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Still waters ... Massachusetts photographer Paul Rezendes has a special affinity for capturing a mood. This one was on a foggy day near Old Lyme, Connecticut, on the Connecticut River. For more, visit his website at <http://www. paulrezendes.com>.

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the Reluctant Mate. He and his wife. Olga, have been cruising aboard their 1969 Allied Seawind since 2002.

In school, Gene Bjerke (Searunner 31, Page 9) drew pictures of sailboats instead of paying attention. In the last 45 years he has sailed on all sizes of boats, from 81/2 to 116 feet. He currently crews on a couple of



reproduction 17th-century square-riggers.



Dave Martin (Measure twice, cut once, Page 14) is a contributing editor with Good Old Boat. Between 1988 and 1995, Dave and his family circumnavigated aboard a Cal 25. Between 1998 and 2002, they voyaged to the Arctic aboard their 33-footer, Driver. They are now living in Maine.

David Buckman (A mat*ter of balance*, Page 18) has been sailing since he was 3. He cruised the New England and Canadian Maritime coasts in a \$400 19-foot sloop during the 1970s and has sailed from



the Chesapeake to Newfoundland. He has spent 21 summers cruising aboard the Leight, a 26-foot International Folkboat.



Brian Cleverly (Improved Dorades, Page 22) ran a yacht refurbishing company in Sacramento, California, for many vears. When not working on clients' boats, he bought insurance write-offs and eBay cast-offs for eventual resale. These days he's

working on a Fuji 32 for his own use. An Australian national, Brian learned to sail while working in New Zealand.

Jim Hawkins and

Ellie Adams (Crisis down below, Page 24) lived aboard their Baba 30 for an East Coast/ Bahamas year, followed by a return to their



home port in Lake Superior. They are currently escaping the inland sea once more via the St. Lawrence Seaway.



Shirley Hewett's (Trekka makes a comeback, Page 26) byline has appeared in most North American sailing magazines. In 1965 she launched Canada's first bareboat charter business. She's the author of The People's Boat: HMCS

Oriole: Ship of a Thousand Dreams.

Bonnie Dahl (Cruising evolution, Page 29) and her husband, Ron, began sailing in the early 1970s. She has written three books: The Loran-C



Users Guide, The Users Guide to GPS, and Superior Way: The Cruising Guide to Lake Superior, now in its third edition.

Ellen and John

Landrum (Two babies, same boat, Page 34) have been boat dwellers for most of their four years of living together. They hope to use their skills as



a freelance writer and professional captain to make a living while exploring North and South America by boat.



Henry Cordova (Moonglow, Page 36) is a geographer/cartographer who has been a sailor of the military persuasion (U.S. Navy Reserve on the USS Dewey) and of the recreational variety (a San

Francisco Pelican and a MacGregor 22).

Victor Schreffler (Final

passage, Page 41) and his wife, Becky, have owned and sailed various sailboats starting with a 14-foot Chrysler. They currently sail a 17-foot Albin Vega out of Tawas



Bay on Lake Huron. In Victor's day job as a preacher, he tries to save souls. Sailing is what he does in order to save his own.

Don Launer (Cabin Heaters 101, Page 42; Quick and easy: Protection from the rain and sun, Page 72; Quick and easy: An extra seat in a hurry, Page 73), a Good Old Boat contributing editor, 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 her on Barnegat Bay in New Jersey.

Chris Roberts (A festival of wooden boats. Page 44) sails a reconditioned Cal 25 on Montana's Flathead Lake and charters in the Pacific Northwest. He's a nationally known photographer of American Indian powwows



and recently added maritime subjects to his repertoire. His media company sells more than 300 sailing and maritime videos (phone for free catalog: 888-728-2180).



Ted and Claudia **Bowler** (Adjusting your standing rigging, Page 46) have sailed for more than 30 years. Their most recent trips have been

from San Diego to Canada, Hawaii, and Cabo San Lucas, Mexico.

Bill Sandifer (Hurricane Katrina leaves *lasting effects*, Page 52) is a contributing editor with Good Old Boat and a marine surveyor and boatbuilder who has been living, eating, and sleeping boats since the early '50s. He and his wife, Genie, sail an Eastward Ho 32.

Dale Tanski (The rebirth of Maruska, Page 54) soloed at the age of 10 in his family's Sunfish. Forty years and way too many boats later, he is refitting a Pearson 365 ketch to cruise with his wife, Sharon, and their two voungest. Alden and Morgan.



Dale also races a J/22 with the oldest children, Rian and Eric, in Buffalo, New York.

Gregg Nestor (Paceship PY23, Page 57), a contributing editor with Good Old Boat, has had a lifelong interest in all things aquatic. His first book, All Hands On Deck: Become Part of a Caribbean Sailing Adventure, was written for children. A second book is in the works. Gregg and his wife, Joyce, cruise Lake Erie aboard Raconteur, a Pearson 28-2.



Alan Lucas (Quick and easy: Disk stowage, Page 71; Quick and easy: Furler fixer, Page 71), an Australian from New South Wales. has been cruising for 40

years, primarily south of the equator. He's authored several Australian cruising guides.

Derk Akerson (Quick and easy: The forgotten knot, Page 75) was raised on and about boats. He and his wife, Terri, sail a Coronado 23 off the coast of California, but they're on the lookout for something bigger for retirement voyages.



Geoffrey Toye (Simple solutions: *Heaving a line*, 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.

Carl Hunt (Simple solutions: Faux fridge, Page 78) is a semi-retired economist living in Colorado. He has been sailing for 26 years and cruised his own boats from British Columbia to Mexico. He also chartered and cruised other people's boats on



the East Coast of the United States, in the Caribbean, and elsewhere.



George Bollenbacher (Reflections: The other boat. Page 89) sails his 1970 Alacrity 19, Greyhound, on the Hudson River. George discovered sailing later in life. Making up for lost time, he has

been refitting Greyhound as he sails.

The view from here

On turning 50

Fiberglass boats begin their next half decade

by Don Casey

This year marks the 50th anniversary of the birth of the type of boats featured in this magazine. It was 1956 when Aeromarine, née Coleman Plastics, launched the first series-produced fiberglass auxiliary sailing yacht. The boat was the Phil Rhodes-designed Bounty II, a full-keel wineglass 41-footer with a sheerline like a lover's sigh. One could hardly conceive a better first good old boat than the Bounty II. It is eye-pleasing, seaworthy, and, it turns out, deceptively fast.

As I write this in April, a Bounty II cruising in the eastern Caribbean (shown in photo) showed her transom to boats 10 feet longer and 30 years more modern in the Antigua Classic Yacht Regatta. Not only did *Sunshine* win her class on corrected time, she also arrived at the finish line first. The same boat had just come from posting a clean sweep in the St. Maarten



is that the considerable pleasures of sailboat ownership need not be an onerous financial burden. This should not be a revolutionary idea. After all, the original impetus for constructing boats from fiberglass was to reduce the cost of ownership. That laudable objective seems to have faded in the ensuing years, with today's "Best Boats" lists in mainstream sailing mag-

In a case of Jupiter aligning with Mars, this is also the 50th issue of *Good Old Boat*, a milestone worthy of note.

Heineken Regatta, beating a pair of Beneteau 38s, a fin-keel Cal 40, and half dozen other challengers. I normally don't take much interest in sailboat racing, but when the class winner is a 48-year-old cruising boat sailing with a blade jib — no spinnaker, no genoa — it surely makes the case that the qualities of a well-executed sailboat are not diminished by age.

In a case of Jupiter aligning with Mars, this is also the 50th issue of *Good Old Boat*, a milestone worthy of note. The concept of this magazine azines regularly praising boats costing \$400,000 or more as a good value. *Re-ally?* What does that say about a boat of equal capability priced at \$40,000?

Here is the reality. New boats cost what they cost because oil is expensive, labor is expensive, plant space is expensive, and product liability insurance is expensive. Boat manufacturers are not villainous. To the contrary, we owe them a huge debt of gratitude for the inventory of praiseworthy vessels they create, and we should not begrudge them any profits they squeeze out of the sale of new boats. However, the remarkable longevity of fiberglass boats makes old sailboats one of the best bargains on the planet.

If you dream of catching the trade winds in your sails and you don't have a half million bucks moldering under your mattress, you have come to the right place. Boats capable of fulfilling such dreams have been launched continuously for the last 50 years. And for the last 100 months there has also been a publication committed solely to showing the way to match boat and dream. So if you harbor the dream and don't have a boat, buy one. Whether you will give it a new life or it will give you one is hard to predict. If you have the dream and the boat, make the leap. Dreams are less durable than boats. So is flesh. Don't wait too long. 📐

Don Casey wrote the first editorial in Good Old Boat's first issue, June 1998. We thought it fitting to have him back as a guest editor once more as we publish our 50th issue.

And here's a news flash: if you'll be visiting Annapolis for the boat show this year, October 5-9, we'll have a booth for the first time. Please drop over to say hello!

Feature boat

The rewards make it all worthwhile

Otherwise rational sailors gild their Lily*, a Ranger 28*

by Karen Larson



WNING A SAILBOAT IS "FAR MORE REWARDING THAN YOU HAVE ANY right to expect," says Walt Hodge. His co-captain and companion, Janet Perkins, agrees wholeheartedly. Together they have invested a great deal of love, a bunch of energy, and more than a few dollars into a Ranger 28, now known as *Gilded Lily*, which they sail on Guntersville Lake in northeastern Alabama.

Lily was neglected, perhaps forlorn, when Walt and Janet found her. But, they're quick to point out, she was not abused. She called to them, as only a boat can, and they bowed to the inevitable. The threesome formed a lasting bond. "We're still as delighted with her today as we were nine years ago," Janet says.

There was a hint of exhaustion mingled in the triumphant exhilaration when Janet wrote to the publishers of a then very new *Good Old Boat* magazine in September 1998: "A friend loaned us a copy of your publication and we are hooked. What a welcome concept for those of us who nurture and enjoy the 'oldies but goodies.' We are currently restoring to health a 1977 Ranger 28. *Gilded Lily* will be back in the water in a few weeks, looking like a debutante, behaving like a fast woman, and making our sore backs and flattened wallet seem a small price to pay!"

The words in that letter are among the most frequently quoted in *Good Old Boat* slide presentations and brochures. The letter hangs on a wall in the *Good Old Boat* office. Janet summarizes beautifully what so many sailors are experiencing with their own good old boats. So after all these years, my husband, Jerry, and I simply had to meet Walt, Janet, and *Gilded Lily*. We were not to be disappointed.

Rational sailors?

Walt and Janet tell us that they went looking for a boat with a checklist and some cash, as any rational sailors would do. (*Rational sailors*? Please ignore the obvious contradiction in terms.) "But when we stepped on *Lily* the checklist went right into the trash," Janet recalls.

Before finding *Lily* the twosome first had to kiss a lot of toads. In fact, the Ranger 28 was not in the plan of a broker who took them to the same marina but purposely ignored her. But she looked fetching from the aft view from across the docks. "Wait a minute," Walt told Janet. "I think we missed one." *Lily* had called to him, and the rest was preordained. "There was a real connection there," Walt says. "I said, 'This is the right boat. *This* is the thing to do.""

The surveyor they hired had other ideas, however. His thoughtful and well-intended advice might have been right for the non-afflicted. But it didn't dissuade Walt and Janet from what had already become the boat of their dreams. To be fair, the surveyor made some valid points: the bulkhead had bowed, the gelcoat was chalky, bottom blisters were in evidence, the tanks were worn out, the engine had died, the wiring was a mess, the keel bolts leaked, the interior was worn. But what's *fair* got to do with it? We're talking about *love*.

The engine, an Atomic 4, was barely running when Walt and the former owner delivered the boat to the Travelift for the survey haulout. "The engine was missing," Walt recalls. "We were near a shoal. I wanted to bend a headsail on as a backup in case the engine didn't make it all the way." As it turns out, the boat coasted into the Travelift slip just after the engine gave it up. As they look back on that circumstance now, Walt and Janet say that *Lily* was doing her all to trade in her former owner for a new set of sailors. "She got just as far as she thought she had to get," Walt says.

"The surveyor told us, 'You should *run* from this one," Walt recalls. But, as is true with any story with a good ending, love won out. So the refit began.

Among the many tasks were adding stiffeners to the bulkhead. While he was at it, Walt built a nifty dish-storage rack behind the bulkhead-mounted table. The boat (her new name had not as yet been determined, but Walt and Janet agreed that it would *not* be *Hey Babe!*, which was already emblazoned on the transom) was chalky above the waterline and wet below it. She spent from March to August in the blazing southern sun drying out. When the moisture meter said she was ready, Walt and Janet took her to the professionals for topsides and deck painting along with barrier coating and bottom painting.

Therein lies a story. *All* the literature says that the Ranger 28 has a 4½-foot draft. The shallow draft was an essential on Walt and Janet's boat-shopping list, since their sailing grounds have many shoal areas. *Gilded Lily* had just spent six months out of the water drying her bottom out. But who'd think to measure the draft? The literature tells you everything you need to know, doesn't it?

Hard aground

But just 10 days after the big launch following repainting, Walt and Janet went hard aground in an area that should have been navigable. They laugh at themselves in retrospect: "Our previous boat, the Catalina 22, drew 5 feet. We thought we had a boat with a 4½-foot draft. *Gilded Lily* immediately turned into an island for three days!" Walt had to get to work. Janet stayed aboard



Gilded Lily, a much-loved Ranger 28, above and on facing page, upstages the big causeway at Guntersville Lake, a wide spot on the Tennessee River in Guntersville, Alabama. Her owners, Walt Hodge and Janet Perkins, escape to Alabama from Atlanta, Georgia, whenever they get the chance. When they do, Janet's on the tiller and Walt mans the sails, below.









The interior of *Gilded Lily* has benefited from Walt and Janet's attention. The dish-storage rack, top photo, exposed only when the bulkhead-mounted table is open, is an example of Walt's ingenuity. He had to stiffen the bulkhead, and the rack was added as an afterthought. Janet recovered the cushions and Walt moved the electrical control panel from below the galley sink to the nearby settee back, center photos. The galley, bottom photo, is generally in original condition.

their baby until she was freed from the sandy shoal. She "commuted" to the grocery store and showers from some distance (not exactly like being nearby in the mooring field) by rowing the dinghy. While the Ranger 28 *does* have a 4½-foot draft, this particular Ranger 28 tall rig version — built at the end of the production run as the company was running out of money and stamina — has a 5½-foot draft. *Lily* may very well be wearing a keel left over from a

the fuel, holding, and water tanks and put each in new locations. They decided that one sink on a 28-foot boat was quite enough and removed the sink in the head, replacing that with a shelf. There were the new generator, batteries, and more. All new wiring (there was burned-out wiring at the shorepower connection). Bilge pumps. A drain in the chain locker ("Why did the manufacturer think that was unnecessary?" they wonder). "Of course we couldn't have done all this if Walt didn't have the skills and a metalworking shop in the basement," Janet notes with more than a touch of pride.

Janet recovered the cushions in the cabin and sewed other bits and pieces for use on deck, such as a mooring cover at the companionway, sailbags, mainsail cover, and tiller cover. Walt created a unique tiller stop collar. He replaced worn-out teak at the companionway and the hatchboards with a plastic wood that looks great and requires no maintenance. The portlights are the next thing on the list to be tackled.

I don't think we could have bought a boat that suits us as well as this in the new-boat market.





Ranger 33. At least that's how Walt and Janet figure it happened. The keel bolts all match from boat to boat. It would be easy to do at the plant.

They scrapped her aluminum deck fittings for new stainless hardware. "There was a lot of lightweight original equipment bought by people who are used to having parties in the cockpit," Walt says with a touch of sarcasm. "The previous owner didn't own any winch handles!" Janet adds, "Walt believes in going sailing." The new deck hardware came from Garhauer. They sing particular praises for the Garhauer quality and customer support when it comes to the traveler, which was installed forward on the bridge deck on a slight curve. Walt added strong ¹/₄-inch backing plates under the traveler fasteners.

They replaced the running rigging. "The blocks and ropes were tired from being in the sun," they explain. They bought a new mainsail. Walt replaced

Keel-bolt saga

Then there is the saga of the keel bolts. This 1977 fiberglass boat may have had one of the original "swing keels," Walt notes with a grin. He knew the bolts were loose. But *that* loose? With the boat on stands and in slings, he removed the nuts (some with no effort), and the keel dropped from the boat a few inches. "Gravity did it," Walt says. "There was no effort at all."

The loose keel was repaired by cleaning its top and the mating surface on the hull. Inside the bilge, the keel-bolt washers were replaced with aluminum plates drilled to match the bolt pattern. The gap between the hull and keel was filled with 3M 5200, and the keel was pulled back into place with the keel bolts. Then *Lily* was lowered to place her full weight on the keel. The bolts were retightened, left overnight, and tightened a final time. No more swing keel. The Atomic 4 that had died at the final moment of purchase was brought back to life with the help of parts from Moyer Marine, which with the addition of a new propeller from Indigo Electronics made the propulsion system efficient.

"The engine has had perhaps 150 hours of operation since we've owned it," Walt says. "I'd be stunned if it has a total of 500 hours on it. The paint still looks good."

The foregoing list of improvements, modifications, and replacements doesn't amaze any good old boater, but it does beg the question of cost vs. resale value. Walt and Janet asked themselves whether this boat was a wise investment. (Oops! There's another of those contradictory terms!)

"Why put a ton of money into an older 28-foot boat?" Walt asks. Then he answers himself. "She's our cabin at the lake and we love the way she sails. I don't think we could have bought a boat that suits us as well as this in the new-boat market.

"The pleasure that Janet and I both have gotten from this boat and her refit is immense," Walt continues. "We've shared it. It hasn't been all me or all Janet. It has been a mutual endeavor. We have both been very rewarded by the results of this effort. We have made many friends as a part of our sailing, in particular, John and Dianne Breyfogle and Doug and Ann Cameron. Also the folks who do the fiberglass and paint work, Custom Fiberglass in Buford, Georgia, have been part of an important network, another very valuable relationship."

Lily has rewarded them for their efforts by being a good sailer also. "She is nimble. She comes about well. She has a seakindly motion. She has good manners at anchor." Walt ticks off her finer points on his fingers. He reminds others that the Ranger 28 held the Newport to Bermuda Race record in her class for many years. No small honor.

She was designed by Gary Mull (see *Good Old Boat*, November 2002). She was built by Bangor Punta of Costa Mesa, California, which had bought Jensen Marine and Ranger Yachts in its heyday in 1973 only to stumble and fall with so many others in the mid-1980s. The 28 was the seventh of nine boats designed for Ranger Yachts by Gary Mull. They were: Ranger 26 (1969),

Following a resuscitation, the venerable Atomic 4 has served *Lily* well, top. Although it came with the boat when she was delivered in 1977, it probably has fewer than 500 hours on it. Several years ago Walt replaced *Lily's* companionway trim teak with a plastic and sawdust wood substitute that allows for more sailing and less varnishing, below. He's been happy with the substitution.

Ranger 33 (1970), Ranger 29 (1970), Ranger 23 (1971), Ranger 37 (1972), Ranger 32 (1973), Ranger 28 (1974), Ranger 22 (1978), and Ranger 26 (no date appears for this last boat, an ultralight-displacement model produced just before the final act of Gary Mull's rancorous career with Bangor Punta). Keep in mind that the dates given here vary from reference to reference (based, no doubt, on when the design was started or completed, when production began, when the first boat was launched, and so on).

Gilded Lily was not Walt and Janet's first boat, so they had some ideas of what would work for them before falling in love with this beamy beauty that has a whole lot more space below and on deck than any 28-footer has the right to have.

Water people

Walt was always fascinated by water, and Janet is a gung-ho outdoors person. "Walt and I were a good match," Janet says. Walt began boating with apple boxes and large mortar mixing trays. He paddled across the Ohio River and back in an apple box. "If my parents had only known about what I had done ... " he says, remembering. That led to a passion for racing canoes, which grew throughout his adulthood. A give-no-quarter fierce competitor, Walt raced in whitewater, wilderness marathon, slalom, and other events. He went to nationals frequently. "I put 40,000 miles on the van in one year going to events," he says.

Doug Cameron, a canoeing friend, had a 16-foot O'Day Daysailer and introduced him to sailing, Walt says. "We went to Guntersville Lake. At some point, Doug gave me the tiller and dozed," Walt says. "I went wing-andwing that first time and then found out *Continued on Page 40*





Resources

Ranger Sailboat Owners Association <http://www.rangeryachts.org>

SailNet forum <http://list.sailnet.net/read/ ?forum=ranger>

Ranger 28 resources

David and Janet Dickinson dld_law@frontier.net

Ranger, O'Day, and Cal Owners of the Chesapeake Roy and Louann Meisinger rrmeisin@erols.com

Boat comparison

The Ranger 28 Ferrari or Maserati of the water

by Ted Brewer

520

B ECAUSE THE RANGER 28 FOLLOWED closely on the heels of Gary Mull's very successful Ranger 29 design, it seems obvious that Ranger Yachts told the designer to come up with a more competitive yacht for International Offshore Rule (IOR) rac-

> ing. The newer design with its diamond-shaped deck plan and narrow stern appears to be much more IOR-oriented than the 29, and the 28's hull has the substantial tumblehome that was another feature common to the IOR yachts of that period. Although the draft is only an inch deeper than its earlier sister, the

Ranger 28

28 has almost 25 percent less displacement, which makes its hull have a much shallower draft. The result is that the fin itself is considerably more than 1 inch longer from hull to tip. It is also much shorter fore and aft, with a considerably higher aspect ratio as a result. That will increase efficiency as it reduces wetted area, and performance will be substantially enhanced.

The 28's sail area/displacement ratio of 21 is unusually high, and its displacement/LWL ratio is very low compared to other yachts of its size and era. And, despite displacing 1,600 to 1,700 pounds less than the other fine yachts in this comparison, the 28 still carries a substantial 45 percent ballast ratio. If we equate these two Rangers to automobiles, I would say that the 29 is a sporty, fast convertible and the 28 is a Ferrari. In saying this, I have to advise that I've

seen a review of the 28 on the web in which an owner claims that the 28's draft was later increased to 5 feet, its displacement to 6,000 pounds, and its ballast to 2,980 pounds. If true, that would increase the displacement/LWL ratio to 263.5 and the ballast ratio to a very high 50 percent and lower the sail area/displacement ratio to a still generous 18.8. In that case, I'd have to revise my opinion of the 28 from a Ferrari to, perhaps, a Maserati!

