chloe Maru*, was launched in 1959.

News of the Pelican spread quickly; numerous inquiries from admirers and an article published in a local paper generated requests for plans. Bill and his wife, Muriel, began providing building instructions to the public, and further publicity from boating magazines stimulated additional interest. Local boatbuilders began building Pelicans to meet the demand. By the early 1960s, the boat was registered as a one-design class with owner associations and racing fleets in the bay area and the Pacific Northwest. To date, some 10,000 sets of plans have been sold worldwide.

Over the years, the basic design has remained essentially unchanged, although some minor modifications and improvements have been incorporated into the plans. A scaled-up cabin version, the Great Pelican 16, was introduced in 1969, and the Super Pelican 18, also based on Captain Short's design, joined the fleet in 1991, five years after his death.

Other variants also exist, including the independently developed Pacific Pelican 14 and numerous one-shot variations on the basic theme. Within the specifications called for in the plans, there is wide possibility for customization; most home-built boats, even those adhering to racing rules, often have personal touches added by their owners, such as outboard auxiliaries, oarlocks, boom tents, and other amenities.

Although some of the boats are professionally constructed, the bulk of the fleet is built from plans still sold by Muriel to hobbyists and amateurs; many are the first boats built by their owners. Detailed instructions for constructing a jig come with the plans. When completed, it is the form on

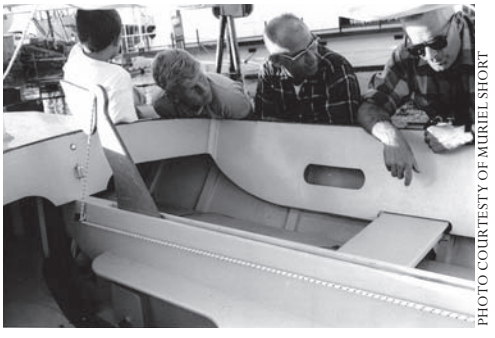


PHOTO COURTESTY OF MURIEL SHORT

HENRY CORDOVA

The basic design for the Pelican, at top, has remained unchanged since its introduction in 1959. Center, Captain Bill Short (wearing sunglasses), designer of the San Francisco Pelican in 1959, explains details of the boat to onlookers. Pat Pulaski's Pelican, bottom, has been upgraded with wood gratings: seats, backrests, and floor.

Pelican sailboats are still in production

PHOTOS BY JEFF LEHMAN

We heard recently from subscriber Jeff Lehman, who is the only boatwright building Pelicans today, as far as we know. He tells us:

"I've been a boatbuilder for 25 years but started building Pelicans, Great Pelicans, and the 18-foot Super Pelican just last spring, all on a shoestring budget.

"There is reason for some concern for the future of the Pelican class. The fleet and the sailors are aging, and I don't see a whole lot of new blood coming in, so my goal is not just to get a business started. This is a class worth continuing; I'm exploring the possibility of producing fiberglass boats and starting junior programs."

Jeff Lehman
The Boatshop at Stilllwater
Box 848
Veneta, OR 97487
541-337-8248; tritoncapt@yahoo.com
<http://www.pelicansail.com>

which the hull takes shape. After the boat is finished, the jig is then available to make additional hulls, making the Pelican well-suited for fleet operations and clubs.

World's biggest 12-footer

The most obvious features of the boat are its size and shape. The Pelican is only 12 feet long but it sports an enormous 6-foot beam at the deck level. The sides flare out from the modest 4-foot waterline beam. The pram bow is flat like the stern, giving it the appearance of a great bathtub. This allows for easy plywood construction and unprecedented interior space for such a small hull, but it also provides broach-proof buoyancy in the big bay rollers. A generous 2 feet of freeboard keeps the water out, while the flared hull and flat bottom gives the Pelican the high initial stability it requires to sail its home waters.

The Pelican is small, but it's big enough to be sailed standing up; you can easily move about while underway. There is plenty of room for storage and crew; it will safely carry four adults and camping gear for a weekend, a full half-ton of cargo and crew, and still float in 6 inches of water. Its lightness and flat bottom make it easily manhandled on and off a beach, yet if you run into some weather, the boat will take it in stride.

A closer look reveals more features designed to keep the crew dry and the water out. The forward third is completely decked over. The decking extends along both sides of the cockpit to flare out at the stern and completely enclose it. A coaming, several inches high and inboard of the decking, adds further protection from the water and completely surrounds the cockpit. Numerous stowage compartments are scattered along the sides with additional stowage available under the forward deck and lazarette. A large kick-up rudder and an equally generous centerboard provide control and stability. The sides, bilge, transoms, centerboard housing, and decking are all stout plywood sheets. This is a boat that, despite its size, will let you go somewhere and do something when you get there.

Box on water

From a distance, the Pelican may at first resemble a box in the water but even a cursory inspection reveals that there is considerable subtlety in the design. There is scarcely a straight line in the hull; the sides curve gracefully toward bow and stern in long arcs, the deck has a very slight camber, and the chines appear as sections of great circles. The sides enter the water at a constant angle all around while the bottom has a small amount of rocker. The sheer is classic, with the grace of a sampan or junk, upon which the design is partly based. The result is a beautiful, well-proportioned form, whether lying at anchor, under sail, or tied to a dock. Only the tran-

Pat Pulaski sails his Pelican out of Pensacola, Florida. He rescued this boat from years of neglect.

som and bow are flat; the rest of the hull rolls and flows through the water. It is no accident — a lot of thought went into this design.

The Pelican's construction is strong and rigid but structural integrity is achieved without the use of transverse frames. All internal braces are longitudinal and the marine plywood sides and decking form the exoskeleton that serves as the main structure. The bottom planking is also specified to be no less than ⅜-inch plywood. The centerboard trunk, resting on a stout (1-inch thick) laminated keelson and braced by thwarts at the beam and attachment to the forward deck, is an integral part of the hull's structure and contributes to its overall rigidity. Wooden slats in the bilge add to the stiffness of the bottom planking while providing footholds for sail handling. The result is a phenomenally strong hull with plenty of room for gear and a clear and open surface with few obstructions to trip on or to stub a bare toe.

Traditional rig

In keeping with the philosophy of old ideas combined in novel ways, the rig also borrows heavily on traditional concepts. The Pelican is a standing lug catboat; the mast is well forward and fits in a reinforced step in the bilge through a hole in the foredeck. Standing rigging consists of three ⅜-inch low-stretch Dacron lines with eyes spliced over wooden hounds at the masthead and thimbles laced to shackles on the chainplates, one on each side and one on the stem post. Four massive cleats at the base of the square wooden mast secure the main and jib halyards as well as the boom outhaul and gaff downhaul. These last two lines are attached to the forward ends of the spars and control the position of the boom and the angle of the gaff, respectively.

The rig is a bit more complex than the standard Marconi, but allows infinite adjustment in the mainsail's shape on any point of sail and is remarkably resilient and forgiving. Control of the main is through a traveler arrangement with five blocks, two strapped on the boom, two bolted on the aft deck, and one on the aft end of the centerboard housing equipped with a cam cleat on a spring-loaded swivel. Except for the blocks and the chainplates, there is no metal in the running rigging; the mainsheet and halyard are bent to the spars with simple clove hitches while the gaff downhaul and boom downhaul pass through holes in the spars, kept from pulling out by figure-eight knots. Traditionally, both gaff and boom are rigged to the port side of the mast with the battened trapezoidal sail laced to both spars.

Reaching jib

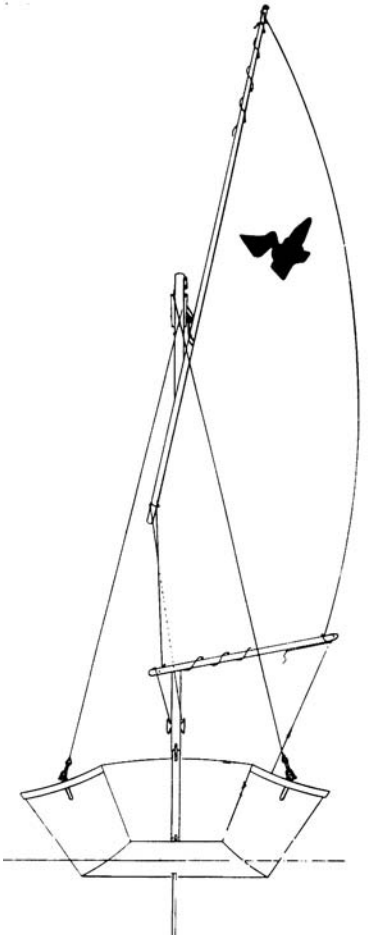
The Pelican sails well with one large sail but Bill Short added a reaching jib for sailing with the wind on the beam. It is set on a 4-foot bowsprit, which is locked at the aft end by a notch that fits over the stem post and at the tip by a bobstay. The jib tack is run out to the end of the bowsprit with an outhaul rove through a small block. Like the rest of the running rigging, the foresail can be handled from the forward end of the cockpit. Jibsheets are rigged outboard of the shrouds and are cleated on elevated stations on the decking at the widest part of the hull, just outside and above the coaming.

The rig is simplicity itself, and very,

Pelican

Designer: Bill Short
Length on deck: 12 feet 2½ inches
Beam: 6 feet 1¾ inches
Draft, board up: 4 inches
Draft, board down: 4 feet
Freeboard: 2 feet
Minimum racing weight: 390 pounds
Sail area, main: 72 square feet
Sail area, jib: 33 square feet

The pram bow may cause the Pelican to resemble a box on the water, but don't underestimate this able craft. The bow-on sketch of the San Francisco Pelican, below, shows the widely flared topsides, which increase beam from 4 feet at the waterline to 6 feet at the gunwale. Plans for building the plywood Pelican are quite detailed, an aid to amateurs.



ILLUSTRATIONS COURTESY OF MURIEL SHORT

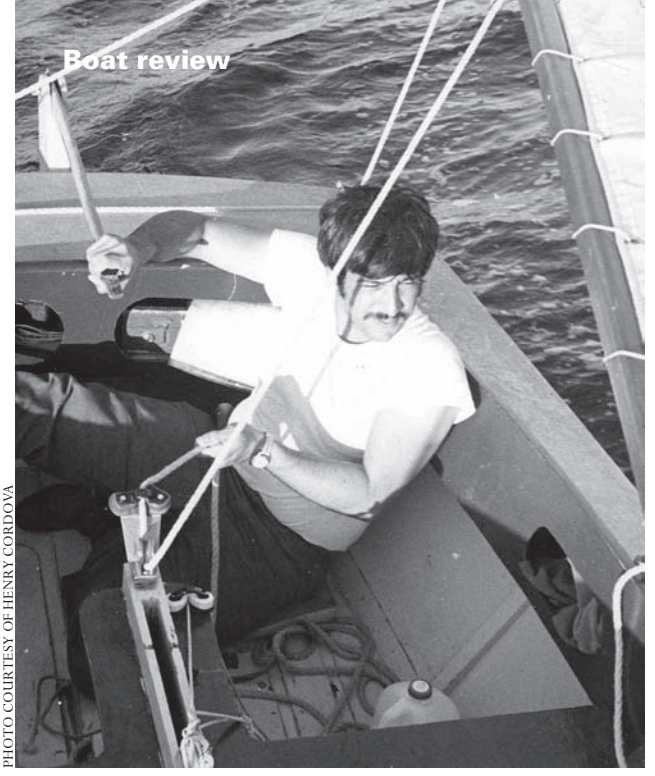


PHOTO COURTESY OF HENRY CORDOVA

The author, in 1975, sails his beloved Pelican, without a tiller extension, on Florida's west coast. On facing page, the Pelican's standing rig handles much the way you would expect if you're used to sailing a Marconi rig. There is no noticeable difference between port and starboard tacks.

very 18th century. For the benefit of singlehanders, some of the newer Pelicans are even equipped with roller furling.

The rig is simple, but it is a bit more involved than the typical daysailer. For the weekend skipper, preparing the Pelican for a sail takes a few minutes, and the drill should be rehearsed several times in the comfort and security of your driveway prior to tying up at a busy launch ramp. Still, if conditions allow, much of the rigging can be done with the boat on the trailer — a courtesy you owe to others using the ramp. Prior to stepping the mast, the running and standing rigging should be checked to make certain there are no tangles aloft and that the stays are properly looped over the masthead hounds. If you stand on the foredeck, you can lower the mast through the opening and place its lower end in the mast step. The bowsprit is put in place and the bobstay secured, after which the forestay and shrouds are tied off to the chainplates.

Lots of slack

The next step is to run out the jib tack, raise the sail, and properly position the sheets for sailing. Leave plenty of slack in them but tie stopper knots to keep them from pulling clear of the fairleads and getting lost in the bilge. Once you are satisfied the foresail is free and clear, lower it and get it out of the way, preferably into its sail bag. It will be ready to deploy once you're underway.

Next, hitch the main halyard to the gaff and run it up the side of the mast, cleat it off, and cleat off the gaff and boom downhauls. This may take a few tries to get it right (another good reason to do it first at home) since the luff should be parallel to the mast. It may be necessary to experiment with this until you find the precise spot on the gaff to hitch the halyard and the correct tension to put on the mainsail outhaul and downhaul so that the main hangs fair; every sail and rig is unique. Hitch the mainsheet to the aft end of the boom and reeve it through the traveler blocks, again making sure that there is plenty of slack and that it is properly stoppered. Finally, hang the rudder and shove off. Oh, and don't forget to install the drain plugs.

Sailing the Pelican is pretty straightforward, as the standing lug rig behaves pretty much the way a Marconi rig does and is handled the same way. In spite of its asymmetry you should notice no difference in performance between port and starboard tacks. The jib is not necessary to sail the boat effectively; indeed, it adds little advantage when beating or running, but on a beam reach it can make all the difference in the world and is a great help in balancing the helm.

Strong weather helm

The Pelican can develop strong weather helm, particularly when sailing as a catboat, but this can be dealt with by experimenting with the centerboard and moving weight about. The boat is properly trimmed when the bottom edge of the transom is clear of the water. A tiller extension allows the helmsman to steer from the midship thwarts, which helps keep the boat level. Because of the flare of the hull, it is possible to sail a Pelican on its side, with the water at the lee coaming and the centerboard clearly visible to a windward observer.

The chine acts as a keel of sorts and it can make for an exciting ride in high winds, but excessive heel does not give optimal performance. It sails best on an even keel, and it is rarely necessary to hike out. In light air, a bit of heel can help, but don't overdo it. While under way, it may be necessary to tweak the main outhauls and downhauls and to adjust halyard tension as the running rigging takes the strain. Until you are used to the boat, it is a good idea to have crew available to do this for you while you tend tiller and mainsheet.

After you get used to the Pelican, you'll be able to round up and quickly make the adjustments yourself and still get back to the helm in plenty of time. The same goes for raising and lowering the jib; it can be done without help, but you have to be completely at home in the boat. Sailing the Pelican is good training for a larger boat because the sailor is not dependent on human ballast to keep it upright, except under the most extreme conditions; consequently, it teaches good habits in sail balance and trim.