Like a Ferrari or Maserati, the 28 has its shortcomings. Obviously, on a racing machine, creature comforts have to give way to performance, but the 28's meager 5-foot 10-inch headroom is low by even 1970s standards, and the accommodations offer considerably less space, comfort, and



Ranger 29

Islander 28

	Ranger 28	Ranger 29	Islander 28	Sabre 28
LOA	28' 0"	28' 7"	27' 11"	28' 5"
LWL	21' 8"	23' 0"	23' 1"	22' 10"
Beam	9' 7"	9' 4"	9' 10"	9' 2"
Draft	4' 6"	4' 5"	5' 0"	4' 8"
Displacement	5,108 lb	6,700 lb	7,000 lb	7,800 lb
Ballast	2,300 lb	3,130 lb	3,000 lb	3,100 lb
LOA/LWL ratio	1.29	1.24	1.21	1.24
Beam/LWL ratio	0.44	0.405	0.43	0.40
Displ./LWL ratio	219	246	254	293
Bal./Displ. ratio	.45	.47	.43	.40
Sail area	389 sq ft	400 sq ft	361 sq ft	403 sq ft
SA/Displ. ratio	21.0	18.0	15.8	16.4
Capsize number	2.23	1.98	2.06	1.85
Comfort ratio	17.7	22.9	22.5	27.5
Years built	1975–78	1971–75	1975-?	1970-86
Designer	Garv Mull	Gary Mull	Robert Perrv	Roger Hewson

stowage than its 29-foot sister. Indeed, neither of the Rangers comes close to providing the cruising comfort of the Sabre 28, while the even roomier Islander is the only one of the group that has a head that does not close off the passageway forward when

Sabre 28

in use. There is no doubt where Gary Mull set his priorities in the design of the 28. Its accent is definitely on performance.

Of course, if the displacement actually is 6,000 pounds, that lowers the 28's capsize number to 2.11 and increases the comfort ratio slightly to a still corky 20.8. The capsize number remains well above the breakoff point of 2.0 though, and I could not recommend a yacht with that high a number for general ocean passagemaking. I will qualify this by saying that many less able craft have made major ocean voyages...just not with me aboard! Gary Mull designed the 28 for racing. Buy one in good condition

racing. Buy one in good condition, and you'll have a wonderful club racer. With an experienced crew, plus the

> safety net of committee boats and other competitors, it'd be a good boat for the serious distance racing skipper in Performance Handicap Racing Fleet (PHRF) or Midget Ocean Racing Club (MORC) classes. Of course, the other boats in this comparison are no slouches either. The heavier Islander and Sabre, with their lower sail area/displacement ratios, will not shine as well in light air but will come into their own when the

Continued on Page 40

Searunner 31

A Mobjack Bay cruise with Jim Brown and his classic trimaran

by Gene Bjerke

HE END OF WORLD WAR II SAW THE flowering of a new type of sailboat...new to the American sailor at least. A number of designers in the United States and England took the new materials developed or perfected during the war: plywood, fiberglass, and polyester resin. They applied them to the concept of the ancient Polynesian boats and created the modern multihull. Among the pioneers was Jim Brown, who designed the successful Searunner series of cruising trimarans. Last summer I had a chance to sail with Jim on Scrimshaw, his personal Searunner 31, which allowed me not only to evaluate the boat but also to ask questions of its designer and builder.

Jim Brown was born in Ohio in 1933. When he was in his early 20s, a scuba diving trip in the Caribbean sparked his interest in sailing and he wound up crewing on schooners during the wide-open, barnstorming days of the early charter trade. This is when he chose the cruising lifestyle. Eventually he made his way to the San Francisco Bay area, where he associated himself with Arthur Piver, a pioneer in the design and construction of cruising multihulls. After about five years with Arthur, he began designing trimarans himself. Those days saw a strong interest in such vessels (mainly due to Arthur's marketing skills), and he was often barely able to put out drawings fast enough to keep ahead of his builder-clients.

In 1965 or so Jim designed a boat for his own use. What he wanted was a trimaran that could carry a family of four on extended cruises. It had to provide some separation of sleeping areas for privacy. The result was the Searunner 31.

Scrimshaw was built in 1972 in a redwood canyon in Northern California, far from the water, so it had to be demountable for transport (though not trailerable as such). When the main components were completed, it was hauled in three pieces on a flatbed truck. It was assembled and completed in Santa Cruz. The amas (outrigger hulls) are attached to the main hull by aluminum A-frame trusses, bolted to main-strength bulkheads.

After launching, Jim took off on extended cruise with his wife, Jo Anna, and two preteen sons. They sailed

Scrimshaw at anchor in one of the creeks that border Mobjack Bay in Virginia. Jim Brown, designer of the Searunner catamarans, below, works the winches from the companionway in Scrimshaw, the boat he has owned for 34 years.



down the West Coast, through the Panama Canal, and three years later came ashore in southeastern Virginia, where Jim continued to design multihulls. (One of his protégés is multihull designer Chris White.) Though they were now land-based, they cruised the boat extensively from Nova Scotia to Cuba. Once the boys grew up, the boat evolved into a husband-and-wife coastal cruiser. He traveled to Africa and the Pacific for United Nationssponsored projects for

sponsored projects, for which he endeavored to teach local fishermen how to build inexpensive boats.

Jim and Jo Anna, a retired school teacher, still live on a quiet river in Virginia. He has continued to design boats, sometimes in cooperation with other multihull designers. His most recent project is the WindRider series of daysailing trimarans. However, his designs are basically handled by his longtime business partner, John Marples. Jim's main project now is something he calls "the Outrig Project," in which he hopes to assemble extensive material on the history of the modern multihull since World War II before everyone who remembers it is gone.

Design and construction

To date, about 1,500 Searunner plans (all sizes) have been sold. There is no way to know how many have actually been built. The Searunner Owners List online lists 104 Searunners, of which 37 are Searunner 31s.

An important aspect of the Searunner design was an ability to go to windward in heavy weather. The way Jim

Scrimshaw was built in 1972 in a redwood canyon in Northern California, far from the water ...

accomplished this was to give the boat a deep centerboard: 5 feet 9 inches, board down. But the trunk for such a board would take up too much room in the cabin of a narrow trimaran hull. Jim's solution was to place the cockpit amidships on top of the centerboard trunk. The center cockpit not only allowed him to brace the trunk very solidly, it also gave the helmsperson an unobstructed view forward and separated the accommodations below. With a relatively wide transom, there's room for a dinette aft.

Multihulls in the early days were often built by amateurs (or by professionals on a one-off basis). Thus, another requirement was straightforward construction with readily available materials, primarily plywood and fiberglass.

In profile, Searunners are recognizable by a flat sheer topped by a long, flat cabintop that takes up most of the center of the boat. The center cockpit is just abaft the mast. Jim calls the aft cabin the "sterncastle" and the forward cabin the "forecastle." As is typical of trimarans, the main hull is narrow at the waterline, to reduce wetted surface area, but the accommodations — mainly in the form of berths — extend out-

board over the water in short "wings" to increase interior volume. The rest of the space between the main hull (*vaka* in Polynesian parlance) and amas is open, with netting to keep things from falling through. Searunners larger than 31 feet have solid wings.

On deck

It's best to board a trimaran — either from a dinghy or the dock — amidships at an ama. On *Scrimshaw* you step off the ama onto a piece of light plywood lying on the netting and then up to a redwood-plank "running board." Stepping over the coaming, you find yourself in a snug (4 feet long by 7 feet wide) cockpit. Companionways at either end of the cockpit lead to the forward and aft cabins. The mast is just in front of the cockpit, with the folding canvas dodger in between.

Access to the fore and stern decks is via the "running boards" on either side of the cabin. There are sturdy bow and stern pulpits made from aluminum pipe. These pulpits extend all the way to the cabintops, where they become handrails. This creates a secure enclo-



Jim makes a quick trip up the mast, at left. Jim's dinghy, center, is easy to store on the net that is stretched from the main hull to one ama. The 9.9-hp outboard, right, can drive *Scrimshaw* at 5.5 to 7 knots (depending upon cruising load and sea state). It can be lifted and tilted clear of the water when under sail.





sure around both decks. On the foredeck there is an aluminum Fortress anchor on a bow roller. The rodes store in a self-draining compartment. Abaft that is an acrylic hatch to the forepeak.

The afterdeck is much smaller. It contains a self-draining lazarette (where a stern anchor and its line can be stored). The outboard rails of the amas have gated rope lifelines, and the stanchions can do double duty as attachment points for headsail sheeting blocks and docklines.

Scrimshaw's cockpit has a bulkhead-mounted compass on either side of the forward companionway hatch. The tiller is positioned low, just above the sole, and I found it very convenient to steer with one foot, leaving both hands free. If you want, it can be tilted up for use at normal height. Scrimshaw has an autopilot (Autohelm 2000) that stores in a recess under the starboard seat and swings out to engage the tiller at the level of the sole. The remote controls for the outboard motor also are located at the forward end of the same seat front, so most boathandling operations can be carried out without leaving the cockpit.

There are two secondary winches

mounted outboard of the cockpit coamings (for vangs, barber haulers, and spinnaker sheets). The cockpit drains through eight scuppers into a self-bailing sub deck a foot below the sole. This sub deck, which is sealed from the interior of the boat, is a useful place to store portable fuel tanks and such. Incidentally, the centerboard can be removed through the cockpit while the boat is afloat. Done correctly, you shouldn't take on much more than about a quart of water.



Searunner 31

Designer: Jim Brown LOA: 31 feet 2 inches Beam, main hull: 5 feet 0 inches Beam, overall: 18 feet 8 inches Draft, board up: 2 feet 9 inches Draft, board down: 5 feet 9 inches Displacement: 7,000 pounds Sail area: 453 square feet Besides the dodger, *Scrimshaw* is equipped with a well-secured Bimini. The cockpit can be completely tented in, either with canvas or mosquito netting, to provide another sheltered area while at anchor or even underway. As Jim puts it, "You can go anywhere without getting wet, cooked, frozen, or bugged."

One of the advantages of a trimaran is the ability to carry a hard dinghy aboard and out of the way on the net between the main hull and an ama. Jim has been using a small kayak for a dinghy lately. Since the amas' freeboard is relatively low, it's easy to board the dinghy or the mother ship and to transfer supplies.

Belowdecks

Trimarans have very narrow main hulls, which restrict living space (the amas are not used for accommodations). In Searunners, this space is divided into a number of discrete areas separated by bulkheads.

Abaft the center cockpit is the main living area. All the way aft, under the sterncastle, is the dinette with foreand-aft settees and a table that slides out of the way under the afterdeck.

> The sole in this area is raised, and there is a built-in ice chest in the sole between the seats. For sleeping, the dinette seats are flipped up out of the way and the made-up mattress is slid out from under the afterdeck to form a cozy double. Forward of this is a bulkhead beyond

head beyond which the upper part of the hull widens out into the wing. This is where the galley is located, with full standing headroom (6 feet 2 inches). There is a counter with a sink to star-



Boat review



board. On *Scrimshaw*, there are both freshwater and saltwater pumps. To port is another counter with recessed two-burner propane stove. The galley has ample Formica-topped counter space, with storage areas below the counters and behind them and forward under the cockpit. There are large fixed ports on either side.

Forward of the galley is the cockpit, which is built over the centerboard trunk. This is the deepest part of the vessel and contains the largest storage area on either side of the trunk (which also puts the heaviest gear, especially the engine, if so equipped, in the center of the boat).

Forward of the cockpit is a sleeping cabin with two fixed portlights. Because the centerboard trunk continues through this cabin and the sole is on top of the trunk, there is only sitting headroom. There are single berths port and starboard. The afterhalf of each berth extends under the cockpit seats. The compression post for the mast sits on top of the forward end of the trunk.

Continuing forward is a "dressing room." This is a small area, with full headroom. It has a counter with a sink to port and a bench to starboard. There is storage in the wings outboard of the counter and the bench. Light is provided by a wide, fixed port in the cabin front. So while the sleeping area may be somewhat cramped for anything other than sitting or sleeping,



The design divides the accommodations into smaller pieces than a monohull sailor might be used to. All spaces aboard *Scrimshaw* are cozy. The galley has full standing headroom with a counter and sink to starboard, at top right, and a counter and stove to port, at top left. The head, center, is located forward under the foredeck.

one step down and forward puts you in a more spacious area for dressing and cleaning up.

The head is forward, under the foredeck, with sail storage forward of that. Light in this area is provided by the hatch in the foredeck. Additional ventilation comes from round inspection ports on the hull sides. Jim advises capping these ports when sailing. On *Scrimshaw*, you can take a shower using a garden sprayer while sitting on the head's seat cover. The epoxysealed sump is pumped out by hand with a bilge pump.

The rig

Searunners are rigged either as sloops or cutters. The difference is in the number of headsails; the mast is in the same place in each. All Searunners





have a two-spreader, masthead rig. The shrouds attach to chainplates on the cabin sides, allowing the headsail to be trimmed outside the shrouds. The headstay sets a genoa on a roller, opposed by a split backstay. There is a running forestay from the upper spreaders for a staysail. This is supported by running backstays to the after A-frame (adjusted by Highfield levers). When a staysail is not set, the runners are normally released and secured at the shrouds, available for use in heavy weather. When the third reef is tied in, the head of the sail is below the upper spreaders, with the leech below the runners. A baby stay from the lower spreaders completes the standing rigging.

The 35-foot aluminum mast is stepped on the cabintop in a tabernacle. The mast can be lowered forward using the boom as a gin pole, with the mainsheet taken to a winch (and appropriate guys to control the mast sideways as it comes down). *Scrimshaw* has simple mast steps all the way to the top.

The mainsail has full battens and three sets of reef points. The gooseneck is fixed — luff tension is adjusted with the halyard winch. There are lazyjacks to contain the sail as it comes down. These are eased off and stowed at the gooseneck when not needed. The 140-percent genoa can be reefed as well as furled.

Scrimshaw has a large, flat-headed





spinnaker. One of the advantages of a wide vessel, such as a trimaran, is that the spinnaker does not need a pole. (There is a whisker pole that is sometimes used to boom out the genoa.) All sheets, as well as control lines for the kick-up rudder, lead to winches and cleats on the top of the aftercabin. The best place for the sheet trimmer is to stand in the aft companionway: supported up to the waist, clear of the helm, and with a good view of the sails. There are no travelers or fairlead tracks. In fair weather, sheets can be barber hauled or led through snatch blocks clipped to stanchion bases on the amas.

Under way

Scrimshaw is powered by a 9.9-hp, four-stroke Yamaha outboard motor hung in the afterend of the tunnel between the main hull and the starboard

ama. The engine is mounted on the end of a long, narrow, box-like structure called a "sled." The forward end pivots under the wing. The engine can be raised and lowered from the cockpit by a line leading to the top of the aftercabin. The

bottom of the sled has a sharp dead rise to deflect any waves. There are remote controls for the engine in the cockpit. In calm weather, this engine will drive the boat at 7 knots when running light, 5.5 with full cruising load. When under sail, the engine can be lifted and tilted clear of the water.

It was blowing about 20 from the north the day we went sailing. We powered down the river from Jim's house and set full sail as we approached Mobjack Bay. I took the tiller as we sailed down the relatively smooth waters of the bay. The boat responded well with a good feel to the helm, but I was surprised that she heeled

Bottom photos on facing page: the dinette with settees and a table, at left, that slides out of the way, center. The dinette turns into a cozy double bunk. The dinette sole is raised to accommodate a built-in ice chest. The forward berths, one shown on the right, which extend under the cockpit seats, are similar to pilot berths. more than I expected from a trimaran (maybe 10 degrees). Jim explained that was because she was running light. When loaded for cruising she heels much less.

After a couple of miles, Jim set the autopilot, and we spent most of the rest of the day letting "Iron Mike" steer the boat. *Scrimshaw* is set up for singlehanding. The skipper can stand in the companionway to handle sails and still be within easy reach of the autopilot controls.

The trip down Mobjack Bay was pleasant enough, but our goal was to run out into the Chesapeake and play in the bigger waves. The trimaran easily sliced through the 4-foot waves, occasionally throwing spray, but the ride in the cockpit (at the center of gyration) was relatively smooth and quite dry. Speeds to windward averaged around 7 knots, which seemed

for 34 years and has honed this boat to his particular needs.

a bit slow to me. Jim pointed out that Searunners are designed for long-distance cruising, not racing. A flat-out racing tri would be going twice as fast in the same conditions, but would not be nearly as comfortable. And the average monohull of the same length would probably have made no more than about 5 knots. A 2-knot difference is more than it seems: a 40-percent increase!

Scrimshaw tacked easily. I had a hard time trying to calculate the angles, but later, in easier water, she tacked through about 90 to 100 degrees.

After a day of sailing, we pulled into one of the creeks that border Mobjack Bay and put down the anchor for the night. *Scrimshaw's* anchor has a boatlength of chain and two nylon rodes. The rodes pass through snatch blocks on the inboard sides of the ama bows before belaying to the cleats on the edge of the foredeck. This arrangement accomplishes two things: there is no chafe anywhere on the anchor line and lying to a wide bridle keeps the boat from sailing at anchor. We lay perfectly still all night.

Summing up

The five Searunner models, ranging in length from 25 to 40 feet, were never production boats. All Searunners were built one at a time to plans drawn by Jim Brown. Thus, there will be variations in details between individual boats. Jim has sailed *Scrimshaw* for 34 years and has honed this boat to his particular needs. That said, all Searunners share a common design philosophy, so most of the comments in this review about *Scrimshaw* should apply to any Searunner 31 you may run across.

When evaluating a used Searunner, keep in mind that these boats were built of plywood covered on the outside with fiberglass. In older boats, assess the bond between the glass and the wood for delamination (tapping with a finger will tell you a lot). Boats built after about 1970 probably used epoxy, which is a more powerful adhesive than less

expensive polyester resin, to bond the fiberglass.

The disadvantage of a wooden boat is that it is subject to rot. Rotten sections can be replaced, but it may be difficult work. A well-built Searunner should not require much

more maintenance than a boat of any other material.

Searunners were designed for strength rather than speed (though any properly sailed Searunner should outrun most similar-sized monohulls). They have made circumnavigations as well as extensive coastal cruises. The design divides the accommodations into smaller pieces than you might be used to, but they can be cozily comfortable and still provide some privacy for a family or two couples cruising together.

Searunners for sale are hard to find. The ones I found ran in the \$40,000 to \$50,000 range. It would appear that Searunner owners are happy with their boats.

Resources

Searunner Owners Page <http://www.trimariner.com/ searunner/searunner1.html>

John Marples (Jim Brown's business partner) <http://www.searunner.com>













Measure twice, cut once

Installing an inboard engine in a boat that never had one

by Dave Martin

Some sailors are hypocrites. I'M A hypocrite. We profess to believe in the power of the wind, yet few of us go sailing without taking an engine along for the ride. When the wind poops out, we take down the sails, crank up the motor, and become captains of inefficient motorboats. Sailing, with the sound of the breeze in the rigging, gives us a sense of freedom. Unfortunately, if the engine is broken many of us will forgo that sail... which only proves how dependent we are on a reliable power source.

David Buckman, owner of the 26foot International Folkboat, *Leight*, had suffered the inefficiencies of outboard motors long enough and wanted a reliable inboard diesel (see article on Page 18). This installation became one of my projects at Padebco Custom Boats in Round Pond, Maine. David had considered selling *Leight* and buying a 32- to 35-footer, but he concluded that an older boat in his price range would undoubtedly come with an old and unreliable inboard engine. He decided to keep *Leight*, which he had been contentedly modifying for the past 20 years.

Installing an inboard motor was a good compromise, but it wasn't going to be cheap. An engine is a hub, around which the financial terrors of a complete installation take place. The cost of the new Yanmar 1GM, one-cylinder diesel would represent just a third of the total bill. Considering it would take 95 hours to install, labor would equal the price of the engine. The scores of necessary parts would absorb the remainder.

Challenges galore

Placing an engine in *Leight*, a boat that had never had an inboard installed, presented a multitude of challenges beyond

those met with engine replacement. Her narrow beam, low cockpit floor, and sealed lazarettes would make access difficult. And, with a keel-hung rudder, some serious cutting would be required to create an aperture for the propeller. Initial measurements indicated that tolerances would be tight, but possible. With careful planning and a clear vision of the final installation, it would all fit together. Somehow.

When I first began fooling with engines two decades ago, my knowledge of diesels culminated with the question, "Where are the spark plugs?" Over the years I've taken classes, pulled engines out of boats for repair, installed replacement engines, built new engine bed risers, and replaced fuel tanks, exhaust systems, water systems, and electrical systems. I've seen nightmarish engine rooms and others that are logical and organized.

To avoid creating a nightmare, you must ask yourself at each step: "Is this the best way? What will happen when I begin the next phase, and the phase after that?" Keep thinking this way because it doesn't matter how large the engine room is, there are going to be a lot of hoses and wires crammed into a small space. The cleaner it's done from the onset, the easier it will be to maintain and fix. Every step of the installation must come with a sound reason for doing it that particular way. Use logic, not guesswork.

First, build models

The best way to determine the location of new engine bed risers is to make an accurate wooden jig of the engine (see sidebar on Page 17). Without a jig, the territory known as guesswork looms large and bleak. Designing and building the risers on *Leight* presented a typical three-dimensional enigma since the hull under the engine was a curved, tapered wedge. My plan was to suspend the jig in position above the hull, then create the risers by simply filling in the void between the bottom of the jig and the hull. To do this, I would use poly-isocyanurate foam (which is easy to cut and sand and is impervious to resins). The polyiso foam would act as a mold over which I would lay ample fiberglass.

To orient the jig, I had to know where the shaft would exit the hull. To do that, I had to know where to cut the aperture. There were two gudgeons on the keel below the waterline. I wanted the shaft to end up below the top one by at least 4 inches so I could cut and then fiberglass without having to remove any hardware.

The tips of the 14-inch Max-Prop propeller would need at least an inch of clearance from the aperture, so I measured down 8 inches to locate the center of the shaft (1-inch clearance, plus half the prop diameter, equals 8 inches). This put the top of the propeller about 20 inches below the waterline, a good distance to prevent cavitation in a pitching sea. I drilled a ¹/₄-inch pilot hole to view the location from inside the bilge. What concerned me now was the downward tilt of the engine. Specifications allowed a maximum 15 degrees, so I held the jig in place temporarily, put the fiberglass rod over the pilot hole, then determined that the angle was 8 degrees.

Start with what's known

To choose the optimum location for the engine, I started with the known. The forwardmost-protruding part of the engine was the belt pulley driving the alternator. I wanted 2 inches between it and the existing access door under the companionway to allow room for soundproofing insulation. There was no point in crowding the door, then being forced to make unnecessary woodwork alterations later on. This left less than 2 inches between the top of the engine and the bottom of the cockpit floor. Not much room for working on the engine, but the plan was to install an inspection hatch in the cockpit floor.