Necessary concessions

The North Bay, especially the killing zone between the Golden Gate and Alcatraz (which is, incidentally, Spanish for pelican), is characterized by cold water, steep seas, and strong

Resources

Plans are available from:
Muriel Short
San Francisco Pelican Boats
203 Hawthorne Avenue
Larkspur, CA 94939
415-924-0685
pelicansailboat@webtv.net
<http://community-2.webtv.net/PelicanSailboat/SFPELICANSAILBOATS>

San Francisco Pelican web group:
pelican-sail@yahoo.com

> **"The Pelican taught me to sail and it saved my life more than once. She was my first love, and I will never forget her."**

winds blowing in one direction. The weaknesses of the boat — its relatively sluggish windward performance and slow progress in light air — are the necessary concessions made to optimize its other virtues.

Although designed for the bay, the concept is versatile and adapts well to other environments. My Pelican was sailed in Florida where I was often frustrated by light and variable winds and the jarring pounding of trying to make headway against a shallow water chop. But the inevitable dramas that occur when cruising far from home in a small boat — the sudden thunderstorm after being becalmed, the shoal water mangrove mazes, and the desperate midnight battles with flogging sails — all make you glad you are in a Pelican.

My experience with this remarkable craft began more than 30 years ago. I purchased a used Pelican from a close friend who had built his from plans. For four years I sailed the waters of the central Florida Gulf Coast, particularly Tampa Bay, St. Joseph's Sound, and Anclote Anchorage. The Pelican's shallow draft and massive storage capacity made it ideal for long coastal cruises and wilderness camping, while its strength and seaworthiness gave this novice sailor the reserve capacity needed to sail these normally placid, but sometimes treacherous, waters. The Pelican taught me to sail and it saved my life more than once. She was my first love, and I will never forget her.

Most out West

Pelicans are found throughout the world but are mostly concentrated on the U.S. West Coast. Though I sold mine many years ago, I was able to locate one near my home in Florida for a refresher course. I am indebted to the hospitality and generosity of Pat Pulaski for allowing me to sail and photograph his Pelican. Pat is a skilled sailor, boatbuilder, and owner of The Furniture Repairman in Pensacola. He rescued his boat from years of neglect and abuse and restored it to peak condition.

As do many owners who have no plans to race, he made numerous modifications from the original plans and specifications to suit his own taste. When I sailed with him, his boat had just received some minor cosmetic damage due to recent hurricanes, but it performed flawlessly. Pat graciously gave me permission to solo. After almost three decades it was all exactly as I remembered it.

Sailing the San Francisco Pelican transports one into a working boat of another century: the textures of wood and line and the almost total absence of metal and plastic fittings. There is ample room aboard to move about and operate the controls in comfort, and everywhere are the icons of the mariner's craft: varnished spars, coiled lines, functional knots — and lots of them.

Underway, the boat is stable. The Pelican is not a child's toy, although it is suitable for children to sail; it is not a temperamental thoroughbred, even though it is frequently raced competitively. Neither is it a trainer for novices, although it is a forgiving boat and easily managed.

Evocative of a fishing boat or a small cargo vessel, the San Francisco Pelican has the feel of a little ship, inspiring confidence and seamanship in its crew. It is easily handled by a lone sailor but responds best to seasoned crew used to working together. On a long cruise you will find it perfectly suited for two although there is ample room for one or even two others. Owning a Pelican will tempt you to go on long cruises.

Pacific Seacraft's evolution

This respected company continues to move with the times

by Dan Spurr

KAREN LARSON

As any marketing whiz will tell you, brand recognition is key to sales. And among sailboat builders, Pacific Seacraft has it in spades. Cape Dory had it, too, thanks to the lean, flat-sheer, traditional CCA designs of Carl Alberg. With Pacific Seacraft, it's the nicely proportioned profiles of designer W. I. B. (Bill) Crealock: round bronze portlights and, more notably, the canoe sterns of the Pacific Seacraft 34, 37, and 44.

But not all Pacific Seacrafts had canoe sterns. What they *did* have in common was a certain freshness, traditional yet not clunky. Lean and spirited, each model looked ready to cruise the South Pacific. And many have.

Pacific Seacraft was founded by two Southern California boat enthusiasts following separate stars. Mike Howarth, now 55, grew up in Anaheim. Academic subjects didn't interest him, but he took a strong liking to wood- and metal-shop classes. He says he always liked working with his hands and won a woodworking competition in high school.

Following graduation, his first job was at a boatbuilding company. "I didn't want to get into mass production," he says. Assigned to the wood shop, he was paid $2 an hour to make parts for a 43-foot, twin-engined, fiberglass motor cruiser. His skills, both technical and interpersonal, led to his being promoted to foreman.

After a few years, Mike moved on to Islander Yachts in Costa Mesa, the epicenter of West Coast fiberglass boatbuilding in the 1960s and '70s. His job there was to build the tooling — male plugs and female molds. It is in the molds that the major components such as the hull, deck, and liners are laminated. He apprenticed under a master patternmaker, Marty Novak, and the experience was etched deeply in him. To this day, Mike believes fiberglass molded parts are preferable to wooden ones.

Rose in rank

When it came time to move again, Mike went to an outfit called Pacific Trawler, where he installed engines and electrical systems, did some carpentry, and rose in rank once again.

It was at Pacific Trawler that Mike met his future partner, Henry Mohrschladt, who was six years his senior. Though employed at Pacific Trawler as an engineer, Henry's background was in economics. After graduating from the University of California/Irvine, he applied to graduate programs and was going to accept a fellowship and research assistantship at the University of Pennsylvania's Wharton School of Business.

But the lure of boats was a stronger call. Just why, he can't say. His father never owned a boat, though in an effort to assuage his son's surging interest, he did buy Henry a radio-controlled model boat — this for the kid who in his spare time went to the library to read yachting magazines.

Boats won the career tug of war, and in 1971 Henry went to work for Westsail, a young company owned by Lynn and Snyder Vick, who were building double-ended cruising sailboats. Not particularly well qualified for anything in boatbuilding, Henry was assigned practically everything, from polishing and waxing molds and grinding fiberglass to laying up laminate in the molds. But he was hardly your ordinary glass guy.

Henry's intelligence and organizational skills prompted him to begin documenting all shop practices to create a record of what was done and how. And he could draw, thanks to some drafting experience during high school. Recognizing Henry as a self-starter, Snyder made him the company "engineer." After a year and a half, Henry left for a job as project engineer with Columbia Yachts, then perhaps the largest builder of fiberglass sail-

The Dana 24, facing page and at right, built between 1986 and 1999, is a handsome pocket cruiser. The forestay is secured to the end of the bowsprit, which increases area of the foretriangle to give the sail plan more power to move the boat's 8,000-pound displacement.

boats in the world. Their model line ran from the Columbia 22 to the flush-deck bubble-top Columbia 50 and 57, many designed by the late Bill Tripp. (For more on Columbia Yachts, see *Good Old Boat*, May 2002.)

Those heady days

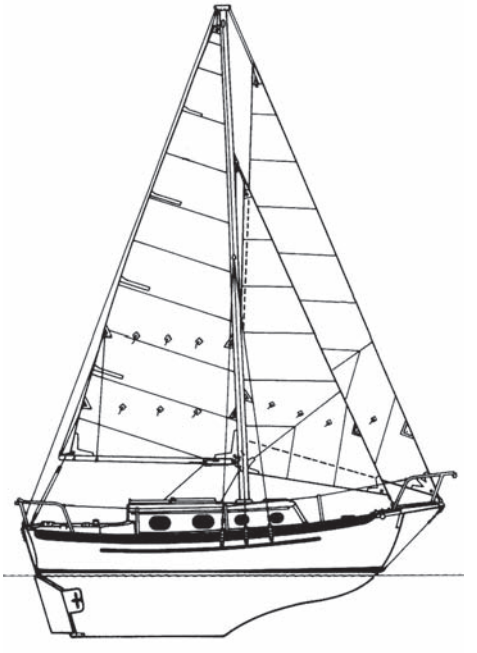
Moving on, Henry next went to work at Pacific Trawler, meeting Mike Howarth for the first time. That was in the mid-1970s. In those heady days of Flower Power and Earth Day celebrations of environmental consciousness, not to mention the OPEC oil embargo, a lot of young people dreamed of sailing over the horizon in their own small, fossil fuel-free cruising sailboats.

While Henry was the engineer at Pacific Trawler, as well as the purchasing and sales guy, he liked to draw boats and was always thinking about boats he'd like to build and own himself. So he already had a small, double-ended, pilot-type boat design completed when Mike approached him one day and said, "I'd like to 'tool me up' a little boat. You design boats, don't you?"

Henry replied, "I have something designed. Would you like to see it?"

The two talked about the project at some length, and Mike eventually built the 25-footer in his garage. He tooled it alone, building the hull and deck molds in his back yard. But he didn't want the boat for himself. It was to be the boat with which he'd launch his own company. And now he had Henry as his partner. "This was when people dreamed about cruising to the ends of the earth," Mike says. "Cruising sailboats were really big."

Their plan was to exhibit the boat at the 1975 Newport Boat Show and, as is so often the case with startup operations, it was a race against time. They were still working on the boat at the dock when the show opened. The show manager had to tell them to get their band saw off the dock. Their funds were exhausted, yet the boat had no



cushions. Henry was forced to sell his car. Fortunately, the boat sold. Full of confidence, Mike and Henry quit their jobs, formed a company, and began building the second hull of what came to be known as the Pacific Seacraft 25 (shown on Page 57).

Newport workboats

Other stout little cruising boats followed, notably the Flicka. *Small Craft Advisor* tells the story: "While in the Navy in the fifties, [Bruce] Bingham stumbled onto a couple of these [Newport workboats] derelict on a riverbank near North Kingstown, Rhode Island. Fascinated by their design, he made sketches and took some rough measurements. He learned that these

Vital statistics

Dana 24

LOA	27'3"
LWL	21'5"
Beam	8'7"
Draft	3'10"
Displacement	8,000 pounds
Ballast	3,200 pounds
Sail area	358 square feet

Pacific Seacraft 25

LOA	25'0"
LWL	21'0"
Beam	8'0"
Draft	3'4"
Displacement	5,700 pounds
Ballast	1,750 pounds
Sail area	236 square feet

Pacific Seacraft 31

LOA	31'10"
LWL	24'2"
Beam	9'10"
Draft	4'0"/4'11"
Displacement	11,000 pounds
Ballast	4,700 pounds
Sail area	485 square feet

Crealock 34

LOA	34'1"
LWL	26'2"
Beam	10'0"
Draft	4'1"/4'11"
Displacement	13,200 pounds
Ballast	4,800 pounds
Sail area	534 square feet

Crealock 37

LOA	36'11"
LWL	27'9"
Beam	10'10"
Draft	4'5" Scheel/5'6" Std.
Displacement	16,000 pounds
Ballast	6,200 pounds
Sail area	619 square feet

Pilothouse 32/Voyagemaker

LOA	32'2"
LWL	24'3"
Beam	9'10"
Draft	4'1"/5'0"
Displacement	12,600 pounds
Ballast	4,700 lb./5,200 pounds
Sail area	483 square feet (sloop)

Pacific Seacraft 377 (new)

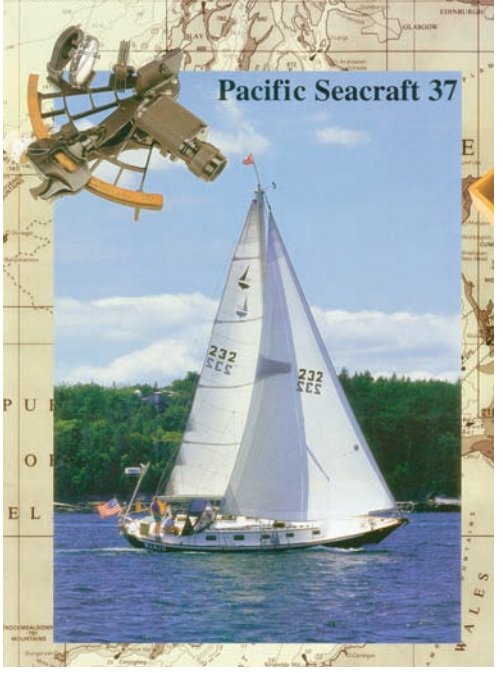
LOA	37'7"
LWL	30'1"
Beam	11'6"
Draft	5'3"
Displacement	21,200 pounds
Ballast	(TBD)
Sail area	(TBD)

Pilothouse 40

LOA	42'2"
LWL	31'3"
Beam	12'5"
Draft	5'2"/6'1"
Displacement	24,500 pounds
Ballast	8,600 pounds
Sail area	834 square feet

Crealock 44

LOA	44'1"
LWL	33'7"
Beam	12'8"
Draft	5'3"/6'3"
Displacement	27,500 pounds
Ballast	11,000 pounds
Sail area	971 square feet



rugged craft were sailed year-round by fishermen in the harsh conditions off the Rhode Island coast. In the early 1970s, Bingham opened his own design office. By 1972 he was offering plans for a stout, plumb-bowed 20-footer called the Flicka (shown on Page 56), based on the Newport boats."

At first he sold Flicka plans, eventually numbering more than 400 sets. They were built in a variety of materials: ferroconcrete, wood, and fiberglass; and with a variety of rigs: masthead sloop, cutter, yawl, schooner, and Chinese lug, most of them with a gaff rig. Like the Westsail 32 of that era, it was a "cult boat."

Building a boat yourself is a big undertaking and some plans, of course, resulted in no boat at all. Anxious for a boat of his own, as well as a production fiberglass version, Bruce Bingham built a plug but had to sell it.

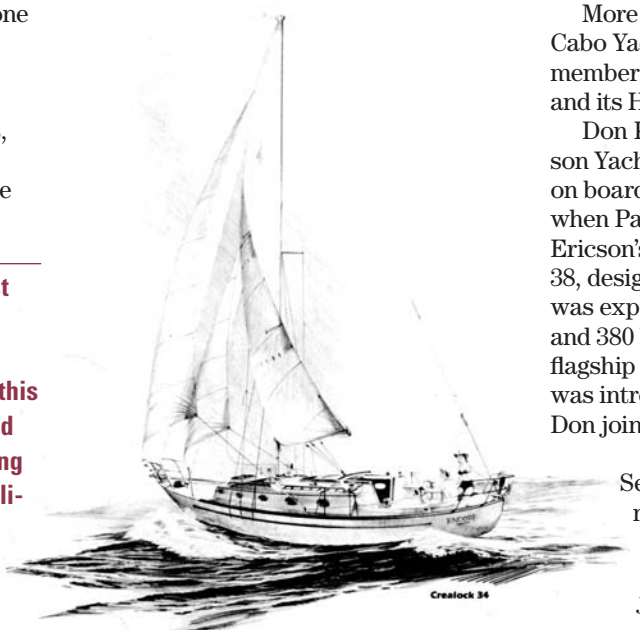
An outfit called Nor'star Marine in Santa Barbara, California, picked it up and built the hulls for a few years. Westerly Marine of Costa Mesa finished some of the hulls under contract to Nor'star. The venture ended in 1977, and a year later Pacific Seacraft purchased the molds and resumed production.