I removed the fiberglass rod and replaced it with string. I tied one end to the back of the keel and ran the other through the two holes in the jig. The string guaranteed that the jig would not be twisted, cocked, or off-plane. I fastened the jig into position by hotgluing it to two sticks that spanned the quarter berths. I made chocks for these sticks to sit in so I could take the jig in and out without having to re-measure or fiddle with the string again. Now that I had found the ideal location for the engine, I tried to find reasons why it wouldn't work.

I took the Vetus exhaust water trap in hand and held it in place behind the jig. I envisioned the heavy hose coming off the engine manifold and the exhaust hose going to the transom. Was there room? Due to the narrow contour of the hull behind the engine, I observed that the water trap would have to sit on the shaft in order to be low enough for proper drainage. That meant the fiberglass stern tube needed to be long enough so the trap could rest on top of it without worrying about the spinning shaft. I measured the length required for the shaft coupling, for the PYI dripless stuffing box, and for a few inches of bare shaft (this, so you can slide the coupling away from the flange when moving the engine or when adjusting the stuffing box). So far, so good. I speculated about where I would put the water strainer, fuel filter, and fuel tank. If the inspection hatch were large enough, access to those items would be adequate.

There were two types of inspection hatches worth considering: the plastic \$80 Bomar version and the \$350 stainless and aluminum ones made by Anchor Plate. David and I discussed the pros and cons. For me, the choice was obvious, but it wasn't my money. Plastic is plastic. Stress it and it will distort, crack, and leak. Metal is bulletproof. When I learned that David's plans included offshore sailing, where the likelihood of filling the cockpit with an errant wave is high, I said, "Imagine you are hundreds of miles from land, with a storm raging, and sea water is raining down through your inexpensive

On facing page: Engine riser with foam and steel plate (1). Jig on risers (2 and 3). Jig and engine (4). Aperture (5). Engine viewed through inspection hatch (6). This page: Water strainer (7). Shaft (8). Fuel tank (9).







Parts required

Drivetrain: propeller, shaft, zincs, stern tube, Cutless bearing, stuffing box, transmission flange and bolts

Fuel system: fuel tank, hose, hose connections, hose clamps, deck fill, fuel filter, shut-off valve, throttle and shift control, shut-off knob, flexible control cables

Cooling system: seacock, hull strainer, hose, hose pipe fittings, hose clamps, water strainer

Exhaust system: high-grade hose, clamps, water trap, transom through-hull fitting

Electrical system: battery(ies), battery cable, lugs, battery switch, engine control panel, wire ties, crimp fittings

Engine beds and aperture: fiberglass resin, cloth, brushes, buckets, gloves, tape, grinding disks, acetone, steel plate, bolts, paint



cockpit inspection hatches. You will be pumping the bilge every 15 minutes and hoping the engine is not getting ruined. At that point what's the use of the \$270 difference?" David chose the metal.

I actually installed two hatches: a large one and a small one. Because the scupper seacocks were way under the cockpit, access to the seacocks would be impossible without the addition of a small hatch. This hatch would also provide access for installing the exhaust system and it would open up new storage possibilities. I cut the holes in the cockpit floor for the hatches but chose not to install them until the end of the project.

Someone's gotta do it

The next step was possibly the worst: grinding fiberglass under the cockpit. I donned my hooded paper suit, taped rubber gloves over my hands, fitted my charcoal respirator and ear muffs, then put a big suction fan in the cockpit. Using a 4-inch angle grinder with 36-grit, I sanded away all the aged gelcoat in what was to become the engine compartment. (It wasn't as bad as the time I cut old risers out of a boat with a chain saw, but that's a different story.)

One of the downsides to using foam instead of wood for risers is that foam

Order of events

Build jig Locate shaft exit point in hull Install inspection hatches Build engine beds Install engine Cut aperture Glass-in stern tube Modify rudder Install exhaust system Install fuel tank Install electrical system



Engine on risers (10). Metal inspection hatch — normally covered by teak grating (11).

will not hold the lag screws required for securing the engine mounts. Bearing that in mind, I placed a 2-inchwide, %-inch-thick mild steel bar on top of each riser prior to laminating. After the engine was in place I would drill and tap and then secure the mounts using machine bolts.

With the jig in place, I cut the foam using a handsaw and glued it to the hull with Polyfair, a guick-setting fairing compound similar to Bondo. I calculated that the fiberglass would add 1/4 inch to the circumference of each riser. This meant the gap between the risers would decrease by 1/2 inch, a substantial amount considering the closeness of the oil pan to the forward starboard engine mount. I adjusted all measurements so the final layup would not have any compromising effect. After the fairing goop hardened, I removed the jig, filleted the crevasses, and filled in some voids for a smoother layup surface. Next, the fiberglassing.

Using sheet plastic, I made patterns so I could cut the fiberglass cloth on a table next to the boat. Fiberglass is miserable stuff. Although cutting with scissors is silent - and seemingly harmless — it is just as toxic as the dust from grinding because the dry glass fibers break into shards and drift around like airborne barbed wire. These miniscule shards are nearly impossible to remove and will contaminate a cabin and your clothes (not to mention your lungs). Another good reason to pre-cut is there's nothing worse than using scissors while wearing sticky, resin-covered gloves. You guickly become the modern version of tarred and feathered as the fibers knot around fingers, scissors, and everything else that's touched.

An accurate pattern, combined with careful cutting, creates a more professional job. Anyway, I would rather be fastidious in the layup and have little or no grinding to do later. For the layup I used four layers of 1½-ounce chopped strand mat, alternating with three layers of 18-ounce woven roving. I cut each schedule (one mat, one roving) smaller than the one before it by about an inch so edges would feather. Working smallest to biggest, the last lamination would be a single layer of mat to cover the last layer of roving. For resin, I used epoxy-based vinylester, which has a higher bonding rate than regular polyester resin but is much easier to work than straight epoxy.

Another way to keep the mess to a minimum is to pre-wet each layer of cloth on a flat piece of cardboard before bringing it on the boat. This creates a few more trips up and down the ladder, but better results are attained because the resin can be rolled on evenly right to the edge of the material without gravity working against it.

Chopped strand mat is tricky. Oversaturate or wait more than a minute. and the chemical that bonds the fibers dissolves, leaving a soggy mass of goo that sticks to the cardboard. Working quickly, you can wet the mat out, peel it off the cardboard, and still get it into position while it's relatively stiff. The trick is to pre-wet just enough so you don't need to brush on any more resin at the boat. As soon as the mat is tucked into place, add the pre-wetted woven roving. Always use a ribbed bubble roller to smooth out the cloth and displace air. Dabbing with a brush is OK for deep corners, but the fewer air bubbles, the higher the quality.

After the lamination kicked, I scuffed away a few burrs with 80-grit sandpaper, wiped with acetone, then applied two coats of gelcoat (polyurethane paint also works, but gelcoat is bulletproof). Next, I began cutting out the aperture, a little at a time, while checking the size with a plywood silhouette of the propeller. (The plywood was much easier to use than the heavy and awkward feathering Max-Prop propeller). Using a grinder, I tapered the rough edge of the aperture to a fine point. I would do a thin layup on the outside of the hull to get the shape, then do a robust layup inside to get the strength.

In she went

A one-cylinder diesel is not much heavier than a 15-hp outboard, so it was easy for two of us to carry the engine up to the cockpit and put it in place. I re-checked measurements, then drilled a 1½-inch hole in the back of the new aperture, slid the shaft through the hole, and bolted it to the engine. I slid the stern tube into position. The hole was slightly oversized so I could be certain the tube was not in a bind. I shimmed it to dead center.

Next I loosened the shaft coupling bolts and checked the alignment with a feeler gauge. My concern was that the weight of the 4-foot shaft tended to hog the back of the engine downward on its rubber mounts and raise the front, affecting alignment. I retightened the coupling and tabbed the stern tube into position with just a little bit of fiberglass and then added a gusset to support the shaft just behind the stuffing box. I again checked the alignment and tightened everything up. Perfect.

I made a big fillet around the stern tube with polyester hull-and-deck filler, then built up layers of fiberglass over it. It is very important to glass the stern tube with the shaft inside it to be certain everything remains aligned. (The Cutless bearing centers the back of the tube over the shaft, but shims are required to center the forward end.)

With the shaft and stern tube in position, I calculated where to cut the shaft so that when the propeller was installed there would be enough room for a collar zinc, plus an extra ¼ inch of open shaft to prevent the zinc from rubbing against the tube under full thrust. When I thought I had it right, I double-checked my measurements, then sent the shaft to a machine shop for the final cutting. After I got the shaft back, I installed the propeller and cut the aperture into the rudder.

Putting the pieces together

A successfully installed fuel tank, fuel filter, water strainer, and shift lever control means that mechanical function and accessibility have been given equal consideration: if a component can not be maintained or repaired easily, the entire system will fail. On a small boat like *Leight* with limited space, however, function must sometimes overshadow accessibility if the components are to work at all. I scrutinized locations and chose the lesser evils in each instance.

Fuel tank – A small fuel tank that is the right shape is often more useful than a large tank of the wrong shape. I wanted a tank that was tall and narrow and oriented fore and aft so that when the boat heeled, the fuel standpipe would not suck air when the fuel level was low. It would have been possible to get a larger (wide and flat) tank in place, but when a wide tank is half full, the fuel sloshes to the corners, increasing the risk that the pipe will be high and dry. The tiniest suspicion of air in the line can stop a diesel engine cold.

There were three fuel tank options: plastic, metal, or collapsible rubber. I was against the collapsible for reasons of durability but had an open mind toward plastic. Unfortunately, there were not any off-the-shelf plastic tanks that fit *Leight's* dimensions, in part because the fittings were in awkward positions. We decided to maximize efficiency and have an aluminum tank fabricated.

I made a mockup of the tank with hot glue and luan plywood. To fit the shape of the hull, the bottom of the tank sloped down toward the engine. The draw tube was in the deepest part, which also put it close to the engine. Alongside the draw tube was the return fitting, an electronic fuel gauge, and a plugged, ½-inch hole to be used for hand-pumping water from the tank. All of these fittings were accessible through the inspection hatch. The vent was at the opposite end of the tank, accessible through the small hatch.

Fuel filter – Ideally, I like to place a fuel filter where it can be viewed eas-

Making the jig

The ultimate purpose of my jig was to create an accurate footprint of the engine's mounts. *Leight* is full-keeled and, since the engine was going to nestle in the sweeping curves of the bilge, I also added a silhouette of the gearbox to be certain it would not hit the hull. I hot-glued the jig together, added drywall screws to stiffen it, then drilled two holes in the body of the jig and inserted a rigid fiberglass rod to simulate where the shaft would bolt to the transmission. This

rod would help with the initial layout but would eventually be replaced by string for the final, critical measurements. When finished, I had a 2-pound "engine and shaft assembly" that I could pick up and move around. It took about two hours to make, but the potential time saved was incalculable.

ily, such as in the head or just behind a locker door. Unfortunately, it had to go behind the engine and was almost unviewable unless the inspection hatch was out. Even then you had to stand on your head to view the glass bowl. But with the hatch open, changing the filter element was easy. Its location also kept fuel lines short and near the fuel tank shut-off valve — which is a handy feature when changing the filter.

Water strainer – For best results, a water strainer must be mounted below the waterline. I placed it next to the seacock and alongside the fuel filter, which gave it the same advantages and disadvantages as the fuel filter.

Controls and compression shut-

off knob – There are all kinds of great places to install the shift lever controls and compression shut-off knob...that is, until you start planning how to get the Teleflex cables to them. On *Leight*, they were mounted on the side of the cockpit under the tiller. The question was whether they should be in the way of the helmsperson or the crew. We decided that the helmsperson moved less than the crew and was less likely to trip over the cables during maneuvers. It was also easier to get the cables to that location.

Never install the levers first and assume the cables will get there on their own. First, observe where the cables *Continued on Page 69*



A matter of balance

David and Leigh Buckman were hesitant to give up the shoal draft and maneuverability of *Leight*, their 26-foot International Folkboat. But that darned outboard (no matter what kind) on the transom was too unreliable.

To upgrade or supersize . that is the question

There comes a DAY IN MANY SAILORS' lives when the prospects of either upgrading their vessel or acquiring a new boat sends their thoughts ranging far and wide on seas of speculation. There they are buffeted by the winds of desire and tossed about by powerful undercurrents of prudence and practicality.

Such were the circumstances for my wife, Leigh, and me as we grappled at the conclusion of our 20th summer of cruising aboard the *Leight*, a 26-foot International Folkboat built in Sweden. As sweet of line as they come, this full-keel fiberglass sloop is capable of crossing oceans, sailing into the slimmest of possibilities, and being easily singlehanded. Adventuring along the East Coast from the Chesapeake to Nova Scotia, she'd not once let us down in seas smooth and surly or winds sweet and snotty.

Yet as decades of experience aboard any boat will prove, she had her issues. Irritants generally had to do with the lack of dependability of her powering systems, rather than any shortfall of sailing integrity. We loved her close-windedness and that her 4 feet of draft allowed access to wild and remote places rarely trod by the cruising crowd. We reveled in the fact that she was so handy she could be sailed into little eel ruts of anchorages, so sturdily built that she could sail away from an occasional grounding. And there was a pleasing efficiency to the fact that a pair of solar panels met her modest electrical demands.

Despite that impressive array of admirable qualities, we grew tired of messing about with motors and started studying the used boat ads, focusing on the listings for 32- to 35-foot sloops. Maybe it was time to broaden our horizons beyond the idea of improving the *Leight* and buy something a little larger. Wherever we wandered, we almost always had the smallest cruiser. Perhaps supersizing was the way to go.

New boat idea compelling

The idea of a new boat, possessed of none of the well-worn familiarity of our current craft, was compelling, and for a time the *Leight* took a back seat in our speculations. It wasn't that we didn't like her anymore, but one of the things we were particularly troubled by was that her various outboard engines let us down regularly and often in the worst of places. Caught in roiling tide rips off Point Lepreau in the by David Buckman

Bay of Fundy one fogbound afternoon, the engine "crapped out" on no less than eight occasions.

Even the most modern of fourstroke outboards that graced the *Leight's* stern over the years couldn't be trusted; we employed them only in the most desperate of windless circumstances. Our quiet quests, not without merit, produced many memorable sailing moments. Still, there was a certain tension in the air when we did go off motoring since every little engine stutter or bout of irregularity left doubts floating in the air like clouds of concern.

What about a diesel?

Leigh, the ever sensible and centering force in my life, counseled against rash moves and suggested that we explore the idea of installing a diesel, which every sailor knows hardly will ever break down. We consulted with Bruce Cunningham and Dave Martin at Padebco Custom Boats in Round Pond, Maine, where the *Leight* was berthed. Dave, who had circumnavigated the world in a Cal 25 with an old Johnson outboard bolted to the stern, surprised me when he counseled against the diesel on the basis of simplicity (see article on Page 20). I argued that 200 pounds of engine, fuel tank, and other gear placed low in the middle of the boat was a far better balance than 77 pounds hanging off the stern. Dave argued against the expense of *it*, and I against the expense of *not* doing it, since our cruises were but a month or two long and the chronic breakdowns and repair time cut deeply into our ambitions and sometimes our sense of safety too.

Dave bemoaned the complexity of systems required while I reasoned that the best quality gear for a little

diesel would likely be no unfathomable expense. Dave said we'd lose storage space. I countered that we kept a pair of 6-gallon gas tanks in what would become the engine room. He said we wouldn't get our money back when it came time to sell. I replied that I didn't give a damn because I wanted the sloop given away when at last I sailed over the bar.

Dave railed against the high cost of yachting in general and I denied that the *Leight* was a yacht. So Dave played the simplicity card again, even though he has a diesel in his 33-foot steel sloop, *Driver*, in which he, Jaja, and their three kids had recently sailed to Iceland, Norway, and the Arctic. Dave enjoyed pushing and I enjoyed pushing back. The engine I had in mind was a Yanmar IGM10, a single-cylinder, 9.1-hp model that weighed 167 pounds. Through it all, Bruce wisely kept his own counsel and went to work estimating.

In the meantime, we scoured the brokerage ads and visited boatyards. We found the pickings slimmer than we'd expected. One of the baselines of the search was our insistence on a boat possessing classic good looks. Among the vessels we considered were 32- to 35-foot Allied yawls, Bristols, Albergs, and Contests of 1960s to early 1970s vintage. More than a few of these were as much as 18 years older than the Leight, which was built in 1978. These were priced in the \$25,000 to \$45,000 range, unless they were in particularly desperate condition. By the time we added \$10,000 to \$25,000 to the purchase price for various essential upgrades - ranging from new engines and sails to rigging, interior

makeovers, and other systems — we were looking at investing \$40,000 to \$60,000. Worse yet, a number of the boats that really piqued our interest, like the Morris 30 and the Victoria 32, were priced over \$100,000. Then there were other costs to consider. The labor necessary to bring a larger, older boat up to the state of finish and seaworthiness we find acceptable would add up to hundreds and hundreds of hours. Given my general abhorrence of coarse labors when I might otherwise be sailing, this was a major concern.

Given my general abhorrence of coarse labors when I might otherwise be sailing, this was a major concern.

But isn't bigger better?

On the other hand, the idea of being able to take friends along for a weekend or a cruise was appealing, as was the ability to shower in a dedicated space and to have an actual head that could be closed off with more than a curtain. A dedicated, non-folding galley sounded good. So did a diesel engine, chart table, oven, and expanded interior volume. The issue of standing headroom was one of the most frequently mentioned advantages by brokers and fellow sailors. The ability to stand up in the cabin seemed to be the defining element of what a lot of folks thought of as "real boats."

When I tallied up our usual patterns of sitting, lying down, and standing at home, the results were surprising. On the upstanding side of the ledger, I recorded 2 hours standing time a day. I spent a total of 16 hours off my feet, sitting and reclining. When you add the usual awayfrom-home activities like working and driving, sitting time can grow to more than 90 percent of a typical day.

> Sitting down on a boat is certainly more stable, though none of this is to suggest standing headroom isn't a good thing. If you think you need to be able to stand up in your cabin, then you probably do. The *Leight* was not totally bereft of standing space. We can stand in the

aft end of the cabin, under the dodger ...a compromise to be sure, but in 20 years of cruising we'd not found any of it to be taxing of our comfort.

Another consideration was the cost of supersizing in terms of financial stress. We were ready to do the deal if that's where our thoughts led us, but we took no little satisfaction from the fact that the *Leight* was all ours. Hanging on to our sloop meant that we wouldn't have to commit ourselves financially for a decade, sign dozens of pages of promissory, insurance, and



regulatory documents, or pay thousands of dollars of interest. There was a comfort in that, for it put us firmly in control of our destiny and there seemed an inherent rightness to carrying a light load of fiscal obligations.

Scoring another point for the *Leight* was her kindly motion in large seas and the fact that her modest freeboard put her crew closer to the waterline where the swinging arc is more modest, thereby reducing the effects of motion sickness. The reality of it is, of course, that boats of any dimension, even large ships, can be uncomfortable in big seas. A big

boat's motion might be less quick, but it can get slammed about harder and suffer more damage because of its greater weight and volume. Dave and I thoroughly hashed out these thoughts. His experience was that a well-found smaller craft was more forgiving and buoyant in large seas.

Another consideration as we worked through the possibilities of moving up to a larger craft was what it would add or take away from the cruising dimension. While the wild beauty, expansive mood, and thrill of discovery would be unchanged, a larger craft's greater draft would

An argument for simplicity

by Dave Martin

When David Buckman outlined his intention to have a diesel engine installed in *Leight*, I was against it. I thought, "Here is a simple sailing craft, unmarred by the complexities of a thousand extra mechanical parts." Outboard engines are simple to install, simple to have fixed, and simple to pitch into the sea when they crap out. More importantly, outboards create a unique state of mind; since most do not work efficiently, the tendency is to shun dependence on them. An outboard may be there, but you don't really trust it. Your focus remains on the wind, the tide, and the clouds. Why did David want an inboard engine? Hadn't he and Leigh sailed the boat perfectly well for two decades without one?

I liked David and Leigh, so I spoke from the heart: "Are you out of your minds? Stick with the outboard engine!"

David gave his characteristic laugh and began to rehash his logic. It was clear to me that he knew only the barest minimum of what he was getting into. But I admired his desire to keep the boat he had, rather than falling prey to the "bigger boat syndrome" and thus mortgaging his soul for the scanty perks of toilet privacy and the illusive thrill of standing headroom.

David had romantic visions of life with a diesel. He saw himself turning the key and watching the puffs of smoke trail astern. He saw himself sitting at the helm, puttering along on a skyblue sea, confident that all was well with the world. I envisioned oil changes, troubleshooting, rebuilding the injector, and trying in vain to remove the old Cutless bearing when it wore out. I thought of phone calls made from remote ports for spares, then cursing the postal system when the parts got lost in transit. I pictured the owner of a conked-out diesel sitting in port, wary of setting sail with a broken engine, and leaving behind parts that would probably arrive the day after departure. Inboard engines, like automobiles, have a frightening way of controlling your life.

As David fought for his point of view, I began to concede. We'd been throwing the ball back and forth for several weeks and he was not to be swayed. We each appreciated the other's viewpoint, but David wanted an engine.

I switched hats. I would use all my experience to give him the best installation possible. It was the gentlemanly thing to do. After all, it was his boat, his money, and (although we were friends) he was the customer.

My conscience was assuaged. I had tried my best to save his soul from mechanical subservience and the horrors of having yet another thing to maintain. He was going into this with his eyes wide open.

"OK," I said. "Let's do it." (See article on Page 14.)

reduce our gunkholing ability and access to some of the most secure and scenic anchorages, well off the beaten path. Where we now sail into the narrowest of channels, we would likely have to motor. As to the comfort of sloops' berths, I can't imagine sleeping better than we did aboard the *Leight* and, though the ability to bunk with your mate would be pleasant, none of the bigger boats we considered offered double accommodations other than the usual V-berth arrangement, which we'd found considerably compromised in terms of comfort.

When we added up our impressions, one of the things that stood out was the beauty of the Leight's efficiency. She could ghost easily along before the lightest of zephyrs and stand up to a howling cat of a wind. Her economy was admirable too. A gallon of bottom paint lasted two seasons; her simple systems allowed us to outfit her with the most robust of gear at modest expense; and keeping her shipshape was well within our capabilities in terms of time, energy, and cost. This ease of manageability allowed us to concentrate on critical tasks, make a workmanlike job of them, launch early, and haul late. She could go anywhere the big boats did and farther than most we ran into.

An article on resistance to capsize published in Practical Sailor a few years ago ranked the International Folkboat alongside an Alden 44 on stability. Leight was well mannered, and in more than two decades of summer cruises aboard her, we'd become finely tuned to her moods. We posted a few 140-mile days offshore, we could count on 100-mile runs in the usual mix of summer weather, and we could coast along comfortably at 5 to 6 knots in ordinary summer breezes. While this was hardly blazing speed, the larger craft we considered offered only slightly increased cruising velocities on the order of a half knot or so. This was not without merit, but the burning question was: at what expense did such a move come in the quality of the cruising experience, added capabilities, efficiency, complexity, and fiscal prudence?