After hull number 434, the run ended in 1998. One reason for discontinuing production was the cost of the boat, which had increased from around $45,000 in 1989 to nearly $100,000. A company spokesman explained that the boat wasn't particularly efficient to build because it was so small only one person at a time could work on it.

In came Crealock

Henry designed the next two boats, the Mariah 31 (1979) and Orion 27 (1980, shown on facing page) before bringing in Bill Crealock to do the Crealock 34 (1984), Dana 24 (1985), and Crealock 31 (1987). (For more on Bill Crealock, refer to *Good Old Boat*, July 2003.)

The Pacific Seacraft 37 was the first boat the company built that was designed by Bill Crealock, though Mike and Henry didn't commission this particular design. Between 1978 and 1979 a small company called Cruising Consultants, in Newport Beach, California, built 16 of them, some for owner completion, before selling the molds to Pacific Seacraft.



Henry's magazine ads often depicted their boats in a beautiful tropical anchorage, like Bora Bora, making buyers feel like they, too, could cruise the South Pacific on one of these heavy-duty little Pacific Seacraft boats. And many did, crossing oceans in safety.

The Pacific Seacraft 37 (at left), the first Crealock-designed boat in the model line, originally was built by Cruising Consultants of Newport Beach, California, as a kit or partially completed. A total of just 16 were sold between 1978 and 1979. Pacific Seacraft bought the molds and rights in 1980, offering it with sloop, cutter, and yawl rigs.

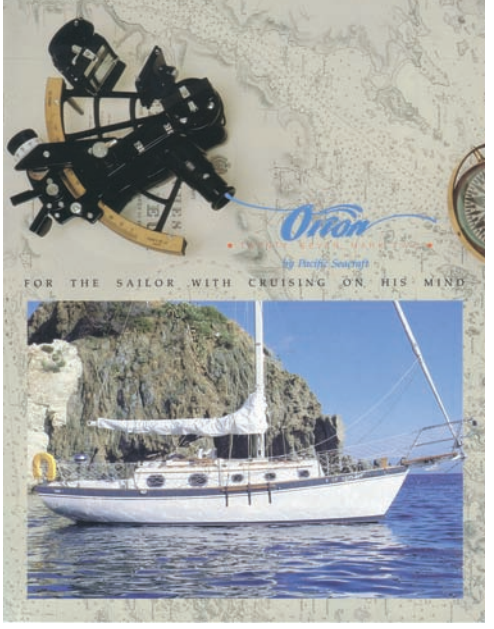
In 1988, *Fortune* magazine named Pacific Seacraft one of the top 100 U.S.-made products, a distinction again conferred in 2000. The first time this occurred, the company attracted a lot of attention around the world, even outside the marine industry. As a result, later in 1988 Mike and Henry sold the company to Singmarine, a Singapore-based shipping company owned by the Keppel Group.

They signed a no-compete contract, promising not to build sailboats for five years. "We retired for about a month," Henry laughs. Not two to sit around on their hands, Henry and Mike started a new company, Cabo Yachts, building sportfishing boats in the high desert west of Los Angeles.

More recently, Mike and Henry's Cabo Yachts was sold and now is a member of the Brunswick Boat Group and its Hatteras Collection.

Don Kohlmann, co-founder of Ericson Yachts with his brother Gene, came on board as sales manager in 1991, when Pacific Seacraft bought some of Ericson's molds, the Ericson 34 and 38, designed by Bruce King. That line was expanded to the Ericson 333, 350, and 380 before being discontinued. The flagship of the fleet, the Crealock 44, was introduced in 1990, a year before Don joined the firm.

Singmarine sold Pacific Seacraft to a Southern California businessman in September 1998, and Don became president. His brother, Gene, joined the firm in a consulting



role. According to Don, Gene was "the operations guy." Both left in 2005.

Distinctive boats

The Crealock-designed boats are distinctive in several ways. Most obvious is the canoe stern, whose advantage is alleged to be the parting of following seas, thus preventing the cockpit from being pooped. While a broad, beamy transom can get pushed around by overtaking waves that also break at the propitious moment, it seems doubtful that a canoe stern offers any real advantage over, say, a modest CCA-type counter transom. A disadvantage is that there is no afterdeck to stand or sit on or to lash gear to. It's convenient to be able to walk around a cockpit without having to step down into it.

The underbodies of Crealock's boats are classic cruising fin keels with separate skeg-mounted rudders. The skegs add some directional stability and offer some protection to the rudder. Many designers would drop the skeg on boats bigger than the Pacific Seacraft 44 because, as size increases, so do loads on the helm, and the best way to offset those loads is to balance the rudder. This means that the leading edge must be forward of the pivot point or rudderstock, and that is only possible with a so-called spade-type rudder.

Like Carl Alberg, Bill Crealock is not a sucker for the marketing guys who demand great beam to enhance interior volume. Bill knows that boats with moderate beam and freeboard are more comfortable, handle better, and enjoy higher stability ratings. The 40, for example, has a limit of positive stability of 141 degrees; 120 is considered by many as the threshold for safe offshore passagemaking.

Company founders Mike Howarth and Henry Mohrschladt added to their line as they grew. Henry designed the first few models, including the Orion 27, which enjoyed a 12-year production run.

These days, Pacific Seacrafts are built in an old soft-drink factory in Fullerton, California, (having moved from Santa Ana) and enjoy a reputation for above-average quality. The hulls are molded in one piece.

Gone by the board

As with many builders, 24-ounce woven roving, the industry standard for decades to quickly bulk up the laminate, has gone by the board at Pacific Seacraft. Since 1993 the company has used biaxial stitched reinforcements, a savings of 500 pounds in the 37. Skin coats are vinylester resin, which has been proved in independent laboratory tests to resist blistering better than other resins. The remainder of the Pacific Seacraft laminate is polyester.

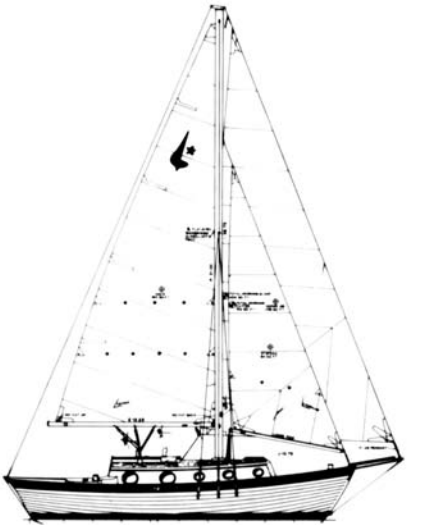
The smaller boats, up to the 37, have solid glass hulls. The 40 and 44 are balsa cored, the 40 in the topsides only and in the 44 to within 2 feet of the centerline. There's so much glass on the centerline itself that there's nothing to be gained in the way of stiffness by adding coring in that area. Plus, in the event of a grounding and puncture, cored hulls are much more difficult to repair. These are, after all, world cruising boats.

Balsa and plywood have been used to core the decks; the latter is heavier and doesn't need to be removed where hardware is through-bolted, as does balsa, but if it gets saturated with water, it's a mess. Rudders are mostly hung on steel-reinforced skegs, and have generous webbing welded to the rudder stock.

Ballast now is external lead castings, except for the Dana 24, which has a full keel and cutaway forefoot. Among the fin-keelers, the company reports that most buyers opt for the shoal-draft Scheel keel. Named after designer Henry Scheel who developed it, this keel has a bulb at the bottom to concentrate weight as low as possible, but is cupped to generate lift. Think of it as a forerunner of the wing keel, not as efficient but less vulnerable to damage. The company says the Scheel and standard keels provide the same righting moment, so while the shoal option may give up a few degrees of pointing ability, it doesn't give up stability.

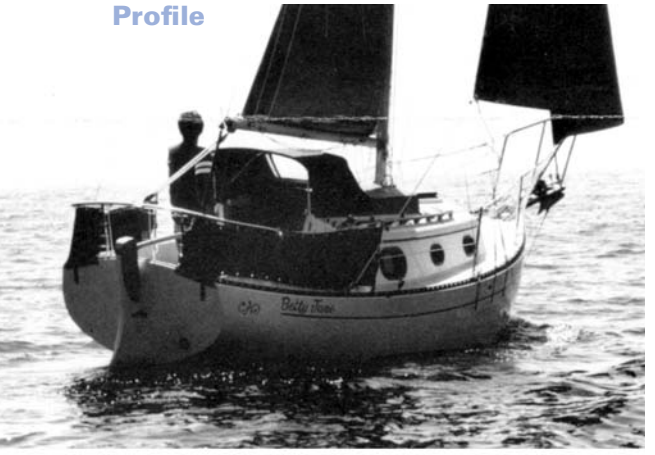
Approximate production dates

Model	Years
Pacific Seacraft 25	1976-1981
Flicka	1979-1999
Mariah 31	1977-1983
Orion 27	1979-1991
Pacific Seacraft 37	1980-present
Pacific Seacraft 34	1985-present
Dana 24	1986-1999 2001-present
Pacific Seacraft 31	1987-1999 2002-present
Pacific Seacraft 44	1990-present
Pilothouse 32/Voyager 32	1993-1999
Pacific Seacraft 40	1995-present
Pacific Seacraft 40 PH	1996-present
Pacific Seacraft 377	2006-present
Ericson 333	1996-1999
Ericson 350	1991-1999
Ericson 380	1991-1999



Interior liners

True to Mike Howarth's early training and approach to boatbuilding, Pacific Seacraft still uses a lot of interior liners or pans in its boats. These have advantages and disadvantages. First, the downside: fiberglass liners are poor acoustic and thermal insulators when compared to wood; access to all parts of the hull (requirement of any boat, especially an offshore one) may be difficult if the pan hasn't been carefully designed; bonding of complicated liners to the hull and/or deck may be difficult; and, perhaps most importantly, liners severely limit customization of the interior later.



The legendary Flicka, designed by Bruce Bingham, astonishes first-time visitors with the amount of interior space found in this 20-footer. Production was discontinued, not from lack of customer interest, but because the cost to build it was as much as larger boats.

On the positive side, properly executed liners can stiffen the hull (though not necessarily any better than glass-over-foam longitudinals in a plywood-interior boat), do not rot or delaminate, and, most importantly, save the builder money. Once the cost of the tooling is amortized, there is great savings, thanks to reduced man-hours.

Pacific Seacraft finishes all fiberglass surfaces so there are no rough or fibrous surfaces behind the liners or elsewhere. A copper bonding strip is laminated into the hull for use as a single-sideband (SSB) radio ground.

The hull-to-deck joint is through-bolted, as it should be, and incorporates a nice bulwark for safer footing on deck. In recent years, Pacific Seacraft has followed the industry trend of removing exterior wood; gone are the teak toerails, in favor of metal.

Shrouds are bolted outboard through the topsides. This can make walking the sidedecks easier and eliminates the pesky through-deck fittings, which often leak. On the other hand, this widens the staying base. That means the rig is more secure, but you can't sheet in headsails as tightly as you might wish, so you give up some windward ability.

Better engine access

Other features include rack-and-pinion steering on many boats, rather than the usual cable-quadrant system. Cockpit soles are removable for better engine access. Interior teak joinerwork is acceptable but not as nicely finished as some similarly priced boats.

Pacific Seacraft has joined numerous other sailboat builders in offering powerboats to its customers. It builds and markets the 38T Twin Engine Fast Trawler and 38T Coastal Voyager.

The Pacific Seacraft 25 pre-dates the founding of the company. Mike Howarth and Henry Mohrschladt built the prototype in their spare time while still working at their jobs at Pacific Trawler. They exhibited the boat at the 1975 Newport Beach Boat Show, where its sale encouraged them to build another and form a company.

And, scheduled for release this summer, is the newly designed Pacific Seacraft 377, which will be resin-infused with all vinylester resin. Infusion captures more volatile organic compounds (VOCs) in the laminate, making the workplace safer, and helps achieve a more consistent glass-to-resin ratio. Vinylester resin also has better secondary bonding properties, which are important when glassing in engine beds and tabbing bulkheads.

Pacific Seacraft enjoys strong brand recognition today, as it has for many years. The company has earned this by building some of the most admired boats afloat.

Resources

Pacific Seacraft
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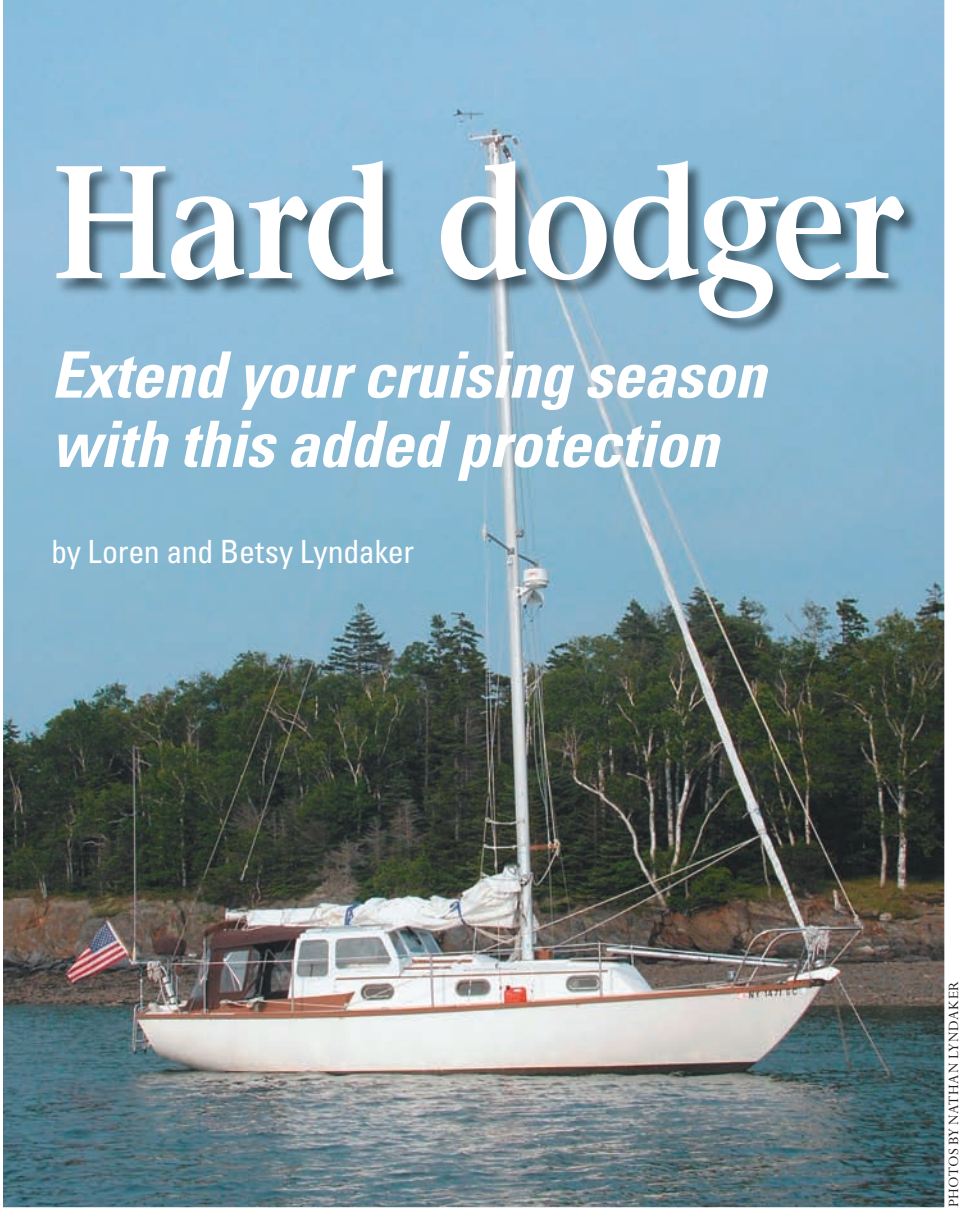
Fullerton, CA 92031
714-879-1610; Fax: 714-879-5454
<http://www.pacificseacraft.com>

Hard dodger

Extend your cruising season with this added protection

by Loren and Betsy Lyndaker



PHOTOS BY NATHAN LYNDAKER

These days, with her new hardtop dodger, *Whippoorwill*, Loren and Betsy Lyndaker's Cape Dory 27, presents a new (much drier and warmer) profile when resting at anchor.

After many years of dreaming, sketching, and reading about other similar projects, a hard dodger became a reality for *Whippoorwill*, our 1980 Cape Dory 27. Having a home port on the east end of Lake Ontario in Chaumont, New York, shortens our summer cruising season. We decided that a hard dodger would extend our season by protecting us from the sun, wind, rain, and cold.

We had spent a year living aboard, traveling to Maine, then south on the Intracoastal Waterway, to the Bahamas, and back to Lake Ontario via the Erie Canal. Our next challenge would be to sail northeast from Lake Ontario out the St. Lawrence Seaway, around Quebec, New Brunswick, Nova Scotia, and back down the East Coast toward home.

The extra protection from the elements — as well as the stability of a hard dodger, compared to our present canvas dodger — would be welcome.

We had seen other boats over the years with hard dodgers, some homemade and some manufactured. Our finished project has a number of similarities to the handmade doghouse described by Stuart Hopkins in the article "Good Old Catboat" in the September 2001 issue of *Good Old Boat*.

So, how do dreams become reality? Plans are drawn, lists of materials written, and measurements taken, checked, and rechecked. Our first step was to replicate the curve of our cabintop so the hard dodger would blend aesthetically. This arc shape was cut into a 6-foot pine 2 x 6.

We mocked-up a frame on the boat using a variety of 1 x 2 furring strips. We used screws to hold it together. When we were satisfied, we brought it home to our garage as a funny looking cap on the back of our pickup. Next we used two 4 x 8 sheets of ¼-inch luan plywood to form a mockup of the top and side surfaces of the dodger. Another trip to the marina proved that the curve of this mockup fit the lines of the cabintop very well.

Construction phase

Now the real construction could begin. Back home in the garage, we spent many hours in the construction phase. We preferred to use okoume marine plywood for the final top of the dodger. As there were no local suppliers, we ordered the okoume from Florida. We used three layers of 4-mm okoume to form the top of the dodger. After cutting the first layer to fit the mockup, we cut the second and third layers ½ inch larger to compensate for the curve.

We removed the mockup luan top from the frame and attached a layer of okoume with finish nails. (These could be pulled through from the inside later.) We bonded the layers with epoxy. We rolled this on both surfaces with a fine sponge roller. We clamped the layers together and placed weights on top to secure them for 24 hours while they cured. We used #6 screws to secure the second and third layers to the frame, then we removed these screws after the layers cured. Next we cut 1 x 1-inch ribs from a 6-foot oak 1 x 8. We epoxied

> **"The extra protection from the elements … the stability of a hard dodger compared to our present canvas dodger would be welcome."**

two of these on the underside of the top and used stainless screws and epoxy to attach the other with a slightly different curve to the upper side at the back of the top.

For the final front and sides we used ½-inch maple plywood. We cut these from the luan patterns. Next we cut the windows with a saber saw. We aligned the tops slightly to accommodate the angles of the curve. We added a ¾ x ¾-inch oak support inside at all joints for reinforcement. This ran the length of each joint. We epoxied these, clamped them, and allowed them to cure at least 24 hours.

Finished edge

We trimmed the top with a Skilsaw. The final finishing was accomplished with a plane. After hours of sanding, smoothing, and rounding, we eventually produced a finished edge. We removed the internal mockup frame and turned the whole thing upside down. We added two internal knee supports made of 6-inch oak triangles. Then we stiffened the aft vertical portion of the dodger with the addition of a ½ x 2½ x 24-inch piece of oak board epoxied onto each inside vertical edge.

The next step was to transfer the whole operation to our son's basement because the weather was getting too cold for work to continue in an unheated garage.

The windows

We made cardboard eyebrow patterns for the frames which would hold windows in the sides and front of the dodger. When satisfied, we made the permanent eyebrows of ½-inch maple plywood using a router to cut a groove in each to hold a polycarbonate pane. We had these panes fabricated by a nearby glass shop from ¼-inch clear polycarbonate. We had the middle front window panel fabricated of ¼-inch clear laminated safety glass, rather than polycarbonate. This pane is not removable.

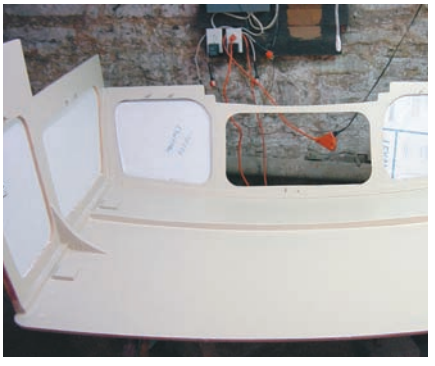
We applied another coat of epoxy to all surfaces, inside and out, and allowed this to cure. Then we epoxied the "eyebrows" to the frame, clamped them, and allowed them to cure. We remembered to do a wet sanding between coats of epoxy.

When the dodger was completed, all exterior surfaces had three coats of epoxy and all interior surfaces had two coats. The windows slide into their frame eyebrows and are held in place by a small piece of wood attached with two bolts that go through to the inside of the dodger and are secured with wing nuts. This makes them easy to remove (see photo on next page). We fashioned screens for the windows using ¼-inch luan plywood for the frames and epoxying the screen to the inside. We painted these frames with Awlgrip.

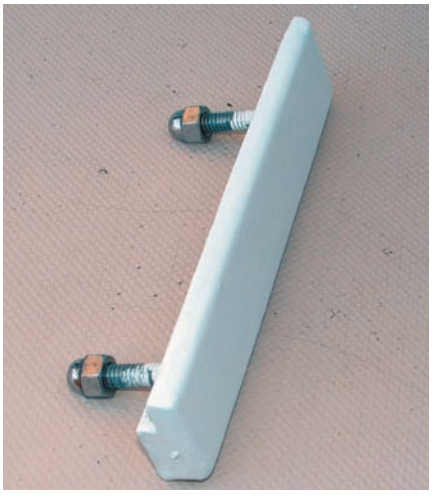
Next we through-bolted 24-inch stainless-steel grabrails to the top of the dodger for handholds and drilled holes to attach two rigid solar panels to the top. We installed the windshield wiper above the safety glass in the center front of the dodger. We drilled all holes going through the top oversized by ¼ inch so they could be filled with epoxy and then drilled again to size. This will keep moisture away from the plywood.

Painted finish

When warmer weather once again returned to northern New York in spring, we transferred the dodger back to our own garage. One warm day we painted the inside of the dodg-



Internal knee supports made of oak, top right. Early stage of construction, top left, before eyebrows were added for side windows. Note the oak stiffener above the okoume-laminated top. The polycarbonate side windows slide into their frame eyebrows, as shown in the middle photo at right. The front window was made of laminated safety glass and is not removable. Testing the fit of the windows after the interior was painted, bottom photos. Notice the oak stiffener and joint support and backing blocks for stainless handrails.



er with a light brown exterior latex paint. We painted the outside with two coats of Awlgrip that was rolled on with a foam roller then tipped with a 1½-inch brush.

Once the paint was dry we transported our well-traveled dodger to the boat for another fitting. It fit!

Our marina owner, Geordie MaGee, who also owns MaGee Canvas Company, introduced us to a vinyl-covered rope which we were able to use to seal the forward edge of the dodger where it meets the cabintop.

We did the final installation of the dodger with stainless-steel bolts. It was attached at the front to the fiberglass rib that supports the boat's cabintop handrails. Two bolts through the cabin sides were strengthened with wooden backing plates. We also added screws in the teak coamings in the cockpit where a triangular piece of hardwood completed the installation. We sealed the entire installation with silicone caulk on the inside seams. We attached the solar panels and completed the wiring for the panels and windshield wiper.

We hired Geordie to build a full cockpit enclosure made from Sunbrella. This included screens for warmer weather. Now we were ready for the St. Lawrence and the 40-degree water of the northern Gulf of St Lawrence.

We accomplished that 2,000-mile St. Lawrence trip in the summer of 2004, and *Whippoorwill* spent that winter in Maine awaiting our return. The new dodger proved its worth during the many cool, foggy days of our northern Gulf of St. Lawrence passage. It increased the living space of our boat by about 50 percent and gave us good protection from the elements. It was well worth the many hours spent on planning and construction.

One of six oak blocks, top left, with a ¼-inch channel to secure the polycarbonate. It takes about five minutes to remove all six windows or screens. Vinyl-covered rope, top center, and installed, below center, provides an effective seal for the forward edge of the dodger where it sits on the cabintop. Exterior shot, top right, shows the triangular oak piece which seals the top of the teak coamings. Interior shot, bottom right, shows the halogen light above the radar display. A red LED is also available for night travel.

Boats

Nimble Kodiak
1998. Ted Brewer-designed motorsailer. One owner. Fresh water only. Yanmar 18-hp diesel, dual steering stations, shoal draft. 6'4" headroom. Tanbark sails, VHF, stereo/CD, AP, Horizon D/S. Upgraded lighting. Pilothouse cushions professionally recovered. Sleeps 4. Alcohol/elec stove, refrig 12v/120v. Bimini, sailcover, mizzen cover. In Holland, Mich. $35,000.

Mark Mow
mtmow@earthlink.net
574-848-7044

AMF Paceship 26
1980. One owner, freshwater boat, 8 North sails exc cond. Twin headfoil, 3 jibs, 1 main. Halyards all direct to cockpit. BMW diesel, steel cradle, sleeps 5. Great family sailing boat. In Hudson, Wis. Reduced price $10,500 (willing to negotiate). Slip available for rent at Hudson Marina for purchaser.

Chuck Eichacker
772-229-1808

Dickerson 36
1971. Center cockpit K/CB ketch. Mahogany on oak. USCG documented. FWC 37-hp Westerbeke diesel. New sails. Well-found coastal cruiser. In Midcoast Maine. $27,500.

Bill Freeman
casafortuna@sisna.com
505-334-1673

Pearson Ariel 26
1966. Classic Alberg full-keel design. 1980 Yanmar 8-hp diesel. Family cruiser/PHRF racer. Fast, stiff, able. Sailed twice to Bermuda. Custom walnut joinery, teak-and-holly sole, enclosed head. 5 sails. Irvington, Va. $8,750.

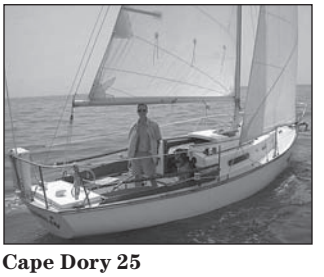
Jeff Schmidt
cjeffers@lancova.com
804-462-7240

Ericson 32
1977 sloop. Beautifully maintained. Rebuilt Atomic 4, refinished teak interior, wooden wheel, dodger and Bimini, new batteries, newer main, RF, lazyjacks, AP, new cabin cushions, 2-burner stove, icebox, full instruments, 6'4" headroom, VHF, stereo CD. On Lake Erie. $16,000.

Fritz Jackson
727-372-2448

Pearson 33
1970. Well-kept cruiser w/many extras. Atomic 4 upgraded '03, tiller steering, K/CB, extra sails, fiberglass dinghy. Sandblasted '02, new barrier coats, blister-free. Additional photos, info on request. In Upper Chesapeake. Anxious to sell. Best offer over $10,000.

Mike Novak
mnphila_52@msn.com
215-671-7930



Cape Dory 25
1977. Exc cond. AP, main, jib, 150, 170. Spinnaker w/Chutescoop, VHF, D/S, swing stove, 4 winches, electric and manual pumps, 2 batteries. 8-hp Johnson w/4.5-amp generator, engine blower, new lifelines, exterior teak refinished, custom cushion covers '04. Free spring launch. Water delivery negotiable. In Clinton, Conn. Photos at <http://www.mandolin-cd25.blogspot.com>. $9,100.

Bud Frick
budfrick@nycap.rr.com
518-783-6850

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website:
http://www.goodoldboat.com/classifieds.html

Catalina 22
1988 trailerable cruiser. Fresh water only. Wing keel, 30" draft. Main, jib, and 150 genoa good cond. Nissan 8-hp elec start OB (excellent motor). Garmin depth and marine radio. Poptop w/factory cover. Easy to singlehand. Good solid cruiser. On trailer in Lynchburg, Va. $4,800.

Edward Taylor
etech@lynchburg.net
434-239-4959

Lord Nelson 41
1982 cutter rigged, full-keel cruiser. 75-hp Yanmar diesel (new '03 only 48 hours). New bottom layup '00. New gennaker (with sock) '02. New Raytheon 4-kw radar/GPS/chartplotter '01. Other upgrades too numerous to list. Marvelous galley and saloon layout, beautiful teak interior, great storage. Sleeps 7. Cruise-ready. In Bay City, Mich. $154,900.

Alan and Joy Doss
Fairwind2@earthlink.net
989-345-7619

Young 6-Meter
1992. Hull #128. Water-ballasted, CB, trailerable cruiser. Perfect cond. Trailer, custom cover, Honda OB, Tillerpilot, spinnaker. Potty, stove, sink, stereo. Sleeps 4. Large, full-battened main, RF jib, D/S, compass, VHF. In Arizona $6,500.

Scott McClintock
rohondo@aol.com
480-231-0959

Gulf 32 pilothouse
1983 sloop. Always fresh water. Dual helms: sail or motor protected from the cold and rain. Bimini w/removable sunshade to mast. Simulated woodstrake hull. Full keel. Beautiful teak interior. Universal diesel 1,250 hrs. Profurl, Autohelm (belowdeck), D/S, davits. Tankage and storage for the long haul. Steel cradle. In Door County, Wis. $39,900. Bought condo. *Will consider smaller trade.*

Dan Leary
gulfpilothouse@earthlink.net
920-725-5469

Bristol 41.1
1981. One owner. Ted Hood design. Center cockpit CB. Draft 4'6"/10'. Westerbeke 58. Max Prop, rubrails, Awlgrip, blister protection. 3 compartments, 2 heads w/showers. Windlass, RF, refrig, propane. GPS, radar, D/S/wind. Equipped for serious cruising. Many upgrades, spare parts, redundant systems. 80-gal fuel, 180-gal water. Hard-bottom dinghy w/15-hp. Berthed at owners' waterfront house in New Bern, NC. $169,000.