Though speed is the holy grail of our consumer culture and a worthy quality in sailing craft, we looked at the issue through the lens of how much better, really, is 5.5 knots than 5 knots. It was difficult to assign the slightly greater velocity any measurable advantage unless you were racing. In a lifetime of sailing at the modest velocities that the *Leight* was capable of, we never had a day that it made the difference between arriving safe and sound or getting in trouble. And in the meantime we logged more sailing time ... which is the point of it, after all.

What about singlehanding?

Where sails and gear on a bigger boat are heavier and more problematic for singlehanding, the Leight's systems were manageable. While the additional space of a larger cabin would allow us to spread out more, over the years we had already learned to retreat into our own spaces if we needed to. Our closeness aboard our sloop had never grown uncomfortable, perhaps in part because of the expanse of sea, with islands and shore close abeam. Having confidence in the boat's ground tackle was a comfort too. We never dragged anchor and could set and haul by hand the 25-pound CQR with 10 fathoms of chain and a couple of hundred feet of %16-inch nylon rode. To be honest, it was Leigh who set and hauled the hook by hand, a division of labor that might seem uncharitable but illustrates the sloop's handiness. Larger boats are not only harder on their ground tackle, but their crews' backs too.

Less quantifiable perhaps, but as important to us, was the sense of balance and centering of the sailing life that would make the acquisition of a new craft a comfortable fit in which we could invest as deeply of ourselves as we had with the *Leight*. We took pride in the fact that, despite her modest stature, we kept our sloop sailing when others were heading for harbor. Part of the pleasure was wrapped up in the very fact that locals seemed to find a certain comfort in her approachability.

Looking through the classic literature of small craft cruising, the books by the Pardeys aboard the 24-foot *Seraffyn*, John Guzzwell on the 20-foot *Trekka* (see article on Page 26), or any of Maurice Griffiths' captivating accounts, all made adventuresome passages that were as rich in drama, beauty, enlightenment, and satisfaction as was ever known. In fact they seemed possessed of particular élan for the very fact that their craft were modest, their dreams big, their seamanship superb, and their deeds admirable on all accounts.

It made sense

The installation of a diesel in the *Leight* seemed to make more and more sense. A lot of it had to do with the functional advantages of an inboard. All of the outboards we used on the *Leight* were attached to a swinging mount that I fabricated and attached to the transom. This placed their weight well outboard, which is undesirable in terms of balance, performance, and exposure to seas. The two-stroke outboards were the most dependable, but noisy and inefficient, and they left a fog of unburned hydrocarbons in our wake.

The Leight's latest engine, a 5-hp, four-stroke Honda, was by far the most efficient but also the most undependable. The often dirty and watery fuel available in the hinterlands Downeast and in the Canadian Maritimes regularly plugged up the carburetor's fine jets, even though it was equipped with a fuel filter. This caused motor failure on four of our last five cruises, the last thing we wanted to experience when we were bucking the Bay of Fundy's 29-foot tides or rounding Nova Scotia's Cape Sable Island, the Cape Horn of Canada. We learned to remove the carburetor and clean out the needle valve in the float chamber. This would often get us going again but didn't address the clogged jets, which required nothing less than disassembly of the unit, a nearly impossible task in close quarters and rough seas.

When the estimate for the installation of the Yanmar came in at around \$13,000, we swallowed hard for a few minutes and told them to go for it, knowing that in-progress upgrades, like a feathering Max-Prop, stainless hatches in the cockpit, and a custom fuel tank would push the final figure higher. It came to \$16,000 when all was said and done. This was no trifling amount when we looked at it in terms of an investment in dependability, convenience, and peace of mind for a decade or more.

As we shaped our course for the wilds of Newfoundland or the familiar Downeast Coast, it seemed money well spent. Weighed against the \$30,000 to \$60,000 required to purchase a used 35-foot sloop, the project wasn't a burden and would allow us to continue to devote resources to other important aspects of living well — such as good wine and food, travel, books, the arts, hiking, skiing, kayaking, and helping our children. The whole process was about striking a balance in which we could craft a nurturing equilibrium and invest deeply of ourselves.

I am not suggesting this approach as a universal panacea for all such issues or that we expect the diesel to be fault free. Nonetheless, it illustrates one way of addressing these issues and shows that there is something important to be said for embracing simplicity, efficiency, and economy.



Improved

Another idea on how to improve airflow below

by Brian Cleverly

between layers of 18-ounce Knytex (biaxial with mat) glass.

The outer baffles (a further explanation follows) are $\frac{3}{16}$ -inch plywood, initially cemented in place with epoxy fillets and then fully glassed with 18-ounce Knytex. To provide a ramp effect for any lines bearing against them, the body faces are angled back 20 degrees from vertical. The throughdeck vent pipes were also constructed using the same balsa-Knytex construction.

With that completed, I did some airflow tests on the new vent compared with an original Dorade setup but still using the original 2¾-inch diameter through-deck vent pipes. With airspeed of 5 knots from a household fan directed at the vents, the Dorade gave 1.9 knots at the cabin outlet and the new vent didn't produce a reading, although I could feel some air movement using the "wet finger" technique. That wasn't nearly good enough to warrant replacing the Dorades.

I decided that the air needed another baffle to force it upward toward the vent pipe. To minimize the amount of water a second baffle might also direct upward, I made the baffle smaller in height, mounting it 1 inch lower at the bottom with a 2-inch

N THE MARCH 2003 ISSUE OF *GOOD* Old Boat, Peter Bonsey presented his unique method of increasing belowdecks airflow in a small boat in an article titled "Banish the Damp." Peter's idea firmly grabbed my interest.

What interested me more than anything was the fact that it overcomes a huge problem with Dorade-style venting, that of preventing (or at the very least, minimizing) water intrusion below during severe weather. Peter's vents also greatly reduce the possibility of lines being snagged by the vent itself.

For pure air circulation, a Dorade system is generally adequate unless you happen to be in the tropics, where you will need some airflow assistance (fans, hatch vents, and so on). In severe weather, the system can be overcome by water quantities due to the small drainage area built into the deck boxes. Of course, larger drain areas could be provided, but that immediately reduces the amount of airflow.

With Peter's system, water that gets past the baffle has the same-sized out-

let; the only intrusion below would be from water splashing against the vent pipe. In corresponding with Peter, he reported that he and his wife did not have any water below in any of the heavy weather they encountered on their Atlantic crossing or during their Mediterranean cruising. His wife said that the coolest place on the boat is in the head area immediately under the vent. I was encouraged. When I commenced the revamp project of the Fuji 32 I'm rebuilding, I decided to try Peter's idea.

Cosmetic change

I kept to Peter's original dimensions as far as possible, but made one cosmetic change. Since I don't like square, sharp-cornered objects on a boat, I chose to make the vent rounded. This, of course, reduces the air passage a small amount, but I was prepared to accept that inconvenience.

Lightness and strength were of importance, so I molded the vent body using %-inch balsa coring sandwiched

Peter Bonsey came up with a

ILLUSTRATIONS BY TED TOLLEFSON

creative vent for use aboard a sailboat and wrote

about it in the March 2003 issue of *Good Old Boat*. Inspired by that, Brian Cleverly took the concept one step further. Peter's concept is shown on this page at top. Brian's modification is shown below.

Dorades

gap at the top and spacing it $1\frac{1}{2}$ inches back from the outer baffle.

Encouraging result

With this temporarily in place, I ran the air test once more and found the new vent now gave 1.7 knots at the cabin outlet. Encouraged by this result, I constructed the second baffles as per the outside baffles but, reasoning they would not be subject to the full force of any water, glassed them with 8-ounce cloth instead of the heavier Knytex.

After installing the new, larger, through-deck pipe I ran the test again. This time I had 2.5 knots at the outlet. Now my mind started to run amuck: I reasoned that if I radiused the inner edges of the pipe tops I would get even higher flow. How *wrong* that was. The airflow dropped to 2 knots, so I immediately squared off the edges and got 2.5 knots again.

To test water intrusion, I filled a 5-gallon bucket with water and, standing 2 feet from the vent face, heaved the water at the vent as forcefully as I could. Not a trace of water went below. Conducting the same test at the Dorade installation I got a noticeable amount of water below.

A rough calculation based on velocities and areas suggests that the Dorade would pass 7.89 cubic feet per minute with a 5-knot breeze over the deck, while the new modified Bonsey design would pass 27.86 cubic feet per minute.

While I don't actually expect that amount of volume flow - due to friction, turbulence, and so on - I do expect a noticeable improvement over the Dorades. Of course, we may have the situation in higher wind strengths that too much air is coming below. I have thought about this and intend to make up two types of vent plugs. Both will be of 1/2-inch plywood with somewhat hard-rubber edging to assure a tight fit inside the vent pipe. One will have a series of through-holes, possibly ¼-inch diameter, to restrict airflow and the other will be solid, to keep water out.

The major advantage I see in the

new system is reduced water intrusion. This will allow the vents to remain in use in all but very extreme weather. Needless to say, I consider the new vents a success; they will be permanently installed on the Fuji. Thanks, Peter, for providing the impetus to experiment further.

Brian made his modified vent for the Fuji 32 he is refitting. To keep the weight down, he used balsa coring sandwiched between layers of glass. He angled the body faces to 20 degrees to discourage lines from catching on the vent. Once he had the vent design, Brian did airflow tests until he was satisfied with the ventilation. The vent is shown under construction in photos at right.









Cruising memories

Crisis down below

Bats and a thunderstorm combine to make mayhem

E WERE A FEW DAYS INTO THE first leg of a three-season passage to the Canadian Maritimes from our home port of Bayfield, Wisconsin, in the Apostle Islands of Lake Superior. We anchored overnight off the beach outside a small harborof-refuge named Big Bay. The lake was unusually placid. The holding was not great — sand over rock — but good enough to throttle a light offshore breeze. We slept well.

Uneventfully, we departed Big Bay, motorsailing southeast over a lightly riffled sea toward Marquette, Michigan. A couple hours into it Ellie went below for a nap. Gilly, our cat, leapt softly onto her belly. Dreamily, I stayed at the tiller. The Huron Mountains, hills really, lay a mile or two to starboard while the azure expanse of cold Lake Superior stretched out to port.

Maybe once each summer out on the Big Lake, a very tired, disoriented bird or bat comes aboard after a tooby Jim Hawkins and Ellie Adams

long and very cold flight. And so today, when two bats came flitting about the rigging, I thought little of it. And when they darted below, I debated whether to roust Ellie. Bats are not her favorite animals, to understate her feeling by quite a lot, but she was napping so perfectly. There was the remote possibility that the cat would stir herself and chase them out of the cabin. I say remote because Gilly was napping also and did not notice or was pretending not to notice the arrival of the bats.

I put the bats out of my mind and fell once again into reverie, half dozing myself. Only one patch of rocks along the route warranted notice, but with perfect visibility, they posed no problem even to a half-awake skipper.

I noticed a few gray clouds slipping over and around the small mountains to the west of us. Out of curiosity more than anything else or perhaps to break the tedium, I flicked on the weather channel. Perfect Paul's disembodied voice droned a forecast utterly compatible with the serene scene surrounding us. I thought to myself, "No wind today."

Sécurité ... Sécurité

Suddenly, the Coast Guard blurted out a "Sécurité." Having slipped back into my stupor once again, I was startled, to say the least, by the news that a severe thunderstorm was imminent. Only then did I turn to look behind us. It took only a moment to conclude the



THOMAS PAYNE

Coast Guard warning was, if anything, a little on the late side.

A black cloud spreading across the horizon was roiling toward us, marking the outflow boundary of the shaft of falling air collapsing under the storm. This roll cloud nestled itself, if that is the word, in a putrid, olivegreen sky of the kind that stirs all

Midwesterners to seriously contemplate a rapid descent into the nearest basement. This was going to be a bad one. And it was coming at us like a bat out of hell.

I yelled for Ellie to wake up. She feverishly

began to stow loose gear below while I yanked the sails down and threw on a rain jacket. The black cloud inaugurated an instantaneous gale as it skimmed our masthead. A blinding rain arrived with it. As Ellie closed the main hatch it dawned on me that maybe I should mention the bats. I hollered, "Ellie, I forgot to tell you there are two bats down there with you." But, as anyone who has experienced even half a gale knows, she could not hear my tardy warning over the maelstrom screeching in the rigging.

In the cockpit, the downpour obliterated the view beyond the bow of the boat. I struggled to keep the boat perched on the closely spaced 6-foot rollers that erupted almost immediately, while alternately straining at the helm when she slewed off them. Then it came to me in a moment of terror: I was less than certain that we had already passed the aforementioned rocks. Suddenly I'm yelling again to Ellie to "turn on the radar and the GPS and get us a fix!"

Meanwhile, down below

Meanwhile, inside the cabin, Ellie faced matters that had gone from bad to worse. "We had to yell to be heard 5 feet apart," she now recalls. "The boat was pitching and rolling, and we were charging full speed ahead with no sails. Jim was yelling (even though he had to, it still felt like *yelling*): 'Turn on the radar, turn on the GPS, turn on the widgets, plot the course.' Suddenly I'm not remembering how to do any of it."

Then Ellie's situation worsened: "The cat wants to abandon ship and is tethered so she can't. Each time another pillow flies off the settee on top of her, she bawls in holy terror. Then

I hollered, 'Ellie, I forgot to tell you there are two bats down there with you.' But...she could not hear my tardy warning over the maelstrom screeching in the rigging.

> I realize I am shut up down below with two bats flopping all around. And — believe it — they land in my hair. Twice! Now I am also quite ready to abandon ship and understand the cat's panic intimately. Not my finest moment. The gratitude was that I was not in Jim's spot."

Ellie saved the day

You've got the picture, right? Bats in her hair, a desperate cat, stuff flying everywhere. On top of all this, the crazed man in the cockpit is asking the impossible and yelling besides. The scene is almost as chaotic as a birthday party for a dozen 4-year-olds.

Well, Ellie saved the day. Somehow she got the widgets on. She verified that the rocks were behind us and we were angling offshore. She double-checked our position with the GPS and the chart. We had only to ride it out for 20 minutes or so and the storm would be past us. We did not broach and made very fast progress more or less in the direction we wanted to go. And then, as quickly as it had begun, all was quiet, the bats departed, the cat was at rest, the sea calm.

That could be the anticlimactic end of the story, except that sea stories characterized by shock, terror, distress, and a train of errors that brought it all on don't end that way. Instead, they unfailingly proffer a moral or two. The hope is that the advice given will garner a modicum of redemption for one's reputation. The script calls for the author to note well the lessons learned and to recite some strenuously considered "You-knowit'll-happen-someday-so-plan-ahead" admonition that would better prepare the prudent mariner.

In other words, "don't do as I did,

do as I wish I had done." This story, the reader has no doubt already discerned, is one of those sea stories. Here, then, in keeping with that timehonored script, is the achieved wisdom, earnestly and humbly

shared: It's the bats, stupid! Get the darned things out of the cabin. Do not wonder. Do not hesitate. Do not doubt. Just get them out \dots now!



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ORTY-FOUR YEARS AFTER HE LAST held Trekka's helm solidly in his hand, John Guzzwell reflected, "She seemed so small and simple." John skippered Trekka's return to salt water when she led the procession of traditionally rigged vessels in the parade of sail off the Victoria, British Columbia, waterfront to kick off the Tall Ships Challenge 2005.

The next day, serenaded by spirited music from the Mexican navy training ship, Cuauhtemoc, hundreds of sunscorched spectators lined up to board the square-rigged stars of the Tall Ships pageant as *Trekka* basked in the attention from curious dockwalkers. Meanwhile, hard by the harbor at the Maritime Museum of British Columbia, an elementary-school class listened attentively as the builder of

the smallest "tall ship" explained how he and his boat became international sailing icons.

"You've got to have a dream," John told the youngsters. "When I was your age, I was in a German concentration camp. I used to dream about a seagoing adventure."

Carrying his toolbox, John Guzzwell arrived in Victoria in 1953. There he started to convert that dream into reality. He commissioned a set of plans from the innovative British naval architect, Laurent Giles, who made the reverse sheer acceptable. The young shipwright rented space at the back of a fish-and-chips shop and started to build the definitive singlehander, a 20foot yawl that he named Trekka.

In 1955, the 25-year-old set sail on what would become a record-setting

John Guzzwell's

four-year voyage in the smallest sailboat to complete a solo circumnavigation. John tells this story beautifully in his book, Trekka Round the World.

Final bluewater voyage

Just over 25 years ago, in September 1980, John joined delivery skipper Eric Abranovich when Trekka returned to Victoria Harbor from Honolulu after her final bluewater voyage. Her new owners, the Maritime Museum of British Columbia, mounted her as a static exhibit. Early in 2005, the museum loaned her to a downtown shopping center, which showcased her in its lobby for five months.

"After we put *Trekka* on display in the mall, we noticed there was a whole lot of public momentum and interest," says Jamie Webb, president of the museum at the time. "This provided the impetus to get her fixed up."

This public relations venture resulted in Trekka's first refit under the museum's stewardship. That spring, another Victoria wooden-boat institution picked up her restoration and moved it forward once more. Nestled into a remnant of the working harbor, the Sail and Life Training Society shipyard echoed with the sounds of chisels, hammers, and caulking mallets. Amidst sawdust and shavings from other maintenance projects, Trekka perched on a cradle while inspectors determined that her fiberglassed red cedar hull and plywood deck were still in fine shape. Shipwrights fashioned a new spruce mizzenmast, made two big angle-iron flanges to bolt the keel back on, and installed new bronze through-hull fittings. Her lifelines were missing, but the original rigging and mainmast were sound.

Dress rehearsal

The June tall ships events served as a dress rehearsal for Trekka's debut on the Pacific Northwest wooden boat circuit that fall. At Victoria's annual Labor Day Classic Boat Festival, Sandy Goodall took over the dockside public relations role. With Sandy skip-

a comeback

cruising icon sails again

pering and Port Townsend, Washington, sailmaker Carol Hasse crewing, *Trekka* once again hoisted her sails for the Sunday parade past HMCS *Oriole* and then competed in the Open Classic Race. Their efforts were rewarded when *Trekka* won the festival's "Best Restored Tabloid Cruiser" award.

Carol calls her crewing experience "an honor and delight." She notes that the cockpit is "tight for two, but reasonably comfortable within easy reach of the tiller." Sandy clarifies that the cockpit is actually a foot well in the deck, not something you can sit "in." Rather, you sit "on" the deck, with your feet in the foot well.

The next weekend, *Trekka's* career came full circle when she returned to her singlehanded passagemaker roots. Sandy, who stands 6 feet 3 inches tall with a build similar to that of John Guzzwell, singlehanded her across the Juan de Fuca Strait to Port Townsend's Wooden Boat Festival.

The museum's insurance policy stipulates that *Trekka* must be escorted on such trips, so John West's motor vessel, *Scaup*, went along on the crossing. "There's a lot of life left in her," comments John, noting that when the wind in the strait got up to 25 knots, the historic yawl was doing over 6 knots.

Star attraction

At the Port Townsend festival, *Trekka* reigned as the star attraction. "There was a constant stream of people wanting to touch, see, and feel," Sandy reports, adding that one man did a double take then pulled out his cell phone and called a friend in Seattle. "You'd better get up here," he enthused. "*Trekka's* here!"

In the Tall Ships Challenge 2005 in Victoria, British Columbia, *Trekka* made her first public sailing appearance, near right, following time as a static exhibit, far right. At the event, she was sailed by Sandy Goodall and Carol Hasse, on facing page and above. Public appearances such as these encouraged *Trekka's* caretakers to chart a realistic course for her future. "The museum will keep her in showable condition," says Jamie Webb. With the goal of launching *Trekka* this past June so she could attend Seattle's Center for Wooden Boats festival over the July 4th holiday, shipwrights began putting the finishing touches on her restoration. The interior was repainted, varnishing completed, and patterns cast in bronze or aluminum to replace the missing stanchions.

Former Victoria ship chandler Mike Magrath sold John Guzzwell *Trekka's* original lifelifes. The men met on a trans-Atlantic liner when both were immigrating to Canada. During the five-day rail journey from St. John's, Newfoundland, to Vancouver, Mike says, "We never mentioned boats once." He was surprised to learn later that his travelmate was building a boat. "Because there was little demand, there were no off-the-shelf marine fittings available; they had to be ordered."

Through his U.K. connections, Mike brought in some of the parts John needed. When John was looking for lifelines, Brooks and Adams in Birmingham, England, came up with the





right size in stock. A few years later, Mike realized this distribution gap represented a business opportunity. He became partners in a wholesale importing business, and Bosun's Locker retail store was born in Victoria. It still does business in its Johnson Street location almost 50 years later.

Replacing the Dacron sails that have weathered some 30 years of bluewater cruising remains the largest outstanding task to complete *Trekka's* outfitting. The schedule depends on the availability of time, money, and fabric. Carol Hasse's Port Townsend loft will build the new sails in collabo-



John Guzzwell

II n an age of specialists, John Guzzwell is super-competent all around," says Victoria Classic Boat Festival chairman John West. "He is a fine boatbuilder, superb joiner, and a skilled rigger." As a young man, John used his woodworking skills as a ticket to translate his dream of adventure into reality. After he sold Trekka in 1961, he continued his nomadic maritime lifestyle. For more than four decades, he has built and restored boats for clients in Hawaii, Fiji, New York, and Washington state.

After her sale, John lost no time in replacing Trekka with another Lau-

rent Giles design. He went to England where he planked the 45-foot Treasure with rock elm, then sailed her to the South Pacific in 1965. But his seaworthy cutter's 52-day transit from Los Angeles to Osaka, Japan, in the 1994 Pan-Pacific Yacht Race proved that she was not a competitive ocean racer. This slow performance inspired John to design and then build his third wooden boat.

"She was what I could afford" is how he describes Endangered Species, a half-size version of a 60-foot solo BOC Challenge around-the-world French yacht. Invest-



ing almost three years and 3,000 hours of spare time, John built the 30-foot cold-molded racer, constructing her hull with five layers of 1/8-inch old-growth Sitka spruce. Her 10-foot beam carries a long way aft ending in a 9-foot transom, which he says is "quite a lot for a 30-footer."

Between 1998 and 2003, John campaigned Species, as he calls her, in major ocean races like the singlehanded Transpac from Los Angeles to Hawaii, the biennial Cadillac Van Isle 360 around Vancouver Island, and Victoria's annual Swiftsure International Yacht Race.

Now based in Washington state, John still relies on his trusted tools to craft wooden works of art for clients and to maintain Treasure and Species. The intrepid mariner points out the common element in his twin passions of singlehanded boatbuilding and singlehanded sailing: "There is a great feeling of accomplishment putting a boat together by yourself, without help," says the man whose four-year solo circumnavigation in the late 1950s inspired several generations of admirers - including Larry Pardey — to pursue their own seafaring dreams.



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ration with international sailmaking consultant Sandy Goodall, both of whom will rely on input from John.

The Maritime Museum of British Columbia has designated Sandy as the official skipper of Trekka and another artifact awaiting restoration: the 1896 cutter, Dorothy. John's book, Trekka Round the World, served as an inspiration for Sandy, who says, "Sailing her was almost too good to be true." He calls the book "the stuff of dreams that makes you want to get your own boat and sail into the sunset."

For further reading

This is a true voyaging classic. As a very young man, John Guzzwell built Trekka and set off around the world. En route. he sailed with the legendary Miles and Bervl Smeeton on



their disastrous first attempt to round Cape Horn. This book is available at <http://www.goodoldboat.com/bookshelf. html> or by calling 763-420-8923.

The Longer You Live WITH A BOAT, THE MORE YOU TRY TO make things easier for yourself. Certainly the goal is a well-functioning boat that is seaworthy and safe. But making it easier for the sailors who are aboard is why we also add self-tailing winches, roller furling, and electronic navigational aids. In addition to preparing our boat for long-term cruising, the concept of making things easier was another factor in many of the changes we made to our Columbia 10.7. By going through different phases, sometimes these changes occurred more as an evolution. No other system on board has seen this concept of evolution more than our management of sails.

Initially, the mainsail was sheeted on the aft end of the boom, with a traveler on the bridge, right in front of the companionway. One of the first things we did was to change to mid-boom sheeting with a custom-made traveler installed on the coachroof. The groove in the bridge was glassed in. We added an optional four-part tackle to be attached to the boom end to flatten the sail when needed.

We always felt the boom was undersized and early on had it reinforced with a large bar of aluminum on the underside. In hindsight, we probably should have replaced it with a stronger boom because it collapsed when we were caught in a squall on the Caicos Bank going into Providenciales. We were lucky to get it repaired there by having it cut in half and welding in an aluminum sleeve that has held ever since.

When it came time to buy a new mainsail, we decided to go with full battens and a roach that goes out to the backstay. As the current literature indicated, the increased roach did not make us heel over more but gave a much stronger draw on the sail. Our next mainsail will probably have an even larger roach. With the full battens, we tried a number of lazy-jack systems. These didn't work well for us because we had to point directly into the wind to raise or lower the mainsail, something we are prone to cheat on. We finally settled on the Dutchman, a system with two plastic lines strung through the main. When lowered, the main folds up like an accordion, never touching the deck, and we can raise and lower it moderately off the wind.

Sail inventory

Our mainsail has slab, or jiffy, reefing with three sets of reefing points. Fortunately, we have never had to use the third set. We also added a trysail with an extra track on the mast, but we never had to use it, as the main reefs were always sufficient. After many years we removed the topping lift and put in a Garhauer compression strut.

We also added two optional vangs with two-part tackles, one on each side. A snaphook attaches to an anchor on a pulpit stanchion. The other end of the tackle is permanently attached to the toerail with the tackle line running back to the cockpit. To use it, we detach the snaphook from the stanchion and hook it on to one of the boom bails. We use these vangs to control the boom in jibes or when sailing downwind wing-and-wing.

The headsail evolution aboard our boat was even more pronounced. Initially we had a custom-made double-forestay system with a 150-percent genoa on a roller furler to starboard. Our second jib was a 115-percent lapper hanked on the second forestay and stored to port in a deck bag. We had a set of reef points put in this sail but didn't use them all that often since we found it was easier to just reef the main. When the time came to replace the lapper, we chose a blade that has a smaller foot and carries the sail area more vertically.

Cruisin evolutio

Scores of continual little changes make life easier

by Bonnie Dahl

Ron and Bonnie Dahl found that the trade winds of the Caribbean were too much for their cruising spinnaker, so they took it off the boat during their travels in these waters.

For downwind sailing we had a ³/₄-ounce spinnaker that was also stored in a deck bag to starboard. A spinnaker sock was added to make it easier to set and lower the sail. Although this was a fun sail for those lazy days in the Great Lakes, we used it only once in the Caribbean. It seemed we were always hard on the wind in the strong Caribbean trade winds. When we were finally going downwind, the wind was just too strong to carry the spinnaker. We ended up taking it home when we went back one Christmas.

Moveable jackstay

For heavy-weather sailing we had a moveable jackstay that was stored against the mast. It could be moved forward when needed. A staysail was stored in the cockpit locker that was then brought forward and hanked on the jackstay. We also added running backstays that could be set when using the staysail. With a single- or double-reefed main, this sail combination was dynamite, especially when close-hauled.

When the old genoa wore out, we purchased a reefable sail with built-in luff pads. Unfortunately, this made it too easy to use the genoa in a variety of conditions so we left our other sails neatly stowed away. When we got to Grenada one of the first things we did (along with sailors on four











When it's aboard, the cruising spinnaker lives on deck in a bag, top photo. Headsails don't take up space in the cockpit locker or belowdecks. The washdown pump, in next two photos, has been a blessing. The cockpit is shown in the next photo with its Bimini, solar panels, and some of the safety gear. Even the hatches got sun covers of their own, bottom photo.

other boats) was to order a furler for the staysail. This addition was done mainly for sail management; we really don't sail the boat as a cutter because the headsails aren't clewed high enough. However, with the staysail in place ready to go, we find that we use the sail more often, especially when hard on the wind. This is because the sail track is mounted well inboard on the cabintop and the staysail can be sheeted very flat. The downside of this system is that when tacking the genoa in light air, we need to roll it up a bit to get it through the slot.

We still weren't using the blade as much as we liked, so a year later we added another furler for this sail. We were still able to use the side-by-side system for both furlers by staggering the drums so the blade-furler drum is positioned a little above the genoafurler drum. They are far enough apart that one sail rarely binds on the furler of the other. With our three headsails all on furlers it is easy to change from one sail to another, an advantage we especially like on night passages.

Deck hardware

For years we had two telescoping downwind poles stored on the deck in chocks. Because they were unwieldy to handle, we moved them to the mast on tracks. Now they are fairly easy to set since the sliding end attached to the track bears much of the burden. With two headsails on furlers and the ease of setting the poles to each side, we have used them simultaneously when going downwind wing-and-wing. The furlers and poles make it easy to balance the rig as needed when wind conditions change.

To make it easier on ourselves, we also changed our primary winches to self-tailing winches. We added a number of winches as well: one on the cabintop for reefing the main, two winches under the dodger for controlling the staysail or mainsheet, and two additional cockpit winches for controlling the spinnaker tack or a second headsail. Custom-made turning blocks were built that could simultaneously deliver the sheets from two different headsails.

Originally the Columbia 10.7 came with a couple of different sizes of rigging. To standardize, we changed all rigging to ⁵/16-inch-diameter wire. We also changed all ends to Sta-Lok terminals. With all the rigging the same, we only need to carry spare wire for the longest stay in case we have to make a repair where rigging wire isn't available.

Anchoring gear

When it comes to anchoring, there is a lot of diversity. Our own system evolved over time. Initially we had one 35-pound CQR as our primary bow anchor. In a few years we added a second CQR and made a new stainless-steel anchor platform with two bow rollers. After a few more years we traded one of the CQRs for a 33-pound Bruce. Years later the second CQR was traded for a Delta plow. The Delta is similar to the CQR but comes with a non-moveable shank and is a very fast-setting anchor. Although we favored the Delta for many years, the Bruce gradually became our anchor of choice for most situations. When we left for extended cruising, we carried a spare CQR down below in case we lost one of our primaries.

There was also an evolution in the type of anchor rode we used. In our Great Lakes days we proudly boasted of 50 feet of chain and 200 feet of 5%-inch nylon rode for each anchor. Both primary rodes were stowed in a divided anchor locker.

When we left to go south we increased the chain to 70 feet on each anchor, thinking that was more than enough. It only took riding out the remnants of a couple of hurricanes and dragging in the Chesapeake to convince us that we needed more chain. We quickly switched to 140 feet of 5/16-inch Hi-test chain and 150 feet of 5/16-inch nylon for each of our primaries. For most anchoring situations this means we are essentially anchoring on all-chain. It was a nice surprise to real-

ize that we didn't have to carry 300-feet of chain on each anchor to be "anchoring on all-chain." With all-chain, we could no longer tie off the rode on a cleat so we added a chain stopper to protect the windlass and a snubber to keep the chain from jerking with boat movement. When we were in Venezuela we had all the chain re-galvanized at an incredibly low cost. This added a number of years to the chain's life.

Electric windlass

For years we retrieved the primaries by hand. Then we tried a mechanical windlass with a 3-foot lever. However, it seemed to take forever to bring up anchor and rode. Thus, we changed to an electric Simpson-Lawrence vertical windlass with a chain gypsy. Our final addition to the chain locker was a washdown pump, another system that serves double duty. With different sizes of hoses, we can also wash down the whole boat. We even use this system with a hose equipped with filters for filling our water tanks when cruising in the crystal-clear waters of Lake Superior.

Our secondary anchors are stored on the stern pulpit. The first anchor we added was a 12-pound deep-set high-tensile Danforth with 6 feet of chain and 150 feet of 3/8-inch nylon. This anchor seems "to dive for China." Once it held a four-boat raft when the wind switched. The second anchor is an FX-37 Fortress with a detachable rode (12 feet of 3/8-inch chain and 150 feet of 5/8-inch nylon) stored in a bag in the cockpit locker. This anchor is particularly good for digging into sand and turtle grass and is dynamite when we bring it forward and put it on one of the 140-foot chain rodes.

To complete our anchoring arsenal, we carry a rode rider with two detachable weights: 15 and 25 pounds. These have been particularly useful in riding out the last vestiges of hurricanes on the East Coast. We also have a couple of floats with trip lines for use in areas known to have underwater debris. In addition to the cockpit anchor light, our masthead anchor light is connected to sensors so it will turn on and off automatically at dusk and dawn.

Cooking and refrigeration

In spite of having two large vented propane tanks in the stern, our boat came with an alcohol stove. Another The two-burner stove is adequate for most meals, particularly when pressure cooking is involved, since the pressure cooker doesn't need to sit on a burner all the time, top photo. The cooling blast from a little Helo fan can be aimed into the galley or the main cabin, second photo. Galley stowage using Tupperware and plastic, next two photos. Chart storage underneath the settee backs, bottom photo. Shelves for canned goods are also situated behind the settee backs.

early change was to install a propane stove. With a smallish U-shaped galley, we chose a two-burner stove. Rare is the time we need a third burner because we do a lot of cooking with a pressure cooker, which can be set aside. The two-burner stove has served us so well that when the time came to replace it, we installed another. The oven can hold a 9 x 12-inch cake pan and can even bake a small turkey. An added benefit of its smaller size is that we use less propane.

One of the most important additions that has influenced our cruising and given us the independence we like is the installation of engine-driven refrigeration, particularly a large (3-cubic-foot) freezer. Suspecting insufficient insulation in the original icebox, we completely removed the original box right to the hull. Because we wanted 80 percent freezer and 20 percent refrigerator, a new divided box was built that included 4 inches of closed-cell insulation backed with foil. We made our own holding plates (three) using stainless-steel hospital pans inserted with coiled copper tubing and then sealed off on the back with a welded stainless-steel plate. These were placed in the freezer with a spillover hole to the refrigerator.

We chose engine-driven refrigeration, rather than electric refrigeration, because we didn't want to be dependent on our ship's batteries at anchor and we are rarely in a marina for shorepower. This proved to be a good choice for us, particularly during the years we were in the Caribbean, as running the engine twice a day during those long periods of anchoring was also good for the diesel. In the tropics we saw many sailors with electric refrigerators who had to resort to large



















The light blue Bimini lining reduces heat, top photo. The top photo also shows aft bows attached to the stern pulpit, the outboard motor lock, and other safety gear. Next photo shows the Bimini with side wings. The rain hood, in third photo, also made a big difference by allowing for ventilation during rainstorms at anchor. Dahlfin stays as cool as is possible in Grenada with all the suncovers employed, bottom photo. solar panels and wind generators in addition to running their engines twice a day. By building our own refrigeration we have been able to service the system ourselves most of the time. The downside of engine-driven refrigeration is that we have had to empty the freezer during the few times we've been up on the hard or have left the boat in a marina to go traveling.

Electronics and power

One of our hardest decisions was whether to get a windvane, autopilot, or both. An important factor was having the dinghy on davits. This made installing a windvane difficult. Another was that we wanted a reliable self-steering system for all conditions — even in light air and when we were motoring. After much research we decided that a robust belowdecks autopilot was better suited to all our hand-held radios that were especially useful when traversing congested waterways. Just before we left on our first trip to the Bahamas and Caribbean, we installed a single-sideband radio for long-distance communication. We used 2-inch copper ribbon laid next to the hull for a ground plane. The backstay served as the antenna with the addition of two insulators.

Running power tools

We added a 1,000-watt inverter to provide power for a computer and printer. It is also very useful when we need to run power tools at anchor.

The power supply necessary to meet all our electrical needs also went through years of evolution. In the early years just running reading lights at night was enough to put a serious dent in our ship's power bank. After much trial and error, we ended up with a

It's hard to believe that when we first started sailing all we had was a compass and depth sounder.

needs. Our system consists of three components: a control head, fluxgate compass, and upgraded ram that delivers increased power to the rudder. This system became so important to us that we bought another complete autopilot as backup with interchangeable parts.

It's hard to believe that when we first started sailing all we had was a compass and depth sounder. We can even remember when Loran-C first came on the market. Thus we went through yet another evolution of Loran-C, SatNav, and now a couple of generations of GPS. We also added radar, which we finally had to replace when we were in Isla Margarita, Venezuela. Before we went on our last trip to the Bahamas in 2003, we installed a 10inch color electronic chart plotter. We cannot say enough about this new addition. With charts from Lake Superior to the Bahamas, we found the chart plotter especially helpful in the tight areas of the Intracoastal Waterway.

VHF radios are standard on most boats today. Yet, when we first started sailing, many considered them to be an unnecessary luxury. To complement our main radio we added two three-bank system: two banks of two house batteries each (105-amp flooded deep cycle) and a fifth separate battery dedicated to starting the engine.

We also mounted two solar panels on the outboard side of each davit. Our reasoning for going with two smaller panels was to reduce our loss if one got damaged. We have found over the years that this is not a problem and, with the newer, more efficient panels made today, we would probably go with one large one on each side if we were to do it over. We have to admit that running the engine twice a day to charge refrigeration is a decided advantage in keeping up our boat's power supply.

Our Columbia came with a Yanmar 2QM20 engine. With only 22.5 horsepower, we felt the boat was underpowered, especially as we continued to add weight to the boat. When it came time to purchase a new engine, we upgraded to the Yanmar 3GM30F, which has 27 horsepower. Years later, when a wet/dry compression test revealed that the rings had gone bad, we decided to get a third engine rather than have the Yanmar 3GM30F pulled and torn down — a very elaborate and costly repair. At this time we considered an even larger engine, one of the Yanmar HM series with 36 horsepower.

Our experiences with tides and currents had shown us that a larger engine would be very helpful, but it wouldn't fit without extensive modifications. The domino effects of all the modifications we would have to make to put in a larger engine were too much, and we purchased another 27-hp Yanmar. Yes, there are times we would like to have more horsepower, yet we continue to enjoy the fuel frugality of the smaller engine.

Heat management

Cruising in the cold waters of Lake Superior, we needed heat, especially on night passages. This was another evolution. We ended up going through five cabin heaters before we settled on the Wallas, which is made in Sweden. This is a forced-air system that we installed in the forecabin and vented though the hanging locker to the main cabin. Even outside the Great Lakes, we used this heater when cruising in early spring and late fall.

On the other side of the coin, keeping cool provided us with one of our biggest challenges when we were in the south. We learned that the heat in the Bahamas and Eastern Caribbean is nothing compared to the heat in South America: Trinidad, mainland Venezuela, and the offshore islands. Not only were the heat and humidity debilitating, but also the ultraviolet light at those latitudes was quite destructive on plastics, fabrics, and people. Our Bimini became an essential piece of cruising gear.

We had read that keeping airflow through the boat was extremely important. With this in mind, we purposely built the Bimini to overlap the dodger and to be about 10 inches higher than the dodger to allow for airflow. With the idea of preventing heat absorption, we avoided dark fabrics and had ours made of Weblon, a white plastic fabric with a light blue underlining. Reading had told us that the light blue color would reduce the harsh glare reflected off the water. We were able to use shortened back bows by mounting them on the stern pulpit. The front bows were installed on a track so the Bimini could be collapsed and slid forward to be stowed in front of the dodger. This feature was particularly

helpful in hurricane preparation.

Since the sun is directly overhead for just a short time, its pervasive rays would often stream in under the Bimini. At first we tried to solve this problem by hanging up large beach towels on the offending side. But the real solution came with canvas twist fasteners. With these, we were able to add wings that are held out to each side with struts and shock cord. This system worked so well that we had a set of clear plastic side curtains made for each side with bottoms that hook onto the toerail. These were particularly useful when we were hit by a cold beam wind or rain.

Deck cover

We had a large deck cover made for aft of the mast and overlapping the dodger. It was constructed with side flaps and set high enough to allow for airflow. But since it was quite an undertaking to hoist, we only used it for those times of long-term anchoring. We had another deck cover made for forward of the mast, but this one never worked all that well, and we gave it away. An adjustable rainhood over the forward hatch worked better for us, especially in the rainy season.

To protect the plastic hatches and winches, we had covers made of Sunbrella. Likewise, we protected the life raft with a Weblon cover. We ended up buying a new dinghy in Trinidad. To protect the dinghy fabric from ultraviolet deterioration, we also had a cover made of Sunbrella for it.

We tried a wind scoop for the forward hatch to get air down below. But that didn't work very well, and we gave it away as well. Instead, we resorted to Hella Turbo fans in the cabin: two in the forecabin and one each for the galley and nav station. These latter two have the advantage of double duty: they can be turned and directed into the main cabin. The fans draw little power (200 milliamps), and we almost always had one or two on when down below. They were so important that we carried two more as spares.

Never finished

It is interesting that in solving boat problems there are so many choices. It would be pretentious to suggest that ours are the only solutions. Through the years, by the process of trial and error and learning from our mistakes, our boat has evolved into one that is very comfortable for us and our type of cruising. Now, after 27 years and over 50,000 miles, we are still on the Columbia we bought in 1978. In addition to annual maintenance, we are still making improvements to *Dahlfin II*, our home on the water. Just this year alone we pulled the mast for repainting and changing hardware, upgraded our cabin heater to a new Wallas, and installed a new custom-made stainless-steel traveler. In spite of the joy we get from working on our boat, we are well aware that there comes a point when it's just time to "go cruising."

(Part 2 of a two-part series. Part 1 appeared in July 2006.)

The Dahls added louvered lockers in the forecabin to improve airflow inside stowage compartments, top photo. A view of the main cabin, center photo. *Dahlfin II* at haulout, bottom photo, showing the unique keel configuration of the Columbia 10.7. Ron and Bonnie say this elongated keel, not quite a fin keel, with a skeg provides excellent tracking.





Wo MONTHS AGO MY HUSBAND AND I brought our daughter home to our 30-foot sailboat. We live aboard a 1965 Alberg 30 sloop, which we recently sailed from Boston to the Florida Keys. While doing a few cruising upgrades in Marathon, Florida solar panels, ham radio — we found ourselves pregnant and settled down temporarily, found work, and began preparing for our baby's birth.

The Alberg 30 is a classic design with beautiful lines and long overhangs. The boat is cruised all over the world; in fact, there were five in Marathon Harbor at one time last year, all of us cruising on Alberg 30s. The same boats are raced extensively in Ontario, where the design was originally produced, and in the Chesapeake Bay. Living space, due to the narrow beam, is very limited. The boat is 8 feet 9 inches at its widest point and, unlike the modern cruisers, does not carry that width far forward or aft. The in-

Two babies,

Two families choose Alberg 30s

terior is typical of strippeddown sailing accommodations — two settees, a small galley, head, hanging locker, and forepeak. The basics. Nothing more.

With our space in mind, we warned our families that anything not deemed absolutely necessary for baby-tending would not have a home on our boat. Sophia sleeps in the forepeak with us in her own corner berth with a new mattress and crib sheet. We awake every morning to see her gazing at the forward hatch. She is, like most babies, obsessed with sunlight... sunlight hitting the curtains, playing tricks with the awning fabric, streaming in the portlights. What better place in the world to have sunlight at her disposal than aboard our boat?

Her best perch is a bouncy chair that sits on a settee. From there, propped up and engaged, she can watch us cook, dance, clean, and play. The breeze blows through her mobile, which hangs from the overhead. Her other gear includes a baby swing of the outdoor variety, which we hang from the boom in the cockpit. She loves sitting there, under the awning, watching



the sun flicker off the water and reflect off the stainless steel. We fill a plastic baby bath with water and leave it on the stern to be warmed by the sun. After her bath, the water flows out the cockpit drains. Her car seat can be tied to a stanchion or a winch when we sail. Other than that, we exist with nothing more than simple baby clothes, a nursing pillow, and an extensive array of blankets, burp cloths, and rags (you can never have too many).

Parenting choices

Many of the parenting choices we made, choices that would have been the same regardless of our living situation, are perfect for boat life. Breastfeeding is miraculous — completely free and requires no refrigeration whatsoever. If only all cruising rations were so simple ...

We love sleeping with Sophia next to us. Night feedings are a matter of rolling over! We spend enormous amounts of time just being together in bed, watching the stars through the hatch, napping away weekend mornings. Sleeping together was a natural choice and has become one of our favorite aspects of parenting.

Who knows what the future will hold? We hope it will include a long cruise and many adventures. We imagine it will include homeschooling, at least for some period of time. We look forward to that. Cruising children are some of our favorite children. They tend to be adventurous, outgoing, independent, and responsible. If our daughter manages to nab just one of those qualities, we'll consider

Little Lochlan, above and in photos of toddler on facing page, began learning about boating at a very early age. His parents, Angie and Todd Redhead, moved aboard soon after he was born. Sophia, at left and in photos of infant on facing page, has never lived anywhere else but aboard an Alberg 30 with her parents, Ellen and John Landrum.


for living aboard

ourselves successful as parents. The money we save by living simply, keeping minimal bills (no house payment!), and buying only what we need (and will fit in our boat) allows us to work less, spend more time with our daughter, and eventually set off sailing.