Les Ashe
bristol41.1@cox.net
252-636-0966

Rob Roy 23
1987 yawl by Marine Concepts. Pristine cond. New hull, deck,

Boats, cont.

and underbody finish. Full inventory. Photos, equipment, upgrade info available. Will deliver. $15,000 OBO.

Mark Hannon
markhannoninc@msn.com
303-946-6865

Morgan 30
1972. Classic K/CB. Always in fresh water. 25' waterline, 3'6" keel, 7'2" CB. Atomic 4. Full sails and gear. New teak galley never used. 2-axle trailer. Near Green Bay, Wis. $13,900 OBO.

Tom Sydow
920-826-2867

Pearson Vanguard 32
1964 dinette model. 32'6". New UK main and 120 jib, Hurth transmission, spreaders, running rigging, lazy-jacks, bilge pump, 35-lb Delta anchor. Rebuilt 21-hp Kubota diesel (low hours). Inflatable, solar panel, windlass, many sails. Seaworthy Rhodes-designed plastic classic. In Long Beach, Calif. Fitted out for extended cruising. Change in plans necessitates sale. Some projects to be finished by buyer reflected in price: $22,000.

Skip Madden
fjmadden@aol.com
949-290-4931

Cape Dory 25
Hull #832. New Schaffer RF, new custom sailcover, bronze portholes, teak interior, mainsail, genoa, storm jib, spinnaker. 6-hp maintained Yamaha 2-stoke engine. In Branford, Conn. $6,000 OBO.

Tod Browning
todbrowning@sbcglobal.net
860-657-8335

50' Reuel Parker custom ketch
2002. Flush-deck, light-displacement cold-molded composite w/retracting wing keel (3'/5'6"). Low-maintenance, safe, comfortable, ideal family cruiser. Hardtop over center cockpit, queen-berth aft cabin, huge tankage. Repowered (Yanmar 54), re-rigged (all new sails and rigging) '05. $185,000. <http://www.parker-marine.com>.

Reuel Parker
parkermarine@bellsouth.net
772-468-0060

Pearson 35
1971 sloop CB. 3'9" draft. Second owner. Hood furler. New in '02 135 and 150 genny. Bimini and dodger custom-made in '02. New standing rigging '98. Mainsail w/lazy-jacks. Dual 3-stage battery. D/S/wind. Powered by 15-hp 4-stroke Honda. In Baltimore, Md. 15,900 OBO.

Penny Eder
410-226-0080

Sea Sprite 23
In commission in Newport Beach, Calif. Reduced price $14,950.

Lou Libbey
louislibbey@sbcglobal.net
949-721-9042

Mason-designed classic
31' traditional sloop, 7/8 rig. Steel hull. Honduras mahogany brightwork. Sitka spruce spars. Wooden blocks and cleats. Anchor winch. All equipped. Comfortable, seakindly cruising vessel. Built '80; sailed exclusively on Lake Ontario. At Whitby, Ont. Marina. $35,900 CND.

Donald Smith
intrepidlady64@hotmail.com
905-728-9042

O'Day 34
1982. Original owner. Cruised Exumas to Nova Scotia. Custom interior w/lots of storage, complete maintenance records and manuals. GPS, radar, VHF, AP, RF 150 jib, new Dutchman mainsail system, self-tailing jib and mainsheet winches, Electrosan head, Adler Barbour cold machine, Universal diesel, pressure H/C water, new batteries '05, many extras. 5'7" draft. Selling for health reasons. In Annapolis, Md. $32,000.

Jean Jones
jlongj@msn.com
410-849-8836

Catalina 38
1980. Sloop-rigged. Classic Frank Butler design. 6'9" draft, fin keel, 6'3" headroom, Universal 24-hp diesel, Interprotect 2000 bottom, re-wired '04, Always a freshwater boat. Great family daysailer/cruiser; very stable and easy to handle. In St. Joe, Mich. A lot of boat for a little money. $43,500.

Dave Kurth
DAKurth1@aol.com

Islander 28
1977 sloop. Robert Perry design. 22-hp Nanni freshwater-cooled diesel, 6' headroom, 9'10.5" beam, 5' draft, RF, VHF, complete cockpit enclosure, WS, fridge, pressure H/C water, custom cushions: mattress, saloon, cockpit. 20-gal fuel, 20-gal water, marine head w/holding tank, propane stove. Well-maintained, comfortable liveaboard. In Florida. Must sell due to relocation. Photos on request. $17,500/OBO.

Debbie Crump
573-673-9411

Cape Dory 25
1973. Hull #55. Classic, fiberglass full keel, teak trim. (See *Good Old Boat*, November '05). Draft 3', beam 7'3". Sleeps 2 in main cabin, 2 in V-berth. OB Mariner 8-hp engine. New main, refurbished genoa and jib. Sound fiberglass and gelcoat. Overall very good cond. Interior cushions reupholstered. Sink, head, icebox, and table. New stays and cradle included. Long Island, N.Y. Ready to sail this spring! New Cape Dory 27 forces sale. $5,000.

James Hazard
snowgoose@optonline.net
631-286-2184

Pearson 35
1969. Excellent. Young Yanmar. WS, dodger, Bimini, canvas enclosure, VHF, GPS, RF, FB main, Dutchman, ST Andersens. Propane. Pressure H/C water. Refrigeration. Near Lancaster, Va. $34,900.

Thomas Cockrell
540-586-6375

Corbin PH Cutter 39
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Bob Cummings
413-772-0333, or
413-222-1454 cell

Bluenose 24
1977 sloop. Fiberglass daysailer. Hull #155. Fixed keel 3'10", Yamaha OB. Classy daysailer, built late '70s by McVay in Halifax, Nova Scotia, from the Roué design. Newly Awlgripped black topsides, tan non-skid decks and cockpit, black bottom paint. New main and sailcovers w/arched boom tent. Varnish condition highly maintained. Responsive, exciting and in sailaway condition. A real head-turner. In Rockport, Texas. $9,700.

John or Pat Hopper
361-727-0169

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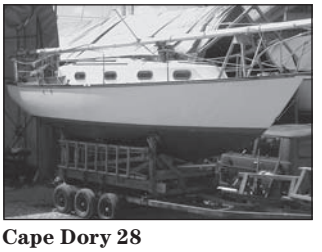
30'4" steel hull, Honduras brightwork. Gray marine engine installed '99. 2-burner stainless Origo stove, Lectra San head. RF main and jibs. Handles beautifully; a pleasure to sail. Well-equipped and comfortable for long or short cruises. Enjoyed for many years by our family of 5, especially exploring

the Chesapeake Bay. 8-ft hard dinghy included. Middle River, Md. $16,900.

Jane Smith
410-687-1398

Islander 26
1977. Robert Perry design, second owner, 90 percent restored and upgraded for more comfortable overnight cruising. Original OMC saildrive in good running cond as spare. Later model of same totally restored and being installed. 3 sails. Brand-new replacements or upgrades recently: 20 new cushions, matching covers for everything. All 12v/120v wiring and panels, 41 gal water, cold pressure. Big cockpit berth, AP, compass, tons more. Near Annapolis, Md. $10,000.

John Eaton
JLEaton@Friend.ly.net
410-604-3550



Cape Dory 28
1978. Hull #184. Classic design, standard equipment, tiller steering, Volvo MD7A diesel engine. Cradle on yard trailer. Milwaukee, Wis. $20,000.

Al Kapocius
akapociu@execpc.com
414-423-1909

Seaward 22
1988. Good cond. See *Good Old Boat* review Nov. '05. 8-hp Evinrude (low hours). 23" draft, CB draws 3'5", 8'6" beam, extremely roomy! Well loved and cared for. We're buying a larger boat (kids are growing!). In Barnegat Bay, N.J. $6,500.

David Zailik
bbsail2@comcast.net
732-244-8434

Alberg 22
1977. Full keel. Similar to Cape Dory 22. Very good cond. Recent restoration. Sound deck. Full cabin sleeps 4. Sink, stove, all cushions. Pumpout head. 8-hp OMC in lazarette. Pulpits, lifelines, D/S, VHF, self-launching and masting on factory trailer w/dual axle w/extending tongue. Main, working jib, genoa. Very stable boat. This design has crossed the Atlantic. In Cape Vincent, N.Y. Photos available via email. $8,000.

Bob Adams
grumoll@hotmail.com
607-227-7110

Stone Horse 23
Cutter-rigged sloop. Sam Crocker design. Built '80 by Landing School in Kennebunkport, Maine, from white oak framing and Atlantic white cedar planking. Loaded w/electronics and Tillerpilot. Exc care last 14 years by professional boatbuilder. Recent survey and many upgrades. 7-hp IB diesel. Mooring cover, storage cover, custom heavy-duty double-axle trailer. A competent cruising boat in show-quality cond. <http://www.geocities.com/gpsailorman>.

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Joe Studholme
jbstudholme@yahoo.com

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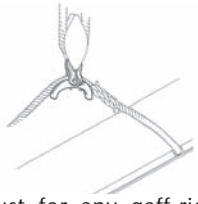

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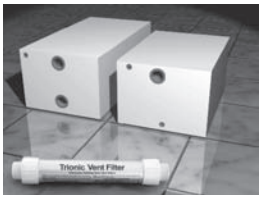

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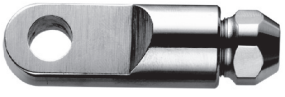

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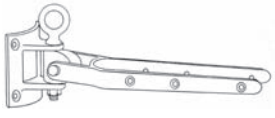

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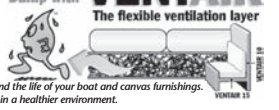

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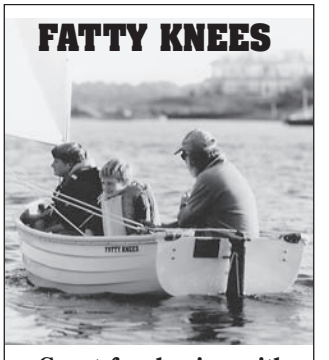

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Tires as fenders

Dress them up and domesticate them

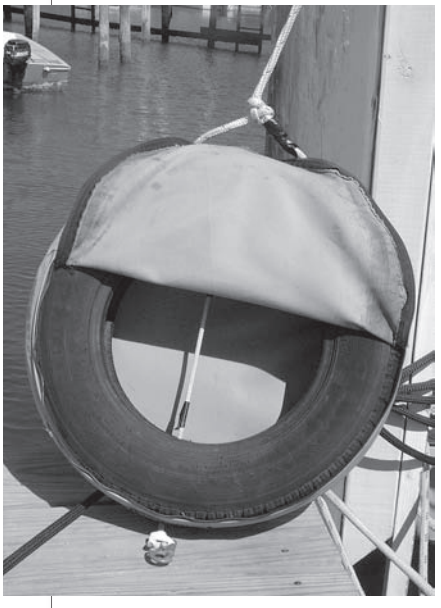
by Silver Donald Cameron

Classy tire fenders on *Magnus*, above. The forward one is deployed for use. The aft one is in its stowed position, clipped up above the rubrail. The construction is revealed, below left. This "zippered pouch" can also provide convenient stowage for docklines.

Rubber tires are used everywhere in the world as fenders — but on workboats, not on yachts. They're big, ugly, awkward to stow, and when they rub, they leave black scuffmarks on the hull. Fishermen don't care about that, but sailors do.

Nevertheless, tires have great advantages. They are free and virtually indestructible. They don't burst or deflate, and they lie flat between the boat and the dock. They don't pop up or roll out of place. And they can be dressed up and domesticated.

On *Magnus*, our Viksund MS-33, our fenders consist of four tires from a Ford Fiesta. Tires come in many sizes; on a smaller boat I'd use something like wheelbarrow or motorbike tires.



Start by cutting two holes in the top of the tire and one in the bottom. Then make a zippered canvas cover with brass grommets that match up with all three holes. We had our covers made at a cost of about $70.

Tug the cover over the tire and lead a short line into the tire through one of the holes at the top and out through the other. Tie the line back on itself to make a bridle to hang the fender. Tie another short line to the first one inside the tire and lead this line out the third hole. Pull it up snug and tie an old jib hank or some similar clip to it.

On *Magnus*, these fenders are permanently tied to the bases of the lifeline stanchions. In use, they hang down on their bridles, almost reaching to the waterline. To stow them, we lift them up and clip the jib hanks around a shroud or stanchion base, so they stow flat against the tumblehome of the topsides. Release the jib hank, and they're deployed again. They're never in the way, and they're always ready to go. After nine months and 3,000 miles of constant use, the covers have some chafe holes in them, but they've held up remarkably well.

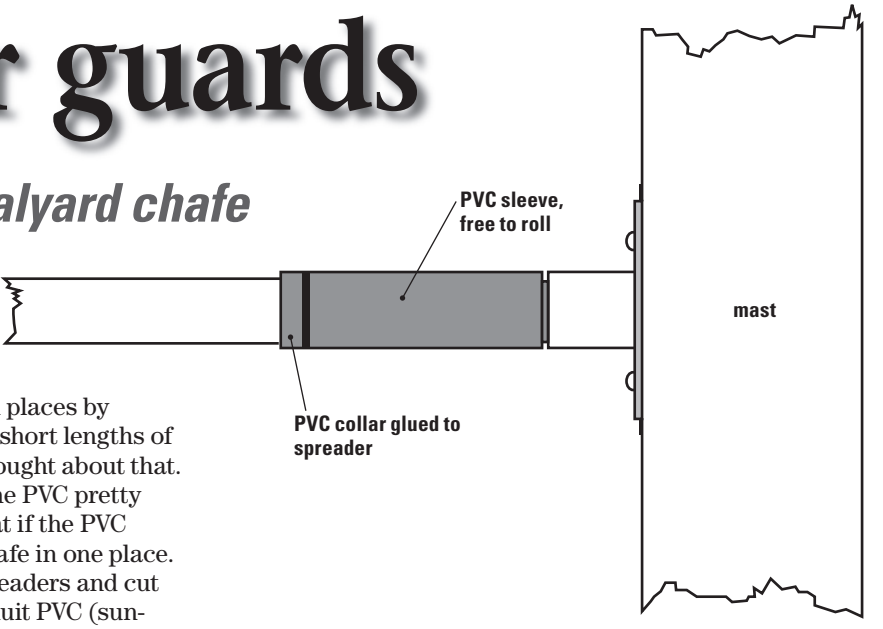
The tires have other benefits. With their taut canvas covers, they make surprisingly comfortable cushions. If the zippers are properly positioned, you can stow your docklines inside. And in the stormy conditions we hope we'll never see, a tire chained to a long stout line makes an astonishingly effective drogue.

Cheap, adaptable, effective, convenient, multi-purpose. And it's the ultimate in recycling. What more can we ask from any piece of gear?

Spreader guards

Roller guards tame halyard chafe

by Phillip Reid



When I took my mast down for repair, I noticed that the surface of the aluminum spreaders was flattened in places by halyard chafe. A friend suggested gluing short lengths of PVC pipe over them to protect them. I thought about that. I feared the halyard would eat through the PVC pretty durned quick. Then it occurred to me that if the PVC could roll freely, the halyard wouldn't chafe in one place.

So I measured the diameter of the spreaders and cut some short pieces of gray electrical conduit PVC (sunlight-resistant), which I happened to have (but will cost you next to nothing to buy if you don't) that were just a little bit bigger. I glued retaining collars on the outboard side, inside of which the longer tubes can rotate freely.

The spreader socket retains the rolling part at the other end. Being gray, like the aluminum, they're pretty unobtrusive. You could use white PVC if your rig is painted.

Adding a bit of PVC to protect his spreader was getting there, but it wasn't quite the answer… not until Phillip realized that the PVC chafe guard must be free to roll. Adding retaining collars to keep the PVC tube in place did the trick.

Mechanical eye-splice

A high-tech substitute for the bowline knot

by Al Lorman

No, a SplicingNut is not someone who absolutely "loves" splicing above all else on his boat, nor is it someone who's been driven 'round the bend by splicing double braid. It is, instead, a two-part glass-reinforced-polymer device that has a certain nut-like appearance and can be used to form a loop in some lines. The line is wrapped around the black piece of the apparatus, as shown above and at left below. An eye, or loop, of any size can be formed in this way. Three sections of line and the black piece fit snuggly in the second piece, as shown at right below. The final construction, not shown here, brings the two pieces completely together.

Steve Brennan was up in a bosun's chair during a race some years ago, trying to free a spinnaker-halyard splice that had jammed in the sheave, when he told himself in frustration that there had to be a better way. It wasn't until 1998, while the aeronautical engineer was working on the design of a nuclear submarine, that the answer came to him. The result is the SplicingNut, a patented device intended to replace bowline knots and splices in many, but not all, applications on a sailboat (and in tents).

The SplicingNut is a two-piece, glass-reinforced-polymer device that creates a loop to which a sail, a ring, a shackle or a fender can be attached. Available for four line sizes (3⁄16, ¼, 5⁄16, and ⅜ inch), Steve says the SplicingNut has some real advantages over a knot: the line will "never back out," the shape of the SplicingNut means it is unlikely to snag on anything, it won't pull through a sheave, and it can be undone under load.

Despite its virtues, Steve doesn't recommend the SplicingNut for anchor and mooring lines. And the SplicingNut doesn't work especially well with high-tech line. But for most single- and double-braid polyester, Steve says the SplicingNut is "the right one to use 85 percent of the time."

The SplicingNut can be thought of as a Sta-Lok fitting for line. But while a mechanical fitting like a Sta-Lok will create a connection as strong as the wire rope itself, the SplicingNut does decrease the breaking strength of the line, just as a bowline or any knot does. Any bend in a line reduces the strength of a line, Steve says, and the SplicingNut uses two bends. While he has test data on his instruction sheet and website, Steve says it's best to think of the SplicingNut as a substitute for a bowline: if you wouldn't trust a bowline for the job, you probably shouldn't use the SplicingNut.

Bought two

I bought a pair of SplicingNuts for ⅜-inch line at the Annapolis Boat Show. When I read the directions, it wasn't terribly clear to me how the product would work. But when I had it in my hand and followed the directions using a piece of line, all fell into place . . . until I tried to tighten the nut. The SplicingNut is supposed to work without tools (except for the ¼-inch size, which is bit small to get a grip on), but I couldn't tighten it properly even using two wrenches.

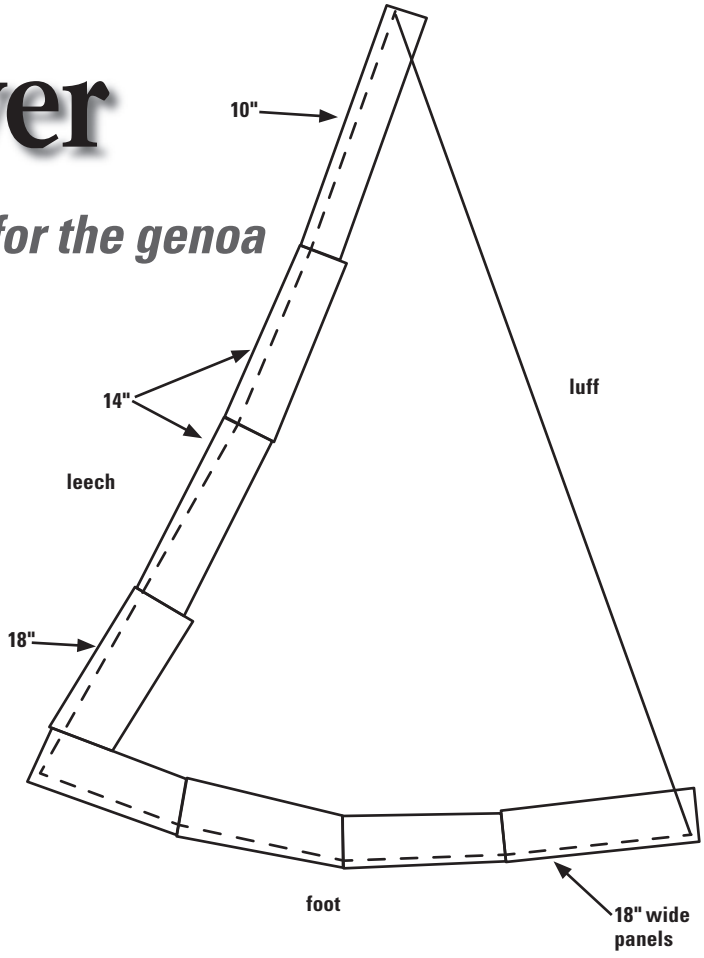
I called Steve and he talked me through an easy fix, which the written directions didn't adequately explain. To evenly compress the line as the nut is tightened, you have to take two turns forward and one turn back as soon as you can't tighten it by hand any further. This seemed counterintuitive to me, but it worked quite well and closed a SplicingNut that defied two wrenches. Steve, who runs an industrial design firm and sails a Wylie 34, promised to revise the directions. In fact, he said it was important to read the directions carefully, because, as noted, the SplicingNut is not the right tool for every job; it is important to understand its limits as well as its strengths. The SplicingNut is currently available from Steve's company, InoDesign Inc. <http://www.SplicingNut.com>.

The SplicingNut won't change your life, but it is an elegant and attractive product. And, Steve notes, it's a patented device that isn't priced like one. That alone makes it an innovation in the sailing world.

New sun cover

Make your own sacrificial strip for the genoa

by Gregg Nestor



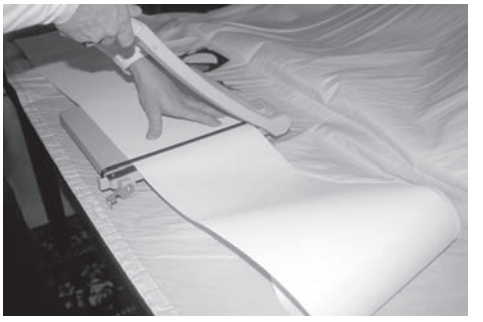
It was time to replace the sacrificial sun cover on our 150-percent genoa. It wasn't worn out or damaged, but I was getting tired of looking at that particular shade of blue. It seemed that everywhere I looked, the previous owner had used that same color on everything: dodger, Bimini, sail cover, canopy, winch covers, seat covers, and so on.

Since purchasing the boat I had made several changes and upgrades. Most of them were functional. However, a few were made for aesthetic reasons. Replacing the sacrificial sun cover was to be an aesthetic move. It was time to add personal touches.

At the end of the season I contacted my favorite sail loft. The owner and sailmaker, Bilgewater Bill, gleefully informed me that the job would be simple, quick, and only cost about $350…that is, assuming that he didn't run into any snags. While I liked hearing the words "simple and easy," I didn't much care for the $350 part of his proposition. There had to be another way.

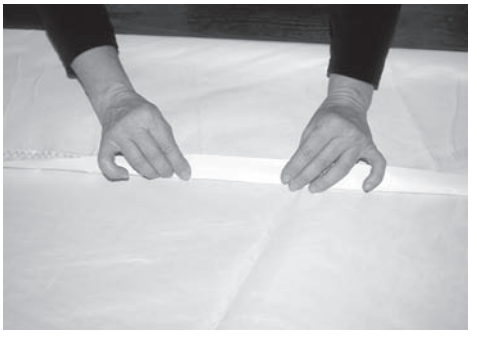
According to the Sailrite catalog, there are two materials that work well as sacrificial sun covers. The most common and durable is Sunbrella, a solution-died acrylic fabric. This material is available in a rainbow of colors. However, it's a bit on the heavy side at 9.5 ounces per yard. The second choice is Dacron insignia cloth impregnated with a UV inhibitor. While it's much lighter, at 3 ounces per yard, it's only available in white. Fortunately, that was the color I was leaning toward. Even though sewing is required for both

Out with the old: removal of the previous sun cover. Since it was only sewed and not glued on, this process was pretty straightforward.



To compensate for the curvature of the sail, Gregg divided the length of the sail's foot and leech by 4 and cut the insignia cloth into 8 panels plus 3 inches for overlap.

To ensure that there were no trapped air bubbles, he used a wallpaper seam roller to smooth the adhesive-backed cloth.



Once the panel was stuck in place, Gregg folded the 1½-inch edge strip over and against the other side of the sail to protect the edge of the sail.

Using a zig zag stitch within ¼ inch of the panel's edge, he sewed the adhered panels to the sail with Dacron thread. This reinforced the panels.

Because of the heavy-duty reinforcement at the tack, clew, and head, Gregg hand-sewed these areas.

materials, the Dacron insignia cloth has an adhesive back, which makes installation very easy. Also, unlike the Sunbrella that has to be cut down from 46- or 60-inch widths, the insignia cloth comes conveniently slit into 10-, 14-, or 18-inch widths. I was sold.

Choosing the width

The first step was to measure the foot and leech of my sail. Then I had to determine what width cloth to use. I chose 18-inch cloth for the foot and, since the current sun cover gradually tapered as it rose along the leech, I selected a combination of 18-, 14-, and 10-inch cloth. In all instances, I would be covering the previous thread holes with the new sun cover and then sewing it onto undisturbed sailcloth.

While the material was on the UPS truck headed my way, I removed the old sun cover. Since it was only sewed on (not glued), this process was pretty straightforward.

My genoa is a fairly large sail and the foot curves a bit, so after the material arrived I divided the length of the foot by 4 and cut the 18-inch cloth into four sections plus 3 inches for overlap. I loosely positioned the panels along the foot so they could be folded around the edge of the foot such that they would overlap each other by about an inch to an inch and a half. At the overlap of each panel, I angled them to follow the sail's contour, making sure to leave a 1½-inch strip to fold over the edge. Once I was satisfied with how it looked, it was time to begin the installation.

The finished hand-sewn edge is well-reinforced, looks good, and is no longer that common shade of blue that Gregg chose to eliminate.

Starting at the clew, I peeled the paper backing away from a small portion of a panel and began smoothing it down as I continued to remove the backing. Once the panel was stuck in place, I folded the 1½-inch strip over the edge and against the other side of the sail. I continued this process with all the remaining panels, including the leech, which was also divided into four sections. To ensure that there were no trapped air bubbles, I used a wallpaper seam roller to smooth the cloth, especially around the edges and seams.

Using a zigzag stitch placed within ¼ inch of the panel's edge, I sewed the adhered panels to the sail with Dacron thread. I sewed all edges, including the overlap. I took particular care at the leech's edge not to damage or sew the leech line. Because of the reinforcement at the tack, clew, and head, I hand-sewed these areas.

The entire process was relatively easy and took the better part of a Saturday. Best of all, the cost for cloth, thread, and instructions was less than $150.

The admiralty hitch

Coil and stow that line following British tradition

by Geoffrey Toye

Any time we crew for another skipper, I think most of us take a look around and try to acquaint ourselves with how things are done, asking the occasional question just to make sure. It's not that we might bring bad habits with us — no doubt our own vessels are as smartly run as many — but introducing some unexpected variant can cause big problems.

Knots can be vexatious, not only the Gordian tangle anticipated of the tyro but the quirk that maybe I tuck my bowlines and the skipper doesn't, so if he grabs it in the dark it won't feel anything like a bowline, and he has every right to bawl me out for not telling him.

Aboard my little ship, how cordage is coiled and stowed is not negotiable. One fellow who *used* to sail with me insisted that he knew how it should be done. He would take the unsuspecting rope, wrap it Biblically in cubit turns around the elbow and thumb, gritting his teeth while the impromptu Spanish windlass hauled those two parts of his anatomy inexorably closer to each other, finally dragging the murderous seizing from the cold white digit just before gangrene set in. He would then clap on a multitude of turns around the kinked-up coils, shove a bight through, over the end, another bight through the first bight, round the other

way, over, under, through, and haul taut. The finished heap of knitting would then be held aloft, the perpetrator massaging life back into his thumb while the ghastly object twitched and groaned with the continued parting of tortured fibers deep within its labyrinths. That is a mean way to treat a piece of rope.

Do it gently

Rope should be coiled gently, stretching each length between the outstretched hands and introducing a slight twist between thumb and index finger to counter the reverse twist otherwise caused by simply coiling regardless. The first sign of this twist is that the coils want to form in figure-eights. The coils should be gathered in the left hand, the right forms the coils clockwise and as each coil drops over the palm of the left hand, the right-hand finger and thumb twist the rope also clockwise, as when tightening a nut on a right-hand thread. All coils should be the same size; this comes with a little practice.

Few elements mark a well-run ship more than how her cordage is coiled and stowed. Call me a patriot (and a British one at that) but the neatest and simplest method I know to secure the coil and stow it is the admiralty hitch.

Still holding the coils, now clenched firmly in the left

> **"Knots can be vexatious, not only the Gordian tangle … but the quirk that maybe I tuck my bowlines …"**

hand, take the end section of the rope, the last few inches that went onto the coil — we'll call that the standing part — and pass it around the coils, away from yourself over the top (and over your extended left index finger) and back under toward yourself through the coils, then up and under the standing part (through the tunnel prepared by your index finger) and around again, parallel to the first turn on the side nearer to your left hand, this time wrapping over the standing part then under itself to form a constrictor knot. How to tie a knot defeats my ability with the written word, but the admiralty hitch is really pretty simple. The series of illustrations will make sense of the convoluted description.

This leaves a short tail of rope at right-angles to the coil. The neatly and securely coiled rope can thus be stowed by hitching it to a rail, or a bowline can be formed in the end to hang it on a hook.

This stow works well for a heaving-line; it's seldom difficult to separate into the necessary double coil. It's simple, efficient, and (dare I say it?) traditional.

On Geoffrey's boat, the preferred (nay, the only acceptable) method of stowing line is with a traditional admiralty hitch, shown on facing page. The short tail of rope at the top makes it easy for hitching the coil to the rail. When it comes to knots, a picture *really is* worth a thousand words. The images at right demonstrate the steps for tying the admiralty hitch.