Blog connections

During our trip south we started a blog, a website of stories and photos, to update family and friends on our travels at <http://www.ellenjohnand

rubicon.blogspot. com>. An unexpected bonus was the strangers who found their way to the blog. Soon we had connections all over the world. One of the most

meaningful of these was with another couple moving onto their Alberg 30, *Strathgowan*, in Ontario. Angie and Todd Redhead and their son, Lochlan, 6 months old at the time, would become even more important to us with the arrival of Sophia. We told ourselves that if they could manage with a very active baby boy, we could manage a newborn in our limited quarters.

Angie and Todd's choice to live



aboard was made before they had their son. Seeking to "declutter not only possessions but also life-

style," they sold their house, making them debt-free, and moved aboard last year. After wintering aboard with the baby, who is now 22 months old, there are no regrets. Says Angie, "There are things I miss, like a nice hot bath in the evenings whenever I wanted it and a craft/art room where I could leave all my work-in-process projects. Now

We hope our daughter will feel independent and confident enough to make any choice she sets her heart on ...

I have to pack everything away even if it's not finished to make way for dinner preparation, and so on. None of these things outweighs the benefits of living aboard though."

Angie and Todd agree with us that the ability to raise their son, full-time, is a huge benefit of being on the boat. Debt-free and simplified, their lifestyle gives them the freedom and the means to create a life focused on their family.



What does Angie hope Lochlan will take from his early years on the boat? "Freedom from being confined to 'the norm,' a sense of adventure and exploration, and a curiosity about the world outside of his four walls," she says.

Angie and Todd and Lochlan live aboard their sailboat on Lake Ontario. While Todd holds down a land-based

> career, Angie is a stayaboard mom who maintains her blog at: http://www.lifeaboard.ca.

And us? We've seen cruising kids leave their boats

and go on to become college students, bankers, teachers, and sailors themselves. We hope our daughter will feel independent and confident enough to make any choice she sets her heart on — be it a life in the mountains, an apartment in Hong Kong, a house on a quiet cul-de-sac. A sense of possibility and, as Angie says, freedom from confinement are perhaps the greatest gifts we could give our daughter.







Moonglow

The forgotten magic of our heavenly satellite

by Henry Cordova

There is no dark side of the moon, really. Matter of fact, it's all dark. — Pink Floyd

The NEXT TIME THERE'S A NEW MOON, go out and look for it. You won't see it. In fact, the only way you'll know the moon is new is because you looked it up in a calendar or almanac. But go out and look for it anyway: face west right after sunset and you can be assured it is somewhere very close to the sun, either about to set or perhaps already below the horizon.

The new moon is invisible because the side of the moon that is illuminated by the sun faces the sun, away from you. When you're thinking about the moon it's important to remember that, just like the earth or any other world of the solar system, it is always half-lit by the sun. It has a day and a night just like we do.

When the moon is new, we are looking at its night side. An observer on the moon looking back at us would see a "full earth," a dazzling bright blue-andwhite globe dominating all of heaven.

The reason the moon looks differ-

ent from night to night is that it has phases. This is because we view it from different angles as it circles the earth in its orbit. Its phases are the result of its and our relationship to the sun and the changing geometry of star, planet, and satellite. Yet the way we experience this relationship and its subtle connections to our own lives, to wildlife, and to the ocean tides touches us in a purely visual fashion.

The monthly lunar cycle has a profound influence on our natural world and, until very recently, it had a profound influence on us too. Before the advent of electric lighting, everyone knew all the time, instinctively, what the phase of the moon was: where it would appear in the sky at any given hour and how much light would be available for nocturnal activities, when, and for how long. Our ancestors used it for illumination, to tell direction and time, to divide the year, and to help plan the long evenings of their lives.

First sighting

Nomads in the Ice Age carved the first sighting of each waxing moon on a stick they always carried with them, counting the months until spring. It's not surprising that a great deal of superstition and myth also grew up around the moon, but from a purely practical point of view it was essential to understand it and its appearance in the sky if you were going to spend time out of doors. That's why, until very recently, the lunar phases were printed on every household calendar. This was vital information, an essential part of the weather report. To our ancestors, and to mariners as well, a knowledge of the moon was instinctive and automatic.

Go out at sunset a night or two later and look again. The moon is just visible now as a thin crescent, still very near the sun and following it to set shortly afterward in the west. The ancients marked the beginning of the month with the first sighting of the crescent moon. Some sects of Judaism and Islam do so to this day, and religious functionaries are appointed to look for this event and announce it to the faithful. As the moon circles earth, the angle between it and the sun increases so we are gradually able to see more and more of the sunlit half.

We say the moon is now one or two days old, that age being a measure of where it is on its monthly voyage around our planet. It takes our satellite about 27¹/₃ days to go completely around the earth, what astronomers call a sidereal month. This is the time it takes for the moon to circle earth. relative to the distant fixed stars. But during that time the earth is also traveling on its own orbit about the sun. For the moon to be new again, it must go a little farther and longer to repeat the alignment. We call the time between new moons a synodic month, or about 291/2 days.

Takes a full year

As the earth circles the sun, the sun appears to slowly travel among the fixed stars, taking a full year to creep slowly around the bowl of night to return to its original position. The moon orbits the earth, taking about a month to circle our planet. Both of these motions are obscured by the earth's rotation on its axis, once each 24 hours. We hardly notice it today. But to our ancestors, who had clear dark skies and plenty of free time at

14 days

10 davs

An observer on the moon looking back at us would see a 'full earth,' a dazzling bright blue-and-white globe dominating all of heaven.

night, these interlocking cycles were a part of daily life.

The sun's yearly journey east (about a degree per day) manifested itself by the stars seeming to rise just a little earlier each night and the fact that different stars were visible in different seasons.

The moon travels east as well but not as slowly. If you carefully note its position relative to the stars, you can actually see it moving among them at about 13 degrees per day, or about its own width in an hour. But these gradual motions are difficult for the casual observer to perceive because they are overwhelmed by the earth's daily rotation from west to east, causing the entire celestial sphere to roll from east to west in just a day, carrying moon, sun, and stars along with it.

If it's still clear the following night, look west again. The lunar crescent will be wider as more of the sunlit side is turned to our view. The moon is farther from the sun now in a darker part of the sky and, if you look carefully, you can sometimes see the ghostly image of the dark part, barely visible, framed by the gleaming

crescent. This phenomenon is often referred to as "the new moon in the old moon's arms." The source of this dim apparition is the earth itself. Sunlight reflected from the earth's cloud tops and polar caps bathe the lunar night with enough glare that we can see it from earth.

Much brighter

An astronaut standing on the dark side of the moon would see an almostfull earth brightly shining on the gray rocks about him, much brighter than any moonlit earthscape. We can't see this glow at the time of a new moon because the moon is too close to the sun and the surrounding sky is not dark enough to provide the needed contrast. But when the moon is one, two, or three days old, depending on conditions, sometimes you can catch a glimpse of it. On good nights you can even make out features on the lunar surface, dimly lit by earthshine.

There are seven days in a week, about four weeks in a month. If you look at the moon when it's a week old, it will be about 90 degrees from the sun, about due south at sunset (for Northern Hemisphere observers). The moon is now far enough

The waxing moon at sunset, lunar age in days.

E

View facing south, for a northern hemisphere observer.

W

from the sun that it appears half illuminated, so we see a half moon, a semicircle of light pointing at the sun.

Control The sailor with a sextant can shoot fixes all morning. The lit side is facing east now toward the sun.

position in the sky was related to its phase allowed it to be used for timekeeping. In daylight, a look at

Because of the angles, the half moon will rise about noon and be easily visible all afternoon - yes, you can see the moon in broad daylight - as it follows the sun across the sky. The moon will be at its high point at sunset; it will set around midnight.

Although a half moon is visible, this phase is called first quarter because you are now one week, or one quarter, into the lunar month. This terminology invariably causes confusion, so beware. That the moon can be seen during daylight hours is of particular importance to celestial navigators since they can derive two lines of position and a valid fix. What's more, they have plenty of time to do it, not just the few minutes around twilight. At first quarter, conditions are ideal, the lines of position will cross at right angles, and observations can be made all afternoon long, as long as moon, sun, and horizon are simultaneously visible. A similar configuration will occur another fortnight later, at the third quarter.

More illuminated

As the moon moves farther from the

day our daily bread"). At full moon, about two weeks, or 14 days, into the lunar month, the sun and moon are on opposite sides of the sky, and the lunar disc is now fully illuminated. The moon rises at sunset and is visible all night until it sets at daybreak.

Incidentally, when the moon is full it is possible for there to be a lunar eclipse if the sun, earth, and moon are in a straight line and the moon can cross into the earth's shadow. Likewise, at new moon a solar eclipse can occur when the sun is blotted out by the moon. However, the moon's path around the sky is inclined about 5 degrees to the sun's (the ecliptic) so usually the lineup is not perfect as the moon or its shadow passes just above or below the alignment point. Eclipses are rare enough that they took even our sky-savvy forebears by surprise, although all the early civilizations soon developed the astronomer-priests necessary to accurately predict them.

Before the introduction of timepieces, a knowledge of how the moon's

the sun will give you a good idea of the time, but at night the problem is more complicated. Our ancestors could simply glance at the moon and, knowing its phase and position, could easily tell how many hours were left before daylight. Being able to tell time, even to the nearest hour, was essential for mariners to do even the roughest dead reckoning after dark. They could also derive some compass direction from these observations on those nights when stars were obscured by haze or twilight.

Essential knowledge

It is not that important today to have these skills, but to the early sailor or hunter it was essential knowledge. Even today, once aware of these celestial geometries, they quickly become a part of your instinctive navigational equipment. When I'm in a position where I cannot see the sky or when it is overcast, I become disoriented and uncomfortable. (I often wonder how I would react in the Southern Hemisphere, where I've never traveled and where everything in the sky is upside down. For example, in southern temperate latitudes, both sun and moon are primarily in the northern half of the sky. I'm sure you'd get used to it, but it must be disconcerting at first.) After full moon, the 18 days moon's



visible shape begins to wane (diminish in size). The moon goes through its gibbous, half moon, and crescent phases in reverse. The positions of the waxing moon are also reversed: when the moon is three weeks old, at third quarter, the half moon rises at midnight, is overhead at sunrise, and sets at noon. The sailor with a sextant can shoot fixes all morning. The lit side is facing east now toward the sun. The waning crescent rises just ahead of the sun, an unfamiliar sight to us now because we rarely get up that early any more ... unless we are sailors.

It may be helpful to learn these lunar relationships by imagining how the earth would appear to an observer on the moon throughout the lunar month. The moon's rotation is gravitationally locked to the earth. That is, the moon always turns to keep the same hemisphere facing us. (There is a slight wobble, but it is not very significant.) That's why we never see the back side of the moon. To a lunar observer, the earth would always be in the same part of the sky; it would move only slightly and never stray too far from its position. At new moon, the earth would be full, with glorious navy-blue seas, blinding white clouds and icecaps, and dimly visible brown and green land masses with pastel coastlines.

Remained stationary

As the synodic month progressed, the earth would remain stationary, but it would go through all the phases. At full moon the earth would be new, a black hole in the stars next to the sun. During a lunar eclipse the lunar observer would see the new earth eclipse the sun. During a solar eclipse, the lunar shadow would sweep across the full earth. The sun would creep across the sky in a month, not a day.

For the cruising sailor, the position of the sun and moon gives an indication of the latitude. The sun never strays more than 23½ degrees from the equator, and the moon is never more than about 5 degrees north or south of the sun's path. The result is that in the Northern Hemisphere lunar and solar activity are always in the southern part of the sky. This effect becomes more obvious the farther north you travel. The opposite occurs in the Southern Hemisphere. In the tropics, sun and moon spend a lot of time very high in the sky, often passing directly overhead.

I've often wondered how the ancient Polynesian voyagers interpreted this; they were very familiar with the sky and employed a sophisticated system of celestial navigation. They also traveled great distances across the equator, from New Zealand to the Hawaiian archipelago. They would have known both the Big Dipper and the Southern Cross and the constellations about both celestial poles. They must have noticed the celestial sphere slowly rocking over their heads as they sailed north and south. Perhaps the oldest and wisest even guessed the truth, that the earth was not an endless flat lake dotted with tiny islands to infinity. Perhaps a few of them, in a flash of insight on some long watch a thousand years ago, realized the world is round and even got a feeling for how big it is.

There will be a direct link from those ancient mariners to you when you are able to go out at sunset and look at where you know the new moon to be... without having to look it up in the almanac first.

Square Drive Silicon Bronze Boat Building Screws

Traditional Cut Thread Silicon Bronze screws have a significant advantage over the more common rolled thread screws, as most boat builders know. The full body diameter shank helps create an important seal as the wood swells. Combine that advantage with a Square Drive recess, and you have a boatbuilding screw that is both easy to drive and effective as well. We stock 35 sizes, from $#6 \ge 1/2$ " to #14 x 3", all in Square Drive!





eature boat



The rewards make it all worthwhile, Continued from Page 7

I wasn't supposed to know how to do that yet. The hook was set right there."

It was an easy move from paddle to sail. "Learning the foreign language of sheets, blocks, halvards, and so on was an easy transition,' Walt says. "Much was intuitive. A number of things that are fairly useless skills seem to come together for a sailboat." He went looking for a Flying Scot and instead wound

up with a Catalina 22, which needed some help. He learned much about sailboats and fiberglass repairs courtesy of the Catalina, named No Alibis. His training with machine tools and his work in industrial maintenance chiefly as a millwright and industrial rigger didn't hurt either. In looking back over a varied career, Walt muses that he spent most of his working life fixing things that someone else broke. And that, he notes, fits right in with the demands of restoring a boat.

Janet was a horsewoman who figures she put in at least 12,000 miles on horseback and began tent camping in childhood. She loved the out-of-doors and discovered canoeing later in life, when she met Walt. "A friend invited me to a canoeing rendezvous. I had no canoe experience. But there's a buoyant feeling when you step aboard. I immediately adored it," she remembers. She was married at the time and considered Walt a friend who helped her find a couple of good canoes and visited with Janet and her husband when Walt was in town.

But Janet's husband succumbed to cancer, and Janet had a bout with breast cancer in the 1980s and a run-in with Hodgkin's disease in the 1990s. Some time after the death of her husband, Janet realized that when she talked to Walt, he was a ray of sunshine. "I realized that one of the few times I'd quit crying and laugh again instead was when Walt called," she says.

Together they took No Alibis deep into Everglades National Park. Walt had gotten quite hooked on this wild part of southern Florida, and Janet enjoyed the entire experience. "You won't see another human being for days. There are a million and a half acres. It was perfect for me," she recalls. She took to sailing in the same way: she is usually



the person on the tiller with Gilded Lily, while Walt tends to sheets and trim.

Because of her outdoor orientation, Janet says, "When we were looking for our larger sailboat, we didn't go looking for a 'Momma boat' with the comforts in the cabin built with Momma in mind. I accept that [more Spartan lifestyle] as the price of the glory our sailing place has to offer." Janet's natural way with words comes easily. Before retiring, she worked writing advertising copy. Later, she was chief financial officer for a corporation.

Gilding the lily

This leads us back around to choosing a name for Gilded Lily. Who better for the task than someone who writes ad copy? Still, it wasn't easy. Months went by. Walt says he was campaigning heavily for *Debtor's Prison*, for obvious reasons.

Janet picks up the thread: "We realized that when it comes to the boat one or the other of us can get manic about something. When that happens, we have to look each other in the eye and say, "It's a boat." (Strong emphasis on "boat," as in it's ONLY a *boat*... or it's JUST a *boat*, after all.)

Choosing that name was a reminder to us that boat units... can disappear in a hurry.

During the early months, she says, "as the list of what we wanted to do to this boat was growing, we added one more task that seemed to be the straw that would break the camel's back. I said, 'All we're doing here is gilding the lily!" Choosing that name was a reminder to us that boat units (\$100-chunks of money is their definition) can disappear in a hurry," Janet concludes. By the way, they named the dinghy Lilliput, of course.

It's a *boat*, they remind themselves. That may be so. But for Walt and Janet Gilded Lily is the boat. The end justifies the means. Jerry has said repeatedly that the value of a boat can be measured in the brightness of the crewmembers' smiles. If that is so, *Gilded Lily* is priceless.

The Ranger 28, Continued from Page 8

breeze pipes up. The Ranger 29 appears to have the numbers to be an excellent all-round performer as well.

A friendly couple could spend a week or two aboard the 28 in reasonable comfort, but it is not the ideal yacht for family cruising. A Sabre or Islander 28 would be more suitable and might be a sanity saver. However, the person who buys a sports car instead of a station wagon would enjoy the 28 for daysailing and weekending, even if he or she is not a serious competitor. There's nothing like the fun of sidling up to another yacht your size - and even larger - and blowing its socks off! Gary Mull's Ranger 28 is one of the few 30-year-old yachts its size that can give you that satisfaction. Try it; it really is a hoot!

Cruising memories

An old friend dies a sudden smoky death

by Victor Schreffler

N SPITE OF THE FORECAST, MEMORIAL Day dawned clear and bright. Faint whispers of clouds traced the western sky, suggesting potential afternoon storms, but the morning was perfect. Me and my babe, Becky . . . on our first sail of the season.

The old Volvo insisted on her morning shot of ether before reporting for duty but purred nicely while warming up. She's a good old girl, and we've

gotten to know each other quite well. Not that I was eager to pursue the relationship; her determined demands for attention slowly eroded my resolve. Our latest adventure involved tracing

an oil leak to a faulty pressure-sending unit. With this repaired, we were ready.

"Light and variable" was an unfortunately precise wind prediction, but I took comfort in knowing that every minute the motor ran would result in an improvement in the motor — or so the latest oil additive promised. You had to use it for 500 miles before experiencing the full benefit of this magic potion. I decided that would be the equivalent of eight hours for the diesel and kept waiting for the surge in power and decline in smoke. The motor really was running well.

A couple of miles out, just before passing Lake Michigan's Tawas Point Light, I noticed some new vibrations in the old engine. Probably tired places finally loosening up under my faithful ministrations. We chugged along at fairly steady from the southwest, and the autopilot was behaving admirably. Becky decided to stand her first watch. It was an exciting moment for both of us. I wasn't sure I'd be able to sleep.

ssage

An hour-and-a-half later, a glimpse through the companionway showed the clouds swinging back and forth beyond the opening. But nothing suggested forward motion. The gentle gurgle along the hull had also ceased.

We weren't moving. Time to fire up the iron genny. Zipping along at 6.5 knots we would reach Harrisville Harbor before 6 p.m. It's a great harbor that not only offers numerous transient slips but also some

Six miles to go, and I was getting used to the new vibrations. I'd just tightened one of the engine mounts ...Ka-chunk ...clunk. Then silence. And I knew.

> close to hull speed. We bore away to the east and then northeast on our way past Au Sable Point. I put up some sail and watched us top 7 knots. It was going to be a grand day. We killed the motor and basked in the glory of sailing.

Nap time

By mid-day I was feeling somewhat nappish. The winds were holding

really nice anchorages. The bottom's a bit weedy, but with a little patience you can tuck away nicely for the night.

Broken sunshine painted shades of emerald in the forest along the shoreline. We tried not to be embarrassed by the cloud of black smoke that bloomed in our wake. At least we recycle. Six miles to go, and I was *Continued on Page 69*

CABIN HEATERS 101 CVBIN HEVIEBS 101

Extend your time cruising ... in comfort

by Don Launer

EATING YOUR BOAT IN THE OFF-SEASONS MAKES SAILING more enjoyable and extends your time on the water. For any planned heater installation, three things must be considered: ventilation, insulation, and safety.

Moisture is constantly being produced in the cabin from breathing, condensation, cooking, and open flames. This moist warm air must be replaced with dry cool outside air, even though this seems counterproductive. Ventilation is necessary to reduce the moisture in the cabin and to maintain proper oxygen content in the cabin air. Also, since any flame from either a stove or a heater can be potentially lethal, a carbon monoxide monitor is mandatory.

Insulation is important, not only for heat conservation, but also since a well-insulated boat will produce less condensation.

A heater kit uses the engine's hot-water coolant as a heat source.

Types of heaters

Hydronic heaters – While motoring, your engine is an excellent source of heat. Using an automobile-type heater with a blower (built to marine specifications) allows you to use the heated engine coolant to heat the cabin, just as with an automobile. These heaters are often marketed as *hydronic heaters*. When motoring on a cold day, the "free" heat that is normally wasted helps makes the cabin snug and cozy with 28,000 to 40,000 Btu/hr available. Kits can be purchased for the conversion, which will also allow this heat to be ducted into separate cabins.

Electric heaters – If you are at a dock with adequate shorepower, an electric heater is very convenient. This can be either a portable heater or a bulkhead-mounted recessed heater that is hard-wired into the boat's shorepower system. This is convenient at the dock but doesn't solve the problem when you're out on the water, unless you have a very large generator.

Unvented kerosene or propane floor heaters – Any unvented open flame in the cabin produces huge

amounts of moisture and eats up oxygen, so this heating option requires a very large amount of ventilation (outside air). Coupled with the possibility that the heater could tip over, this choice is a poor one.

Bulkhead-mounted vented LPG heaters – A bulkhead-mounted vented liquefied petroleum gas (LPG) cabin heater provides a high heat output and a clean-

burning flame, with the only electric drain being the LPG shut-off solenoid and, in some cases, a small fan drawing less than twotenths of an amp. As with all LPG installations, American Boat and Yacht Council (ABYC) specifications must be followed in the installation and operation for safety reasons. All deck-vented installations require a "smokestack" on deck — a Charlie Nobel. This usually requires a compromise

between the ideal interior location for the cabin heater and the ideal deck location for a stack. About 3,000 to 11,500 Btu/hr can be expected.

A bulkheadmounted vented LPG heater provides a cleanburning flame.



Layout and illustrations by Ted Tollefson

Physically, this cabin heater resembles the bulkheadmounted kerosene or diesel heater.

Bulkhead-mounted vented kerosene or diesel heaters – This is a common heating system aboard sailboats. It requires no electricity, the moisture it creates is vented outside, it burns easily available fuel, and it is not complicated to maintain or repair. However, pre-heating is necessary when lighting the heater. On sailboats, the deck location for the stack is very important. It must be positioned so that it doesn't interfere with deck work and is not subject to backdrafts from a dodger or other deck gear.

Ducted gasoline/kerosene/diesel/LPG forced-air heaters – A ducted forced-air heater has the advantage of being able to supply heat to several cabins. It does not use the cabin air for combustion but is otherwise

very similar to a home's oil-burner furnace. Since this type of heater requires a powerful fan and a fuel pump, as well as a glow plug for ignition, this installation has a relatively high current drain. This type of heater is available for gasoline, kerosene, diesel, or LPG fuel.

Fireplaces/stoves – These small, vented fireplaces burn solid fuel in the form of charcoal briquettes, coal, or wood. Although they have a special charm and produce a very dry heat, they have disadvantages: cleaning and disposal of ashes are difficult, and the vented smoke can stain the cabintop, sailcovers, and sails.