Roll with the flow

Save your docklines from chafe as they rub against coarse pilings in choppy waters and tidal areas. Dr. Shrink has introduced TideMinders, a mooring line control system from Go With The Flow Solutions, LLC.

Thread this string of nine high-density polyethylene balls on your dockline, and your lines will cheerfully roll up and down any size piling without constant adjustment.

These polyethylene balls fit on any line up to ¾ inch and provide protection for boats of any size.

Installation is simple. Your kids or grandkids can do it for you while you relax in the cockpit. Once the balls are threaded on the line, two figure-eight knots finish the job. No tools. No complicated direction book in eight languages.

The patent-pending TideMinders system retails for $49.50. Contact Dr. Shrink, 800-968-5147, <http://www.dr-shrink.com>, drshrink@dr-shrink.com.

Decorative and useful

Know how sailors prefer that everything aboard serve two purposes? Banner Bay Marine has introduced a gorgeous new anchor riding sail that is stowed away in a small bundle when not in use. Since it is constructed of 4.9-ounce sailcloth, the sail is strong, light, and quick to dry, in addition to being easy to stow.

Riding sails are designed to help a boat point into the wind when anchored. This new lightweight sail uses the same fittings as Banner Bay's standard heavy-duty riding sails but takes advantage of the remarkable tear strength, burst-resistance, durability, and shape-holding characteristics of modern sailcloth.

Remember the two-purpose rule? Well, this colorful sail brightens up your day, decorates your boat, helps your boat stand out in a crowded anchorage, makes a fashion statement . . .

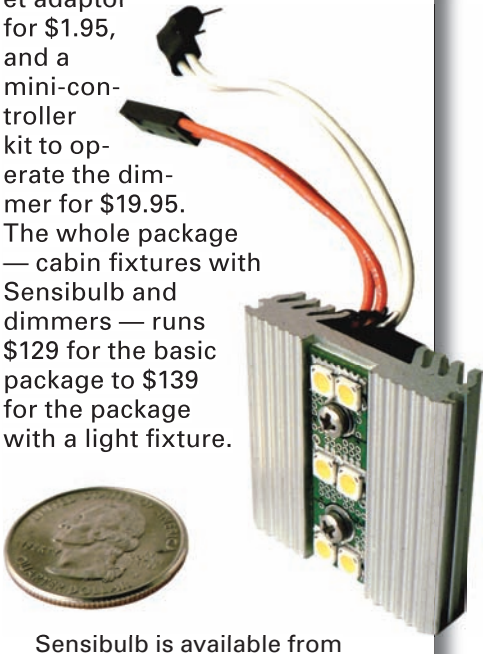
These sails come in two sizes. Pointer #1C is intended for boats to 32 feet and runs $250. Pointer #2C was designed for boats 33 to 42 feet and runs $315. Bigger boat? Larger sizes can be custom-ordered.

You can reach Banner Bay by calling 201-452-2834, visiting their site at <http://www.bannerbaymarine.com>, or sending an email to info@bannerbaymarine.com.

Join the revolution

LED lights have been leading a marine lighting revolution lately, and the new Sensibulb offered by Sailor's Solutions is among the newest of the revolutionary introductions. This marine cabin light bulb replacement unit fits in most existing overhead dome, berth, and reading lamp fixtures. In addition, it is said to have the highest light output efficiency LED product so far introduced. It's available in soft white or red with a 120-degree focus which makes it ideal for overhead applications.

The Sensibulb itself is $39.95. You may also want to consider the additional brackets and switches you need to make it meet your needs in your boat's spaces: a berth/reading lamp mounting bracket for $3.95, a bayonet socket adaptor for $1.95, and a mini-controller kit to operate the dimmer for $19.95. The whole package — cabin fixtures with Sensibulb and dimmers — runs $129 for the basic package to $139 for the package with a light fixture.



Sensibulb is available from Sailor's Solutions, Inc., 631-754-1945, <http://www.sailorssolutions.com>,sales@sailorssolutions.com.

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Cruising memories,
Continued from Page 41

and at sea. Because that's when it can happen. You get caught up in the magic of it all. You start to take your boat, the sea, and the joy of it all for granted. You forget to do the little things that should be done to keep you and your boat safe and prepared for whatever may come your way.

I've no doubt that many sailors more experienced and skilled than I have found their watery demise through a single moment's carelessness when they didn't pay attention and forgot to do what they knew they should have done.

We've all made horrible mistakes out there, and if we're still here to talk about them we've been fortunate enough to have escaped with a warning. But the sea can be fickle, and our next transgression could be our last.

So, as painful as it is, I've come to acknowledge *Affinity's* reminder before her hull even hits the water: you have to pay attention all the time.

The summer of 2006 lies before us. Let's embrace it with the passion and enthusiasm that comes with knowing we'll only get to live it once. But always keep your weather eye out, sail within your abilities and those of your boat, and if you think you should do something, do it.

Have a great season. And remember to keep your head up — or down — as the situation requires.

Mail buoy

Common sense? *Nothing more?*

What wonderful photos of kids and families having fun afloat (March 2006). Amazingly, many of the kids were not wearing PFDs. I'll even venture a guess that photos of the helm might have shown an occasional beer can or two, and the cars back at the marina didn't have seatbelts, booster seats, or airbags either. Pictures down below might have shown newborns sound asleep in laundry baskets braced between sailbags.

How did they survive without the government, lawyers, and heavily armed fun police looking after them? Is it possible that *common sense* worked?

Norman Northgard
Sea Cliff, N.Y.

A nifty HIN site

If you have a Hull Identification Number (HIN) and wish to know the builder, take a look at the following: <http://www.uscgboating.org/recalls/mic_database.htm?id=>.

If that URL does not work, start with the root address <http://www/uscgboating.org/> and work your way in to the manufacturer's database.

C. Henry Depew
Tallahassee, Fla.

Sailing a Freedom 25

I was interested in your feature about the Freedom 25 (January 2006). I owned a 1980 British-built one for seven years then moved up to another unstayed yacht — a Nereus 40 — big brother ketch to the Nonsuch.

My Freedom 25 had the spinnaker masthead mounted and a forestay about ⅝ up the mast. The jib (or "giblet," as we called it because of its small size of only 40 square feet) was attached to the forestay by piston hanks and had an internal, curved, rotating boom in a sleeve about 18 inches from the bottom (*shown in the photo above*). When the boom was attached to the clew of the sail it could be tensioned to press forward on the stay, which has the effect of keeping the luff tight and straight…another example of Garry Hoyt's clever design.

This little sail allowed the boat to point as high as most conventionally rigged boats in our club, was self-tacking and, when returning to our mooring in anything more than a Force 5, would keep her sailing at 4 to 5 knots on most points, but tacking could be a bit tricky.

The photo shows the boat running under spinnaker with the jib sheeted in hard.

Andy Walker
Burnham-on-Sea, United Kingdom

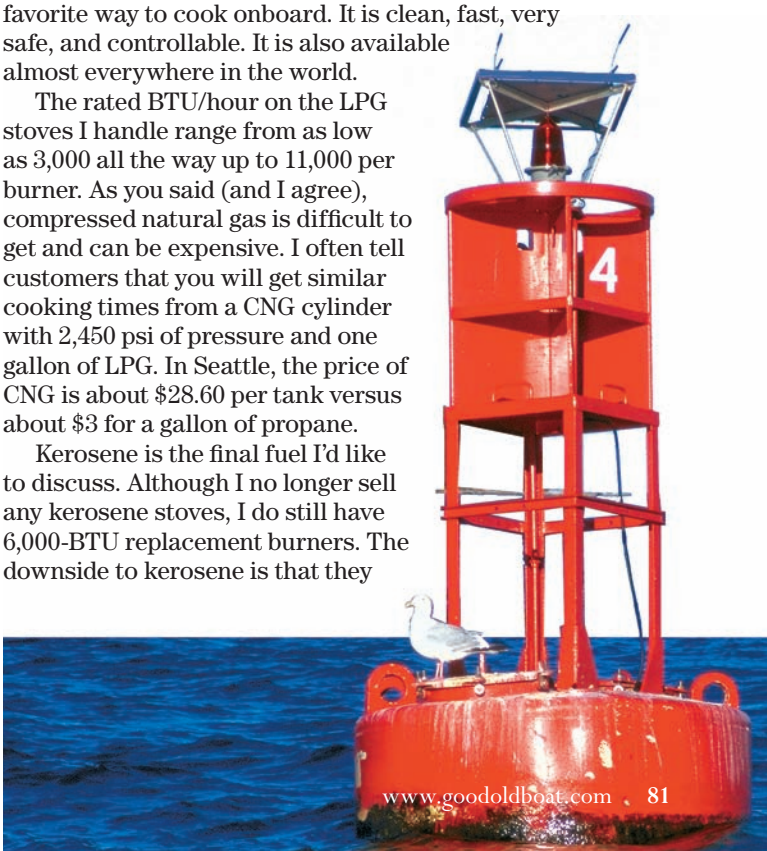
Good galley stove advice

I've been specializing in selling galley equipment for the last 10 years. When I read your article, "Galley Stoves 101" (March 2006), I agreed with most of what was said, but noticed a few errors and thought I'd send in my two cents. You are correct that the common pressurized alcohol burner is rated at about 3,000 BTU/hour, however the Origo alcohol stove is rated at about 7,000 BTU/hour per burner (depending on the alcohol). The Origo product line is a great option when changing out from an old pressurized alcohol stove (especially if you are afraid of propane).

I can't tell you how many people are afraid of propane on their boats. There seems to be the idea that propane is some sort of evil entity, hiding and building its forces in the bilge …lurking behind the water tank until it's time to strike! I know that sounds funny, but it illustrates the *feelings* some have toward propane. I show my customers how safe propane fuel can be…how the safety features on modern ABYC-compliant propane stoves like Force 10, Seaward, and Dickinson work. These newer stoves use a heat-sensitive shutoff. If a pot boils over and puts out the flame, the supply of propane to that burner shuts off, keeping excess propane from entering the cabin. That being said, propane is my favorite way to cook onboard. It is clean, fast, very safe, and controllable. It is also available almost everywhere in the world.

The rated BTU/hour on the LPG stoves I handle range from as low as 3,000 all the way up to 11,000 per burner. As you said (and I agree), compressed natural gas is difficult to get and can be expensive. I often tell customers that you will get similar cooking times from a CNG cylinder with 2,450 psi of pressure and one gallon of LPG. In Seattle, the price of CNG is about $28.60 per tank versus about $3 for a gallon of propane.

Kerosene is the final fuel I'd like to discuss. Although I no longer sell any kerosene stoves, I do still have 6,000-BTU replacement burners. The downside to kerosene is that they



need to be pre-heated, just like alcohol burners, and they can impart a kerosene taste to your food. But, as the cruisers tell me, you can generally find kerosene wherever you go.

Dwight Ballestrasse
Fisheries Supply
Seattle, Wash.

Free site unites skippers and crew

Arnie Newman has started a brand-new (and free) service to help skippers find crews and to help crewmembers find skippers. Not just for racing. This is meant for "the rest of us" who simply want to go sailing. Go to Arnie's site at <http://www.crewpools.com> for more information. It's still evolving as a concept. So if you've got some suggestions, Arnie is likely to welcome them.

Editors

Saving wooden boats

I run The Wooden Boat Rescue Foundation. I think you might find it interesting. It's just about a year and a half old now, and we have saved more than 50 boats. For more, go to <http://www.woodenboatrescue.org>.

Bruce Elfstrom
East Haddam, Conn.

On the website, the Wooden Boat Rescue Foundation states, "Wooden boats beyond a certain point of condition and/or age are becoming rare. After years without proper care, they are sawn up and burned or buried. It is our hope that this site can act as a centralizing site for connecting current owners placing boats with prospective owners looking for projects and dreams.

Not a big seller, perhaps . . .

I just finished reading the March 2006 issue. I was particularly interested in the article, "Two Classic Columbias." I noticed that the specifications for the Columbia 36 stated the headroom was 4'4". This is less than the headroom in my Pacific Dolphin. I thought this must be a misprint. I went to the website <http://www.columbia-yachts.com/c-36.html> and found that the headroom is 6'4". That's more like it.

Harold Schomaker
Palm Harbor, Fla.

This is the depressed deck model which had the deck caved in to achieve the 4-foot headroom. It was very sporty but not popular. Just kidding. That was our mistake. Typos slip by no matter how often we proof, it seems.

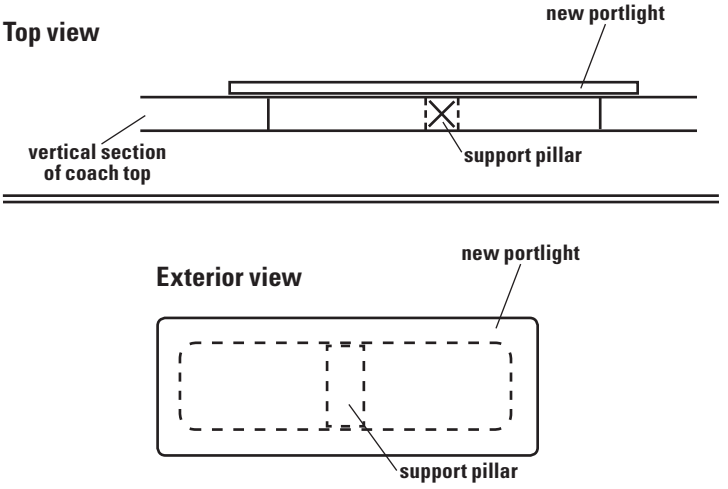
A familiar face (that's no goose)

I finally had the opportunity to open my January 2006 edition of *Good Old Boat*. While perusing the table of contents, I noticed Craig Carter's "Winter Reverie" article with an accompanying picture that looked amazingly like my newly purchased 1976 Cape Dory Typhoon, *Snow Goose*. I flipped to page 40. Lo and behold, there she was in all her winter glory, on the hard covered with a fresh coat of snow. She looks beautiful in that shot. The photo is probably two years

old, but the old *Goose* looks as good as ever. Her most recent former owner and I are friends and co-workers. She reluctantly sold her to me this past summer after many years sailing out of Scituate Harbor, Massachusetts. I shared a copy of *Snow Goose's* photo with her former owner, and I must say she was most delighted.

After a trip up to Maine with the original owners, *Snow Goose* worked her way down the coast to where she is now resting quietly on stands at Tripp's boatyard in Westport, not far from her birthplace in Taunton some 30 years before. She is waiting patiently to sail Buzzards Bay, the water for which she was born.

Michael Savoy
Dartmouth, Mass.



Surface-mounted ports

Having read with interest your "Surface-mounted ports" article (March 2006), I would like to contribute the result of my experience with the same repair on a Seidelmann 30. Depending on the strength of the coachroof and the length of the portlight opening, the new portlight, placed on the surface in the manner described, will fail: chipping and cracking around the fasteners and allowing leaks by the sealant/gasket. The problem is the flexing of the coach structure due to the weight of crew coming and going. The longer the portlight opening, the more destructive will be the movement.