Alcohol heaters – These self-standing heaters are non-pressurized rustproof heaters that require no priming. Instead, an absorbent material is saturated with the alcohol fuel (which helps prevent spills). Heaters of this type can also double as single-burner

With no rigid mount, a portable alcohol heater can be used, with caution, when the boat is not underway.



stoves. The downsides are the alcohol aroma, the high price of the heating fuel, and the lack of venting.

Diesel ranges – Diesel cooking stoves are seldom seen on recreational sailboats, except on large boats operating in very cold climates, where the stoves double as cabin heaters. Diesel stoves, which are usually quite heavy, provide a very hot flame and, in a boat with a diesel engine, the fuel can be supplied from the engine's fuel tanks. Pre-heating the burner is necessary, and diesel stoves must be vented through a stack on deck, where the precautions of interfering with deck work and possible backdrafts must be contended with.



built and require a flue pipe. They double as cabin heaters and are especially practical in cold climates.

Aladdin lamp – The kerosene Aladdin lamp, which uses a fragile mantle, produces a bright light as well as a large amount of heat. In the evening, when both light and heat are required, very often the Aladdin lamp will supply both needs. Ventilation is required for this unvented flame, and heat is not available without the associated bright light.









festival o





wooden boats









by Chris Roberts



Adjusting your standing rigging

It's as important for cruisers as for racers

by Ted and Claudia Bowler

ow LONG HAVE WE BEEN SAILING? Twenty years? Thirty? How many different sailboats have we owned? Five? Ten? Had we ever tuned our rigging? Never! And yet, since sailboats depend so much on their masts, it's hard to believe that at no time had we touched our standing rigging.

We had numerous excuses, among them: "We're cruisers. We're not interested in racing." However, every time we were on the same course as another sailboat we continually gauged our relative speed, always trying to get every last fraction of a knot from our course and sail trim.

We also rationalized by saying: "If it ain't broke, don't fix it" and "We don't have enough money to pay a professional." We made all these excuses and more to avoid the confusing job of tuning the rigging on our boats.

After purchasing *Fiddler's Green*, a 28-foot Bristol Channel Cutter designed by Lyle Hess and built in 1977, we noticed she was not performing to our expectations. First, she would rarely reach theoretical hull speed. Theoretical hull speed in knots is 1.34



times the square root of the waterline length in feet. This mathematical expression predicts the maximum speed expected for a displacement hull. Our boat, with a waterline of 26.25 feet, has a theoretical hull speed of 6.9 knots. We regularly sailed at 6.0 to 6.4 knots but seldom went faster.

Second, our speeds on starboard tack and port tack varied. We knew these should be equal. Third, our boat had excessive weather helm. It was tiring after only a few hours of sailing in even moderate winds. And finally, our boat never seemed balanced. We were always fighting to develop a balance that was never achieved.

Knowledgeable people around the dock and professional riggers told us all these deficiencies could be caused by our standing rigging being out of tune. They told us mast rake is very important for boat balance, speed, and weather helm. Decreasing the aft rake of the mast (standing the mast more upright) would decrease weather helm. However, we didn't even know what the mast rake on our boat should be. Sailing was becoming a chore. We could not put it off any longer. We set about studying the art and science of rig tuning.

Since those days of "rigging ignorance," we have developed a step-bystep cookbook approach to tuning our

Horizontal spreaders or spreaders pointing downward are indications of problems (1). An inclinometer helps determine mast rake (2). A deck bracket allows some horizontal positioning of the mast base (3). Reposition gear to attain even trim (4).





standing rigging to make the process simple, understandable, inexpensive, and easy. Our regular tuning allows us to sail at or near hull speed, speed is equal on both tacks, weather helm is greatly reduced, and the boat is balanced, requiring much less effort to sail. Sailing pleasure is increased dramatically.

Standing rigging

The standing rigging consists of stays, shrouds, spreaders, tangs, chainplates, wires, terminals, and turnbuckles. The stays are mast-supporting wires that run fore and aft. The shrouds are mastsupporting wires that run athwartships. Spreaders separate shrouds to reduce compression loads on the mast. Tangs attach the wires to the mast, while chainplates attach the wires to the deck or hull. The attachments at the wire ends are called terminals. Turnbuckles allow fine adjustment of the tension in the standing rigging. Wires can be galvanized steel, stainless steel, or rod; 1 x 19 stainless-steel wire is the most common in use today.

Before you begin tuning your rig, it's best to know what's on your boat. Measure the diameter of the wires with a rigging-wire gauge or a caliper. If you can trace the history of your rigging, try to determine what alloy the wires are made from. The diameter and alloy will be important in determining the breaking strength of your wires, which, in turn, is a factor in how you tune your rig.

Mast-tuning objectives

There are three objectives to rig tuning. The first is to keep the mast straight (in column) and perpendicular to the deck under all points of sail. A second objective is to set the desired amount of fore-and-aft mast rake. The third objective is to pretension the rigging.

Contrary to popular belief, a loose rig is not good for a boat. If the rigging is too loose, it produces excessive shock wear and structural damage. On the other hand, if the rigging is too tight, it can overstress the hull and stretch wires. It may even cause fittings to fail.

The boat designer determines the amount of mast rake. It can range from 10 degrees in a classic boat to none at



all on some modern designs. Masthead rigs commonly rake the mast a half to a full degree aft; fractional rigs commonly will rake the mast 2 to 3 degrees aft. Extreme racing designs will exceed these norms. No designers rake the mast forward anymore, although this was done on some classics long ago. Sailmakers design their sails to account for the rake of a mast, and in some cases the sailmaker or owners' association may be able to tell you what is a good starting point for

equal angles with the wire above and below. A simple way to insure that the angles are equal is to fold a piece of paper at the correct angle above the spreader. Then rotate the paper to measure the lower angle. If possible, move the spreader up or down until the angles are equal. Some spreaders and spreader sockets are configured so the spreader angle cannot be adjusted. In these situations, it is probably better to accept the angle of the spreader that is built into the spar.

Sailing was becoming a chore. We could not put it off any longer. We set about studying the art and science of rig tuning.

your boat's mast rake. When the rig is properly set up, there should be a slight weather helm, so that if the wheel or tiller is let go, the boat will slowly head up into the wind. As the mast is raked farther aft, the boat will have increasing weather helm. If it is raked more forward, some weather helm is eliminated. There is a limit to what can be achieved with mast rake. Some designs simply have a lot of weather helm, particularly when excessively heeled, and raking the mast forward will not correct it completely.

Spreader angles are important, but it is not uncommon to see spreaders set up incorrectly. Horizontal spreaders or spreaders pointing downward will cause the boat to experience much higher rigging loads. Spreaders should bisect the shroud, making

Dock analysis

It is false economy to try to tune your rigging without a rigging tension gauge. Start by documenting exactly how your rig is currently set up and tensioned before making any changes. Record the tension of each wire and the rake of the spar.

Choose the right days

For the dockside part of the tuning process you need calm weather. Wind and chop increase the tension on the windward side of the rigging and cause rolling, making it difficult to determine the exact mast rake. The second part of the tuning process is done under sail. For that, a good stiff breeze is needed in a place where waves have not yet developed.

Each type of rig design is tuned



Center the mast base (5). Tighten or loosen turnbuckles one turn at a time (6).

somewhat differently. If we ignore ketches, yawls, and schooners, we still have four common single-mast rigs: the masthead sloop and cutter, and the fractional rig with or without running backstays. These vary further, depending on how many spreaders and how many lower shrouds they have. We will focus mainly on the masthead rig because it is a more common cruising rig. There are seven parts to tuning most rigs:

- 1. Hand-tighten cap shrouds to make the mast vertical as viewed from ahead or astern.
- 2. Adjust mast rake with the forestay and backstay.
- 3. Tension the cap shrouds to 15 percent of the wire's breaking load.
- 4. Set the mast pre-bend, if this is part of the rig design.
- 5. Check and adjust maximum mast bend.
- 6. Check and adjust the cap shrouds under sail.
- 7. Straighten the mast sideways while under sail by adjusting the lowers and intermediates, if there are any.

The process is slightly different for fractional rigs. There are two main types of fractional rigs. One uses running backstays and spreaders set perpendicular to the keel. For this rig, the second step involves setting mast rake with the forestay and the running backstays. The other kind of fractional rig uses aft-swept spreaders. In this case, set the mast rake with the forestay and backstay, but set the cap shrouds to 20 percent of breaking strength. This is needed to keep the forestay tight.

First trim the boat

To begin, insure that your boat is level. You will need to be on the shore or at a pier to trim your boat. There should be no list to port or starboard. Examine the fore-and-aft position. The boat should float on its lines. Return to the boat and use an inclinometer or level to verify that it is level. Sadly, boats are less symmetrical and uniform than you might think. Try several ways to determine level, perhaps placing a very flat plank across the seats or even using a level on the galley table. If the boat is not in trim and is listing one way or another, adjust the position of the gear and supplies on board to attain proper trim side-to-side and fore-and-aft.

Slacken mast attachments

Slacken all attachments including sheets, topping lifts, shrouds, and stays. There should be no tension on the mast. Support the boom or remove it. Now is a good time to lubricate the turnbuckles. Spray the threads with WD-40 and clean off all the corrosion. We find it easiest to clean the threads with a small stainless-steel wire brush. Place a rag on the deck to catch the over-spray. Once the fitting is clean and free of corrosion, apply a small amount of Teflon grease. We use an old toothbrush to get lubricant into all the small threaded areas. Remove all cotter pins, split rings, and seizing wire. Place a small piece of masking tape on one side of the turnbuckle to help you remember the exact position. Count the number of turns of the turnbuckle as you tighten or loosen each fitting. You can also define the adjustment of an open turnbuckle by measuring the span between the ends of the threaded studs.

Center the mast

Now check to see if the mast base is centered. Use a tape measure and measure from the outer edge of the mast to the inner edge of the chainplate, port and starboard. The distance should be equal. Our mast is mounted in a deck tabernacle, which is supported by a compression post extending to the keel. This bracket allows for some horizontal change in the position of the mast base. If your mast is keel-stepped, it might take some work to reposition the step, but you can easily adjust the way the mast is positioned as it passes through the deck. This is an important step. If the mast is off-center, the boat will be unbalanced.

Next, check to see if the mast top is centered. If you take the mainsail halyard and extend it to the inner edge of the port and starboard chainplate, the distance should be equal. If it is not equal in length, you will have to begin adjusting the upper shrouds, pulling the masthead into proper position. Slightly tighten and loosen each upper shroud until the distance measured by the halyard is equal. After each adjustment, sight up the mainsail track to insure the mast remains straight. Note: tighten and loosen only one turn at a time on each side.

When tightening and loosening the stays and shrouds, always keep a wrench on the wire side of the fitting to insure you are not twisting or untwisting the wire.

Mast rake

Place an inclinometer (purchased at any hardware store) along the mast and read the angle of the mast rake. This gives you the rake for this particular position on the mast. If the mast is straight along its whole length, this is your mast rake. However, if your mast is not straight the whole distance, this angle is not accurate.

A more precise way to determine your mast rake is by placing a weight at the end of the mainsail halyard. This creates a plumb line hanging vertically from the top of the mast. Measure how

far back the line is where it crosses the boom. If you know how far behind the mast the halyard is when it leaves the sheave box, the length of the mainsail luff, and where the plumb line crosses the boom, you can calculate the angle of rake. This calculation may be of some academic interest, but knowing the actual angle is not as important as just knowing how far back the plumb line is when it crosses the boom. Many sailing classes simply tune by measuring the distance of the plumb line from the mast. It is actually a more sensitive measure than the calculated angle, which is necessarily quite small.

If you want to decrease weather helm, rake the mast forward. If you want to increase weather helm, tip the mast back. Move the mast by adjusting the forestay and the backstay on masthead rigs. Fractional rigs that have their spreaders swept aft will make this adjustment using the forestay and upper shrouds instead of the forestay and backstay. Fractional rigs that do not have their spreaders swept aft will use the forestay and running backstays. Remember to measure rake before you adjust it and then afterward, so if you don't like the way the boat handles, you can go back to the way it was before you started "improving" it.

Forestay/backstay

When you have a bunch of wires holding a post up, it is almost intuitively clear that changing the tension of any one of them will change the tension of all the others. Still, many people tune rigging without taking this into account. Keep in mind that wires directly opposite the wire being adjusted will be changed the most. There is a weak relationship between cap shrouds, a stronger one between lowers, and a very strong one indeed between the forestay and the backstay. Think of the length of the forestay as determining mast rake and the tension of the backstay as determining the tension of the backstay and the forestay.

Keep in mind that if the size of your rigging wires has been increased at some point, you should not tension the rig to the percentage of the breaking strength of the new wires. Tension it to a percentage of breaking strength of the old (as the rig was designed) wires. The hull and mast step may not be able to withstand the higher rig tension of the new wires. Their higher breaking strength is only useful as a safety margin.

With the mast rake set, tension the backstay to 30 percent of breaking load and then back it off to 20 percent of breaking load. This will cause the forestay to be tighter than 20 percent of breaking load because it is at a steeper angle to the mast. Measure the forestay, and ease the backstay if the forestay is above 30 percent of breaking load. There may also be maximums given by your boat's manufacturer for either the backstay or the forestay. Don't violate these maximums. Manufacturers have seen hydraulic backstay adjusters damage hulls and rigging. They know the safe limits. Follow their requirements.

The tension of the forestay and backstay combination will have a major effect on forestay sag when sailing. We want to keep sag to a minimum when beating in strong winds. Too much sag decreases windward performance. Remember that the length of the forestay controls rake; the tension of the backstay controls the tension of the forestay and thus its tendency to sag off to leeward on a beat. On a typical 30-foot boat, 4 inches of sag might be OK, but 6 inches would be considered too much.

Upper shrouds

The wires needing the most tension after the forestay are the upper shrouds. Tension here should be in the range of 15 percent of the breaking strength of the cable. Tighten both sides hand-tight. Then sight up the mast to see that it is straight. Begin tightening one side at a time, one or two turns at a time, until the desired tension is achieved. Sight up the mast regularly to insure it's straight. If you develop a bend to starboard or port, the shrouds have uneven tension, and you need to loosen and tighten the respective sides until the mast is straight once more. Remember that the tension of one side will have some effect on the tension of the other. In the case of a fractional rig with aftswept spreaders, set the cap shrouds to 20 percent of breaking strength. This is necessary to get enough tension in the forestay. If the forestay tension is still not enough, and it sags off too much to leeward on a heavy-





The plumb line method can determine the rake of the mast (7). Re-check all tensions to insure they are correct (8). Use the link tang extension to lengthen your rigging wire, if needed (9).



weather beat, pre-tension the cap shrouds to an absolute maximum of 25 percent of breaking strength.

Mast pre-bend

At this point, mast pre-bend should be set if the rig is designed to have prebend. On masthead rigs the bend can be achieved with a baby stay or with the forward lowers. It may also involve moving the mast step aft, so the mast

Inspection and cleaning tools

Cotton rags Stainless-steel wire brush Rigging dye Mirror Magnifying glass Teflon grease Soap and water Miscellaneous line for downhaul

Tools to tune the mast

5- to 10-pound weight Tape measure Adjustable end wrench Screwdriver Pliers Stainless-steel wire brush Teflon grease Masking tape Rigging tape Level Inclinometer Tension gauge WD-40 Toothbrush



Check for breaks in the rigging wires (10). Check for cracks on the fittings (11). A common do-it-yourself swageless fitting (12).

is bent over the partners at the deck by the backstay. On fractional rigs that have the spreaders swept aft, the tension of the cap shrouds will force the middle of the mast forward at the spreaders. Set up the lowers to limit this pre-bend to the desired amount. The amount of pre-bend on a masthead rig can be as much as half the fore-and-aft thickness of the mast, but in no case should it exceed 2 percent of the total mast height above deck.

Mast bend on a fractional rig may be adjustable while sailing. This is done to flatten the mainsail in heavy air. The total bend, including the adjustment range, may be as much as 11/2 times the fore-and-aft thickness of the mast. In all cases, even with the backstay set up to the full allowed tension, the bend should be limited to no more than 2 percent of the height from the deck to where the forestay joins the mast. Sails that are cut for some pre-bend will not set right without it. The best source of information about how much pre-bend to put in your rig will come from your boat's designer or builder. The sailmaker will know how much pre-bend was allowed for in the cut of the mainsail, and some class associations will have valuable opinions as well. Many cruising boats are set up with no pre-bend at all.

Lower shrouds

Set the lowers by hand-tightening them to just snug and then tightening each side one turn at a time. The lowers can be quite loose compared to the uppers before the final adjustment is made while sailing. The forward lower shrouds should have greater tension than the aft lower shrouds. The aft lower shrouds should have one or two turns greater than "finger tight." After each adjustment sight up the mast to insure that it remains in column. Don't tension these wires to 15 percent of breaking strength yet. They typically need not be as tight as the uppers to keep the mast in column side to side.

Intermediate shrouds

Finally, if you have them, tighten the posterior intermediate shrouds or runners. These should be tightened just enough to keep the mast straight to counteract the force of the inner forestay. Our inner forestay has a large pelican clasp intended as a quickrelease lever. This enables us to easily remove the inner forestay when we are flying a large jib. Tighten the inner forestay as tight as you can and still release and close the lever.

After all adjustments have been made at the dock, sight up the mainsail track and insure the mast remains straight. Re-check tensions on all stays and shrouds. Opposing shrouds should have equal tension.

Stay or shroud too short

During your tuning you may find one of the rigging wires too short. You can call a local rigger to the dock and have him replace it. Better yet, save some money by removing the rigging wire yourself and taking it to his shop with instructions for how much longer it must be. However, if your measurements are incorrect, the rigger cannot be responsible. Another alternative is adding a link tang extension, which will extend your existing wire so you do not have to replace the wire. Use the link tang extension with confidence if the breaking strength is greater than the breaking strength of the existing rigging wire.

Stay or shroud too long

If during your adjustments you find that the wire is too long, you can have new wire and fitting constructed by your local rigger at the dock. You can save money by taking the rigging wire down and delivering it to rigging shop yourself. The rigger will swage on a new fitting at the length you direct. Nevertheless, if your measurements are incorrect, you will be stuck with an extra wire that does not fit anywhere. If you have any doubts, let a rigger complete the whole procedure. Finally, you can cut the wire yourself

and install your own fittings. Swageless fittings are expensive, but you get the experience of doing it yourself and the fittings are generally reusable with a new central cone. If you go this route, follow the

instructions and you should have no problems. For more on doing it yourself, see the *Good Old Boat* article in September 1999.

Tuning under sail

The final adjustments are done while sailing. The seas should be as flat as possible; the wind should be strong enough to heel the boat 20 to 25 degrees. Select, perhaps, a time in the morning just as the sea breeze begins to fill in. The vast majority of your work has been done already at the dock. Only small adjustments will be needed under sail. Typically, at this point the forward lowers will be tighter than the aft lowers, and any intermediate shrouds will be hand-tight but tighter than any of the lowers.

On a beat, check the leeward cap shroud. The wire should be handtight and not flopping about. If it is too loose, give it a turn or two. Tack and set the other upper shroud tighter by the same amount. Then evaluate again. When the leeward shroud is just tight enough so it does not flop around, the cap shrouds are set properly.

Now, sight up the mast. If the mast is not straight, tighten the lower and intermediate shrouds to bring it into column from side to side. In each case, to make an adjustment to a turnbuckle, tack to put it on the leeward side. Your goal is to set up the lowers and intermediates so the mast is straight. If the boat has both fore and aft lowers, adjust both a turn at a time so that the pre-bend is preserved. After adjustment is completed, the forward lowers should still be tighter than the aft lowers. That's it. When the mast is straight, the adjustment is done. Return to port and record the tension of each wire for reference. The tension of similar wires should be equal from side to side. If you still have too much or too little weather helm, you can

Our regular tuning allows us to sail at or near hull speed, speed is equal on both tacks, weather helm is greatly reduced, and the boat is balanced ...

> experiment with the adjustment of the backstay and forestay to rake the mast more or less. After each rake adjustment, set the tensions back where they were.

Secure the turnbuckles with cotter pins, split rings, or seizing wire to insure they will not back off as you sail your boat. We like split rings, as they can be removed by hand without going to the toolbox for the right tool. Finally, use rigging tape to cover any sharp edges so they don't cut or tear the sails.

Rigging inspection/care

Once or twice a year, inspect your rigging. Use a magnifying glass and a small mirror and inspect all the terminals on the rigging. It is generally easy to see any cracks beginning on the fittings. If you have any specific concerns, use a "rig-check dye." Follow the instructions on the box. (Typically, you first clean the fitting and apply a dye. A contrasting medium is then applied so the dye shows through, staining the flaw.)

Next check the wire itself. We tie a rag saturated with soapy water to a halyard and the shroud or stay. We attach a "downhaul line" to the rag as well and then slide the rag up and down, cleaning the corrosion and dirt off the stainless steel while checking for broken strands, or "meat hooks." If the soapy rag snags, it is an indication that a strand is broken. Once all the rigging has been gone over with the soapy rag, we spray it down with fresh water to eliminate the soap scum that will accumulate dirt. If you find any cracks in the terminals or breaks in the wire, replace the failed component. Consider the age of your rigging and, if it is past its prime, the first crack or two in fittings may be telling you to replace the whole set.

While cleaning and inspecting the rigging, it's a good time to check the

tune of your mast. Sight up the mast to insure it is straight and in column. Stand on the dock and gaze at your spreaders to insure that they point slightly upward. The

top spreader should have a greater upward angle. Bring out your log and your tension gauge and insure the tensions remain what they were at your previous tuning session. If everything checks out, you can be sure your standing rigging will be safe and functioning optimally in the months to come.

A bit of expertise

Now people come up to us and ask: "What is the rake of your mast? What is the tension on your forestay? Is your mast tuned? How can we decrease our weather helm? Do you regularly sail near maximum theoretical hull speed? What has your mast tuning done to your overall performance?"

We can confidently answer these questions and more. We are cruisers, yet we now have the knowledge of racers and can simply and easily tune our own rigging for increased safety, speed, and balance.

For further reading...

While this issue was in production, your editors discovered an excellent rig-tuning DVD that offers helpful visuals and a succinct overview: *Tuning Your*



Rig. Master rigger Brion Toss teaches the fundamentals of rig tuning. This 90-minute overview was produced by Western Media Products, 800-232-8902, http://www.media-products.com.





Hurricane Katrina

"Post-trauma syndrome" might describe

WAS IN A MARINE STORE THE OTHER DAY AND SAW AN ATTRACTIVE ice chest for my boat on sale. I thought of buying it ... but then again, I have three ice chests at home ... or do I? I keep thinking I have something when, in fact, all our household goods were lost last year to Hurricane Katrina. This experience is common among those whose lives have been forever changed by the hurricane. One person I knew was looking for a new dinghy. I had to remind him that his boat was lost and he no longer needed a dink. Such is the disconnect so many people on the Mississippi Gulf Coast feel.