My second repair was a long-lasting success due to the addition of a vertical support placed in the opening to carry the load and stop the flexing. This was the task of the original portlight plastic and frame that was inserted into the opening. After trimming the raw edges of the portlight opening with wood to match the boat's interior, I fabricated a support pillar with several layers of plastic 2 inches wide and long enough to fit snugly against the top and bottom surfaces of the trim and glued into place. Using clear plastic makes them hardly visible; wood or any other material could be used, depending on how one wants it to look.

I will, in fact, be making this repair in spring on my own boat, a 1973 Grampian 30.

Jim Donovan
Braintree, Mass.


Mail buoy

Discovered in Nova Scotia

Situated right on the waterfront, just a block or so off the "main drag," in tiny Shelburne, Nova Scotia, we stumbled upon an amazing collection of nautical history. The Dory Shop Museum was originally a dory-building workshop. Opened by John Williams in 1880, the shop finally closed for business in 1971. In the early years when dories were the workhorses of the Grand Banks fishing industry, five to seven men in this shop could complete two boats per day. Over the course of his career, working six days a week, 10 hours a day, Sidney Mahaney, a craftsman who is now 96 (*in photo*), is believed to have been involved in the construction of at least 10,000 dories.

The Dory Shop was converted into a museum and reopened in 1983. It offers a glimpse into Grand Banks maritime history and the tiny boat that changed the way we view the sea. Downstairs, the museum displays several dories designed for various purposes and equipped with fishing gear from different periods and a variety of industries. Upstairs is an active workshop in use by museum staff members making Shelburne dories for sale. This area contains many of the original 19th-century molds and templates used in the production of these dories, including the original "horse" used to ensure that the correct lines and frames were maintained. The design of dories varied widely from town to town; much was made of the difference between the lines of a dory made in Shelburne and one made in the next town up the coast.

The museum is open June 1 through September 30. Admission is $3 for adults, free to anyone under 16, and free to all on Sundays. Just $8 buys you admission to all four local museums including The Dory Shop Museum, The Ross-Thomson House & Store, The Shelburne County Museum, and The Muir-Cox Shipbuilding Interpretive Centre. For more, call 902-875-3219.

Glenn Kaufmann
Hollywood, Calif.

My boat's cameo appearance

With great pride I noticed that my vessel, *Sparkle Plenty*, a 1980 Mariner (NH) 36 sloop has made it into the pages of *Good Old Boat*. In the January 2006 Mail Buoy, *Sparkle Plenty* is the gorgeous New England-built cruising boat passing behind *Cheater*, the pretty 1964 Columbia 5.5-Meter. *Sparkle*

Plenty's classic lines are a bit difficult to see, but if you look closely across *Cheater's* bow, you can view her elegant stern quarter and if you peek under *Cheater's* boom and between her mast and jib, you can see more of *Sparkle Plenty's* sleek hull. This is my third year racing in the Annapolis Good Old Boat Regatta (GOBR). It is the only race I participate in on my boat. I look forward to next October. Perhaps we'll blanket *Cheater*, and all your readers will get a full view of my vessel. In case you don't want to keep your readers waiting an entire year, here's a 2003 GOBR photo by John Hills showing *Sparkle Plenty* under full sail in plenty of breeze.

Tory Salvia
Annapolis, Md.

Tory is the founder of TheSailingChannel.com mentioned in the March 2006 Mail Buoy.

When a plankowner speaks, we listen

Listened to your short audio recording, "Get off the Lake." I think you have a new calling! I would like to see more audiobooks. It would be great while sailing instead of listening to songs on iPod!

Outstanding magazine. I'm a plankowner and letting all those other subs run out. (I was a plankowner on the USS *JFK*, and the term stuck with me.)

John Iscaro
Stamford, Conn.

We continue to make (very slow) progress on our audiobooks production. For the latest on the subject from Good Old Boat, *and for the very short (but free) "Get off the Lake" narration by Karen Larson, go to <http://www.goodoldboat.com/audio.html>.*

Send questions and comments to *Good Old Boat*, 7340 Niagara Lane North, Maple Grove, MN 55311-2655, or by email to jerry@goodold boat.com.

Consumer units?

They also spend who only sail and toil

by Karen Larson

Some time ago I participated in a government survey focusing on the national economy. It was interested in the buying habits of the public: what had we just bought and what were we going to buy soon? I'm afraid I was a disappointment to them. Not just me. The whole family. On the other hand, I wasn't all too thrilled with them, either.

For starters, they referred to our family as "a consumer unit." Then they failed to understand the priorities in life (that being sailing-related activities), assuming that we were somehow like everyone else on our street. A cross-section of Americana, as it were. But we weren't. I figure we represented the folks at the far end of the consumer spectrum. After all, they need a champion too.

The surveyors wanted to know, for example, if in the past 6, 12, or 18 months we'd purchased a household appliance. No. Any electronic equipment? No. Automobiles? No, not at that time anyway. Household furniture? Negative again. Homes? And so it went. Well how about in the coming 6, 12, or 18 months? Not in the plans. Not for this household (er, consumer unit).

What they didn't ask about was our marine purchases. Now *there* we really shine! We bought our first good old boat in the $20,000 range 15 or so years ago and have since put at least that much into it. In fact, much more. And it's the same for the people who started with a $40,000 good old boat. They still put at least that much more into it.

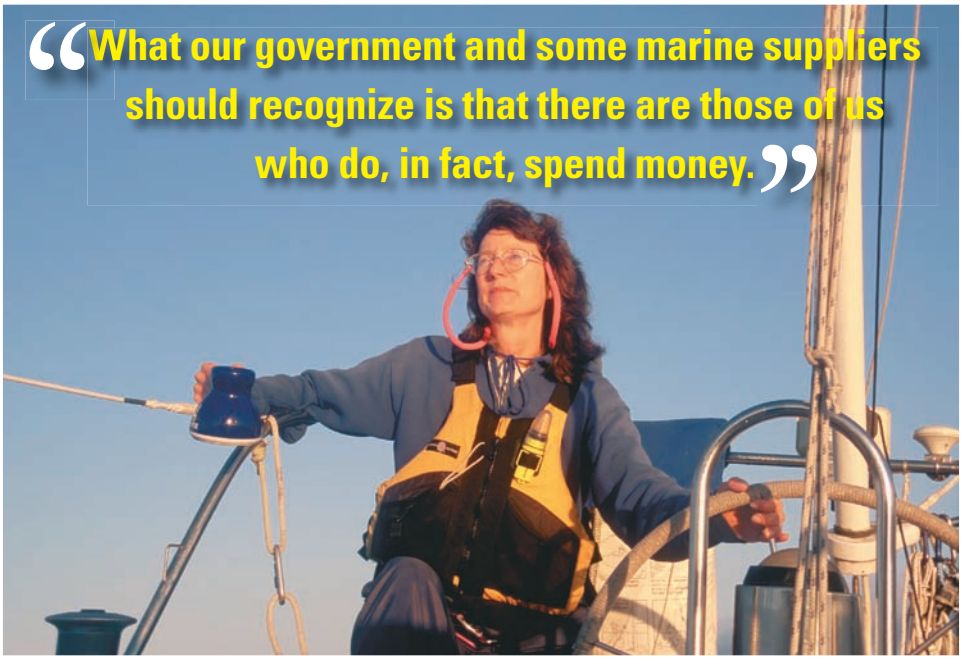
When we ran out of things to do to that first boat, we bought another boat (a trailerable this time) in the $10,000 range and started again. That one required a three-quarter-ton truck to pull it. So make it another $20,000-something for starters. Now start counting all the modifications and repairs that we're adding before we launch the boat for the first time.

Always in the budget

There's the usual seasonal stuff like bottom paint, antifreeze, cleaning items, and so on that are in the budget every year. Marina fees, haulout fees, launch fees. Heck, we even buy a skosh of fuel each year! There are new cushions and fabrics, wire by the mile, new tarps for both boats, another new engine and alternator, marine plywood, and fasteners by the score. Cordage and goops. Epoxy! I refer to Jerry as the Epoxy King. He buys the stuff — and all the mixes and fillers that go into it — by the gallon. There's more, always more. They see him coming at West Marine and know they'll have a good day, maybe even a good week, when the reporting is done.

Yet there are marine advertisers who don't see the point in advertising in a magazine for folks who own used sailboats (that'd be *Good Old Boat*). They tell us that sailors are too cheap: the wind's free, and it therefore follows that sailors believe everything else should be free as well . . . or so these potential advertisers say.

I beg to differ. *Who* do they think is buying all that paint and epoxy, cleaning supplies, sewing material, line, and rigging, if not the folks with the used boats? Certainly not the charterers or the folks with brand-new boats. Those are the folks who are trying to *avoid* life in the boatyard each spring and fall by letting someone else do it or by having a boat so new it doesn't need upgrades or repairs (although a dirty little secret no one told them is that they still have to maintain the boat or suffer the consequences).



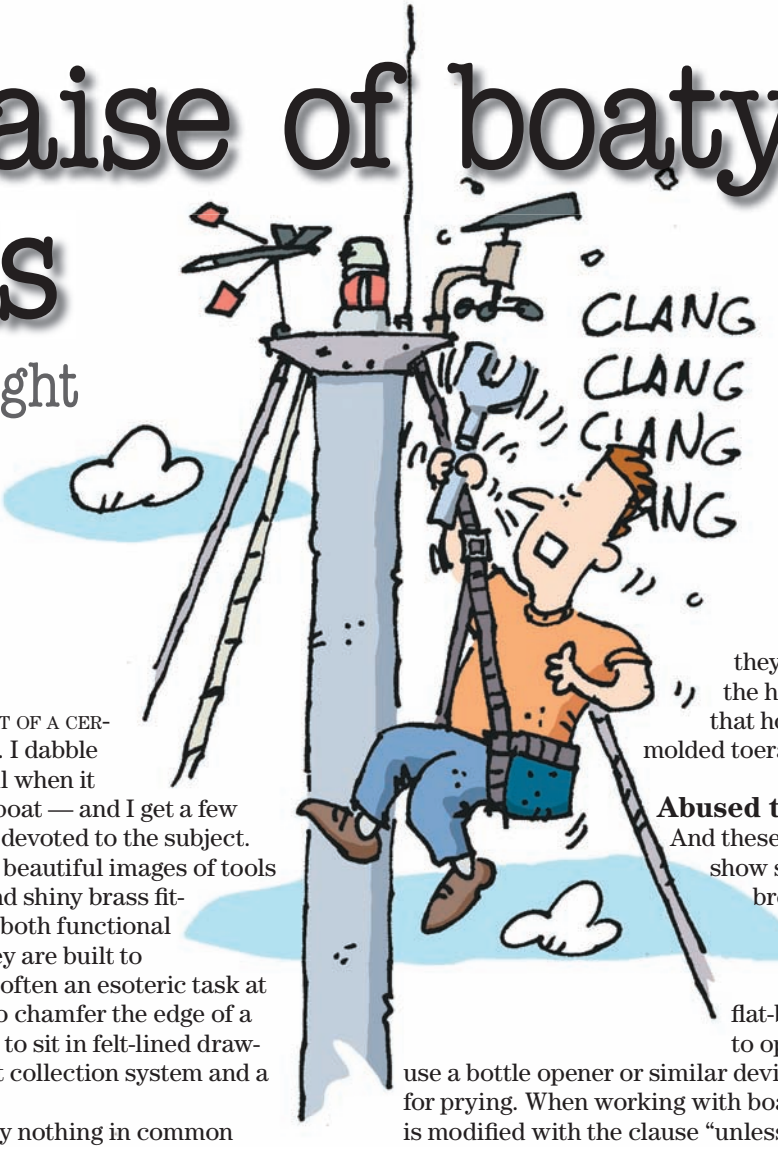
In fact, the brand-new boat buyers will be in possession of a good old boat, given another few years. I can be patient. Soon they, too, will have a need for this magazine.

Consumer unit, indeed! What our government and some marine suppliers should recognize is that there are those of us who do, in fact, spend money. It's just that we're putting most of our discretionary income into our boats. Good old boats. Those are *our* kind of boats. And they're maintained by *our* kind of folks. It's just that those folks are not typical consumer units.

In praise of boatyard tools

Not a pretty sight but they get the job done

by Alfred Poor



ILLUSTRATIONS BY TOM PAYNE

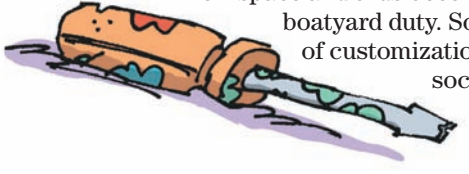
In addition to owning a sailboat of a certain age, I have other hobbies. I dabble in woodworking — a handy skill when it comes to maintaining an older boat — and I get a few magazines and a lot of catalogs devoted to the subject. The glossy pages are filled with beautiful images of tools made of polished hardwoods and shiny brass fittings that gleam: items that are both functional and works of art. In general, they are built to do one task extremely well and often an esoteric task at that, such as a plane designed to chamfer the edge of a board. These tools are destined to sit in felt-lined drawers in a shop with a built-in dust collection system and a spotless, waxed floor.

In short, they have practically nothing in common with boatyard tools.

The tools you'll find in a boatyard have been used, and they wear the signs proudly for all to see. There may be a chip missing from the jaws of the locking pliers where they gave out before their target did. Or the shaft of a screwdriver may show traces of the bottom paint left behind when it was pressed into service as a paint stirrer. Or perhaps the handle on the wood chisel reveals a little of the cotton rag used to jam the chisel blade's tang in the handle after it had worked loose over the years. And any tool with a handle will likely show traces of caulk or paint acquired in a heated moment when a project was close to getting out of control.

> "The tools you'll find in a boatyard have been used, and they wear the signs proudly for all to see."

You won't find these tools neatly laid out in an oak tool chest with gleaming metal fittings. Instead, they are more likely to be jumbled inside a well-worn canvas tote bag, or perhaps a large fishing tackle box. They often won't be the best of breed. Instead, they tend to be the mismatched conscripts deemed expendable in a more-organized inland workspace and thus become consigned to boatyard duty. Some will show signs of customization, such as the deep sockets with the edges ground away so they can reach and grip the hex nuts on the bolts that hold a jib track onto a molded toerail.



Abused tools

And these tools will also show signs of abuse. I was brought up to use the right tool for the job. This means that you don't use a flat-bladed screwdriver to open paint cans; you use a bottle opener or similar device that is intended for prying. When working with boats, however, the rule is modified with the clause "unless you don't have the right tool handy." So screwdrivers do occasionally open paint cans.

And the largest box wrench in the collection may have some dings along the back edge because when you're perched at the top of the mast and a reluctant rigging pin must be convinced to enter (or exit) a hole promptly, the backside of a wrench will do just about as well as that hammer that is still in storage down below in a locker under a cushion covered by a small mountain of spare sails. Necessity is the mother of invention and, when working on a boat, this often means finding new ways to accomplish tasks with the tools at hand.

The luckiest of boatyard tools are the ones that survive the inevitable winnowing process at the end of the spring outfitting and are deemed important enough to stay aboard for the sailing season. These hardy veterans have proven that they are versatile, durable, and worth the valuable space they take up in the tool locker. They may lack the luster and elegance of fine woodworking equipment, but they stand ready to tackle whatever task may come their way. No boat should leave the slip without them.