The difference between those who lost everything and those who did not is profound. I have experienced several hurricanes up close and personal. When Hurricane Carol's eye went right over Oyster Bay, New York, for example, I went out in a sea skiff to re-moor boats that were on a lee shore that had suddenly become a windward shore. For a he really did swim to a tall tree when his one-story home, next-door to mine, flooded to the rafters.

Many boatowners say they will never sail again. This is sad but understandable. Among the people in the region, there has been a great exodus to places in the mountains and well inland. For many of us, the sensation is like that of the displaced person who is determined to go home...but the home is no longer there. On one level, he knows the home is gone, but he wants to return anyway. There is an unreality somehow disconnected from the facts of the destruction. One's mind is unwilling to accept the truth. Hurricanes of this severity can do strange things to the mind.

Before Hurricane Katrina there were probably 120 good old boats in Pass Christian Harbor. Many were evacuated from the harbor; yet only about 10 survived the storm. There was a beautiful Beneteau 41 left in the harbor. The

16-year-old kid, it was fun. Hurricane Katrina was not fun at the time and still is not.

Never again

Boatowners who stayed on their boats through the storm, and lived, swear they will never do it again. Several of our local shrimpers are among this group. The force of the wind and the surge had to be witnessed to be believed. Interstate 10 (8 miles inland from the coast and well elevated, as required by federal guidelines) was under 14 feet of silt-laden salt water. After the hurricane, a neighbor in Pass Christian, Mississippi, said that he swam past my house while trying to survive. He was not joking;



only thing that remains of it is a 4-foot section of the keel. The destruction of so many boats makes you wonder if any boats can survive a storm of this magnitude. The steel shrimp boats did all right, but most of the wooden shrimpers were damaged beyond repair. It did not matter how well the boat was built, only where it was located and how good was its luck.

I'm thankful that my boat was one of the ones that survived, but it was due to a merciful God and little help from me. I took my boat to a narrow bayou behind Pass Christian and tied her to pilings on one side and large trees on the other with six ¾-inch three-stranded nylon ropes. The bayou was only about



leaves lasting effects

the impact on the Mississippi Gulf Coast

by Bill Sandifer

60 feet wide, and I used 75 feet of rope for each line. The surge that came through has been officially calculated at 35 feet above the high tide level, so my boat went up and down 35 feet. There was a 21-foot Boston Whaler 30 feet up in a tree behind my boat, so I know the water went at least that high. Inside our boat, it looked as if she had been turned over: everything was jumbled up on the cabin sole. She sus-

tained a little rain water (it was fresh water) above the cabin sole, but that was handled by the onboard bilge pumps.

Scarred for life

I believe the people who were affected by the storm in this way will bear the psychological scars for years to come. It is, perhaps, like the psychological reactions of soldiers who return from battle and jump when a car backfires. The 2006 hurricane season is going to be interesting, as most of the survivors, my wife and myself included, will probably evacuate early to high parts of the state. Many will be convinced it is too dangerous to live near the coast; those will not return.

New Orleans is having this problem as I write this early in 2006. Almost 50 percent of the population does not plan to return to the city. This leaves a lot of jobs unfilled, a lot of tax revenue un-generated, a lot of empty derelict homes that were flooded and are now decaying and full of rodents. Homes are being bulldozed in many parts of the city to clear the rubble. It is sad that 200-year-old homes that survived for so long are now lost.

The beaches are a sad story too. There is so much debris in and on the beaches and under water that nautical charts have become useless. The U.S. Coast Guard is sweeping the area up to 4 miles off the coast in an effort to clear the bottom of cars, refrigerators, washers, and driers that the surge took out to sea when it retreated. The offshore islands have been breached and the underwater profile has been radically altered. Smugglers Cove on Cat Island — where we spent so many weekends in the past — is no more. It was filled in to a shallow depth by the storm. The island wildlife (deer, hogs, bobcats, raccoons, and so on) are all assumed drowned. Perhaps only alligators survived.

The Interstate 90/Bay St. Louis Bridge collapsed into Bay St. Louis, as did the Biloxi Back Bay Bridge between Biloxi and Ocean Springs, Mississippi. The waterways near the bridges are blocked with debris.

My boat was in need of a bottom job *before* the hurricane and she is now, months later, even more in need, but there are no boatyards available for this type of work. It is a strange feeling when your entire personal infrastructure — including the marine supplier, hardware store, yacht club, stores, and favorite restaurant — disappears. These are all gone, probably never to return. The huge new Wal-Mart store was also washed away. The hurricane played no favorites.

Pass Christian Yacht Club was washed away even though it was elevated 12 feet above mean high tide on steel I-beams. The club is valiantly trying to come back; members purchased a double-wide trailer as a temporary clubhouse. You have to salute the commodore for her valiant efforts to save the club.

Where do we go from here? I've never before been in a start-up position in what is a 200-year-old town with an illustrious history. The urban planners have a real life laboratory to work with. The sailors are challenged to see what they are made of. The jury, which will see if this experiment can work, is out and will remain so for years. Only time will tell.

Pray for the Mississippi Gulf Coast.

Bill Sandifer was lucky that his boat, the *Genie B*, survived Hurricane Katrina. She is shown on facing page, at top left, passing through what remains of a drawbridge. A close-up look at the drawsection of that bridge is at top right on facing page. The *Genie B* motors past what was the ice house in Pass Christian Harbor in bottom photo on the facing page. This structure, almost four stories tall, was washed out in spite of having a stilt architecture. What is left of another bridge is shown in the images above on this page.

The rebirth of Maruska

Garbage out, good used stuff in; the saga begins

by Dale Tanski

HE GAME PLAN FOR MARUSKA WOULD have to be aggressive to meet a June departure. My primary goal was to make her seaworthy and reliable for the long trip home. Havre de Grace, Maryland, to Norfolk, Virginia, would be her shakedown. The offshore passage from Norfolk to Sandy Hook, New Jersey, would put her sailing systems to the test, and the Erie Canal route through New York would require a very reliable driveline. Keeping in mind that this trip would be a sizable undertaking for any well-prepared sailboat, my todo list for Maruska's 30-year-old systems grew by the hour. A float plan of more than 1,000 nautical miles would mean things had to be done right the first time.

With the papers signed and the check accepted, the deal was done. The first work weekend started with a thorough cleaning of the accumulated parts, pieces, and gear from the boat. One pile to keep, one destined for eBay, one to trash, and one conspicuously set by the marina dumpster. This last pile was made up of items too good to throw out. These disappeared one by one as the weekend progressed.

I tried to diminish the rank mixture of rancid bilge water and diesel fuel by spraying everything I could reach with a pump-up orchard sprayer filled with a mint-scented cleaning solution. This was like throwing perfume on a pig; there was no denying it: *Maruska* stank!

It was difficult to stay focused on any one task. Everywhere I looked, there was something different to think about. Repair, replace, or just remove ... the choices seemed endless. "When in doubt, throw it out" became the motto of the day. The ground around Maruska was littered with garbage bag after garbage bag of old wiring, exhaust system, hoses, and obsolete gear. The electrical system was a concoction of each previous owner's interpretation of what boat wiring should be, interlaced with the original Pearson factory wiring. Stranded wire, telephone cable, solid conductor house wire (Romex), and lots of lamp cord tangled its way from one end of the boat to the other. Hoses of all sizes and other materials started nowhere and ended nowhere.















The master warning gong was hooked up (but to what?). A battery cable by the gong crossed over the tank and had ground its insulation jacket down to the copper by rubbing on the tank (1). A maze of wiring, hoses, and tubing (2 and 3). What was left of the bilge pump control (4). The Walter V-Drive and shaft (5). Hauling the engine out of its bed (6). Slung off the main boom, the engine goes up nicely (7).



The engine has left the boat (8). On departing, it presented a bit of an obstacle for anyone using the companionway (9). The engineer in Dale worries about the weight of the engine while hanging from the end of the boom. For safety's sake, he first runs a check stay to the nearby building (10). Up and over the side it goes (11 and 12). *Maruska* breathes a sigh of relief following this weight-loss program (13). Stainless hose clamps with carbon-steel screws failed with the slightest pressure; others were so loose they rotated freely about the hose with the mere insertion of a screwdriver. The plastic through-hull for the bilge pump snapped as I tried to remove its surrounding hose. The view of the parking lot stones below through the exposed hole was a stark reminder of what could happen if I missed the slightest detail.

Removal of the Walter V-Drive and the engine drive shaft were welcome diversions as I uncramped from lengthy bouts in the cockpit lockers. I spent several wasted minutes trying to decipher the engine wiring harnesses. Like everything else, it was a tangled illogical mess and was eventually removed with the yank-and-snip method. The hoses were "adjusted" with a hacksaw, and the engine rose from its beds dangling from the mainmast halvard strung through the end of the main boom. The engineer in me thought through the overhanging weight of the engine and transmission at the end of the main boom swung over the side. Just to be sure, I decided to secure a check stay to the foundation of a nearby building. I worked well past dark that first day building a shipping cradle for the engine for the long ride home on the utility trailer. Cushions, bags of sails, and parts and pieces piled high must have left quite an impression with passing motorists.

By the end of the first weekend, the engine and driveline had been removed, as well as 8 percent of the wiring and about 50 percent of the plumbing. When I wasn't fishing for bilge surprises and hauling bags to the dumpster, I collected model numbers and manufacturers' information from everything I could find. I made dimensioned sketches of what was left of the interior, took pictures, and made notes of every aspect of the project. These items became priceless 370 miles away as I scoured catalogs and the web for additional information on the equipment I had, as well as for what I needed to replace or upgrade. The ride home that first weekend proved invaluable as I though through the events of those two action-packed days. Then I scribbled pages of notes as I formulated a game plan and schedule for the upcoming months. The cosmetics could follow down the road, but at all costs the boat must be seaworthy and reliable for her trip home.

I developed many lists. One was composed of those items that I knew would be difficult to locate at a price I could afford. These items would be the basis for the long-term "wanted list" that consisted of

The rebirth of Maruska

such things as a high-amp alternator, refrigeration unit, new electrical panels, quick-release inner forestay lever, and so on. To acquire these items I became an eBay junkie like never before. I scoured eBay morning, noon, and night. Whatever I could not procure used, I would eventually have to purchase new when the rebuild schedule required it. It is amazing what gear you can find used if you are diligent. I have been on a first-name basis with my local chandlery, Obersheimers Sailor Supply, for several decades, but this project ratcheted it up a notch. One of the other lists was the "wish list." You know the one: the if-money-werenot-an-issue list.

Besides hunting items in the time between boat visits, selling items to raise cash became a big activity. Fundraising took on a whole new meaning. I scoured the house and garage and sold and auctioned items that were no longer being used. Reflecting on the boat stuff alone, I must have sold 10 bags of sails from boats that I never owned or would never own. The selling price was not the issue; the goal was to generate cash. As long as I could keep the money coming in ahead of the money going out, the *Maruska* project could continue.

Please join me in the upcoming issues of Good Old Boat as I take you through the rebirth of Maruska.

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Boat review

HE TRAILERSAILER REVOLUTION began in the early 1970s, when there was a widespread public consciousness about protecting the environment. The first Earth Day in 1970 was celebrated by millions. The effect on the boating industry was profound. Fueled by the OPEC oil embargo of 1973 that drove gas prices up, a lot of powerboaters did the unthinkable and took a turn at the helm of a sailboat. The relatively inexpensive trailersailers - mostly 20 to 26 feet in length — were the logical way to jump in. They could be stored in the driveway, thereby avoiding high yard and marina bills; their outboard motors sipped fuel; and their systems were so simple the average handyman or woman could take care of the few maintenance chores.

Some of the more popular models were the Catalina 22, O'Day 22 and 23, Ericson 25, Venture 21 and 22, and Cal 21. There were dozens more, including the Paceship PY23 and PY26, two of the best.

Design

A total of 28 known versions of sailboats and dinghies, ranging in length from 7 to 32 feet and designed by no less than seven naval architects, were produced by Paceship Yachts. The first Paceship 23 sailboat was designed by Cuthbertson & Cassian (see the September 2002 issue of Good Old Boat for the story of C&C). However, the Paceship PY23 came from the boards of another well-respected naval architectural firm: C. Raymond Hunt Associates. John Deknatel, now president of C. Raymond Hunt Associates, drew the actual lines of the PY23 sometime during the late 1960s or early 1970s. The "PY" designation is associated solely with Paceships designed by C. Raymond Hunt Associates. (Numerous builders also were involved over the years; see related story on Page 58.)

The sheer of the PY23 is very flat and from certain angles almost appears as reverse sheer. John Keeler, of Levittsburg, Ohio, sails *Code Red*, a 1979 model.

A 1970s trailersailer that sails well and still looks modern

Paceship PY23

by Gregg Nestor



The cabin terminates in a wedge forward, which is distinctive, at right. The cockpit has room for six, below. The tall coamings make good backrests and are wide enough to sit on forward. The outboard is 5 horsepower.

The silhouette of the PY23 shows an aggressively raked bow, a rather flat sheer, and a reverse transom. The forward end of the cabin has considerable slope and comes together on centerline in a wedge with a sharp vertical line, which is unusual and distinctive. The cockpit coamings begin near the top of the aft end of the cabin and slope aft to the transom. Combined with moderate freeboard, these design elements give the boat the appearance of forward movement, whether at rest or under way.

Unlike a lot of trailersailers, the PY23 does not have a swing keel, in which all ballast hangs on a single pin. Instead, a weighted centerboard pivots into a stub keel. The only real disadvantage is that the ballast isn't centered as low as with a fixed or swing keel.

The displacement/length ratio of 151 is a bit misleading because of the small size of this boat. Add 1,000





pounds of crew and supplies to a boat with a 19-foot waterline and performance quickly sags; add 1,000 pounds to a 35-footer and it'll hardly be noticed.

Construction

The hull, deck, and interior pan are all hand-laid fiberglass laminates, which incorporate combinations of mat, roving, and polyester resin. While the hull and pan are solid laminates, the deck

is a sandwich of two layers of fiberglass with a core of end-grain balsa wood. Balsa is extremely light and, when sandwiched in this manner, adds structural rigidity. It also adds good insulation against heat, cold, and sound. Unfortunately, there is a downside. Constant flexing of cored decks can break the bond between the two fiberglass layers and the core. Also, any water that might find its way beneath the fiberglass skin can turn the core into mush. A spongy feel beneath your feet or the sound of a dull thud when struck with a mallet indicates, at the very least, a partially delaminated deck. On a well-built boat, the core has been removed wherever there are through-deck penetrations, such as cleats and stanchions.

First wood, then fiberglass

The builder of Paceship sailboats was the not-verynautically-sounding Industrial Shipping Company Limited (ISC), located on the Atlantic coast at Mahone Bay, Nova Scotia. Its first boats, constructed in the early 1950s, were molded plywood runabouts, not sailboats. In addition to its own line of boats, ISC also built runabouts and canoes for a company called Mahone Bay Plycraft Company Limited. Because of this association, the Plycraft name is often loosely linked to the Paceship history.

In 1956 the ISC plant caught fire and burned to the ground. After the plant was rebuilt, ISC continued to produce some molded plywood hulls. However, the bulk of the new plant's capacity was designed to manufacture boats out of fiberglass. The new fiberglass line was initially comprised of runabouts and small sailboats. It eventually grew to include larger sailboats. In 1962, ISC established a marketing company called Paceship Limited to promote and sell this new fiberglass line of boats under the Paceship name.

The Atlantic Bridge Company Limited (ABCO), also of

Nova Scotia, purchased ISC in 1965. Upon completion of the acquisition, the name of the yacht manufacturing and marketing company was changed to Paceship Yachts Limited. Prior to acquiring ISC, ABCO had been manufacturing its own line of boats. The addition of Paceship expanded the breadth of the ABCO line. The Paceship PY23 and PY26 were introduced in 1973. Two years later, in 1975, ABCO sold both the name and the tooling for these two models to AMF of Waterbury, Connecticut.

AMF had a sailboat division called Alcort that produced board boats, like the Sunfish; a few daysailers; and the Paceship 29, designed to the IOR (International Offshore Rule). With the addition of the Paceship PY23 and PY26, Alcort grew to a family of 10 sailboat models and its name was changed to Alcort/Paceship. Production and sales of the Paceship line continued until 1981. In response to the poor economic environment of the early 1980s, AMF closed down and liquidated its sailboat operation, dispersing its assets among several boat manufacturers. The hull-to-deck joint is a simple lap joint, often referred to as a box joint, where the deck fits over the hull much like the lid of a shoebox. The joint is glued together and mechanically fastened with pop rivets every 2 inches. For both protection and cosmetics, the joint is covered by a two-piece vinyl rubrail.

Underwater, the PY23 features a shoal-draft keel comprised of 945 pounds of cast-iron ballast that is externally bonded to the hull. Incorporated in the design is a fiberglass centerboard weighted with 45 pounds of lead shot. The centerboard is easy to raise or lower by hand without the aid of a winch. When raised, the centerboard is completely housed within the keel. In this position, the boat draws a mere 21 inches, as compared with 4 feet 9 inches when fully extended. The transom-mounted, tiller-controlled spade rudder is made of fiberglass with a foam and plywood core and is designed to kick up in the event of a grounding. This shoal keel/rudder design combination makes gunkholing possible.

Alcort/Paceship also offered what it referred to as a "high performance MORC [Midget Ocean Racing Club] version." This boat was given the designation PY23K. It is non-trailerable and features a 3-foot 9-inch fixed keel and a solid fixed rudder. The ballast was reduced to 900 pounds. All other specifications are identical to the PY23.

Deck features

Forward there are a shallow anchor locker with hasp, a pair of open-throat cleats, and a stainless-steel bow pulpit. The rest of the foredeck is uncluttered. Footing is good, due to an aggressive molded-in non-skid pattern. Port and starboard slotted aluminum toerails run the length of the boat, as does a single lifeline on 24-inch stanchions. The sidedecks are 11 inches wide with inboard chainplates and headsail tracks.

On the cabintop are a flush-mounted, opaque forward hatch, a pair of 78-inch-long teak handrails, and the hinged tabernacle for the deckstepped mast. There is no sea hood. The cabin sides feature four, fixed oblong-shaped portlights, two per side.

The cockpit easily accommodates six adults and is protected by gener-

ous coamings that transition from a forward height of 16 inches to 8 inches at the transom. Cockpit seat lockers are port and starboard. Both are quite deep and are separated from the cabin below. The port locker also houses the 12-volt battery for the electrical system. Located aft on the starboard side is a dedicated gas tank locker that can accommodate a standard 6-gallon portable tank. To help keep water from pouring below, there's a deep bridge deck and a single cockpit drain.

A stainless-steel stern pulpit, a pair of open-throat cleats, and a transommounted motor mount on the port side complete the on-deck features.

Belowdecks

Below, the PY23 is surprisingly roomy for a 23-foot pocket cruiser. Headroom is about 5 feet throughout. While the



Paceship PY23

Designer: C. Raymond Hunt Associates LOA: 22 feet 7 inches LWL: 19 feet 4½ inches Beam: 8 feet 0 inches Draft (board up): 1 feet 9 inches Draft (board down): 4 feet 9 inches Ballast: 945 pounds Displacement: 2,460 pounds Sail area: 223 square feet Displ./LWL ratio: 151 SA/Displ. ratio: 19.6 PHRF rating: 243 fiberglass pan terminates at approximately seat level, where it is bonded to the hull, a padded vinyl hull liner continues on and transitions to a textured fiberglass headliner, giving the interior its finished look. The bulkheads, cabinetry, and sliding door are teakveneered plywood; the countertop and dining table are surfaced with a white or wood-grained plastic laminate. All other wood trim, inside and out, is teak. The cabin sole is carpeted.

The accommodations are straightforward and functional. In the forward cabin there's a V-berth that measures 6 feet 2 inches long by 7 feet 4 inches wide. Full-length shelves are situated port and starboard against the hull, with additional stowage lockers beneath the berth itself. Aft and to starboard is a hanging locker with a shelf above. To port is space for a portable toilet or the optional recirculating chemical toilet. The forward hatch and portions of the two forward fixed portlights illuminate the head. A sliding door completely closes it off from the main cabin and gives privacy to both areas.

The main cabin features opposing settee/berths 6 feet 2 inches long. The aft ends of each extend beneath the cockpit seats. For dining, there's a bulkhead-mounted drop-leaf table that accommodates four adults. Stowage can be found beneath the settee/ berths and on the outboard shelves.

Rising roughly 2 feet from the cabin sole and situated directly in the cabin's center is the centerboard pendant tube. This novel item serves a triple function: it houses the centerboard pendant; it acts as the pedestal for the dining table; and, with the table in the stowed position, it's a tripping hazard!

The galley is located aft, under the companionway and bridge deck, where there's space for the optional compact galley unit. This unit includes an icebox, a single stainless-steel sink with hand pump, a 12-gallon potable water tank, a locker for galleyware and dry goods, and space for a twoburner cooktop. A portion of the galley countertop also serves as one of the companionway steps.

The rig

The PY23 is a masthead sloop with 223 square feet of sail area. Jiffy reefing is standard. Both spars are black



anodized aluminum extrusions with internal sailtracks. The black spar seems to be an AMF/Paceship signature. The mast is stepped on deck by means of a hinged tabernacle. There is no compression post underneath the tabernacle. Instead, the bulkhead framing and the bulkhead itself act as the supporting structure. There's a single pair of spreaders, and the standing rigging includes a headstay, a pair of cap shrouds, a pair of lower shrouds, a split backstay, and a topping lift. The shrouds are fastened to chainplates mounted to the forward bulkhead.

Halyards are run internally. While the mainsail halyard is double-braided polyester, the jib halyard is wireto-rope. An easy upgrade would be to switch out the wire-to-rope for a modern, low-stretch line such as those with Technora, Spectra, or Vectran fibers. Our review boat was fitted with the optional Lewmar #6 single-speed halyard winch mounted on the port, aft edge of the cabintop.

Headsail sheets are run aft through cars and 3-foot tracks located on the sidedecks and led to Lewmar #6 single-speed winches and associated cleats situated forward on the cockpit coamings. The main tackle runs from the boom about a foot forward from the end to a traveler conveniently mounted on the bridge deck. Because the boom is so short, this is a nearly vertical drop.

Under way

The PY23 is a very satisfactory first cruiser. It is comfortably at home in relatively protected waters and makes a great gunkholer. Like all trailerable boats, the PY23 is a bit tender; when the wind picks up it can develop significant weather helm. At about 13 to 15 knots, take a tuck in the main. This should balance the boat nicely and allow it to cruise at hull speed. In higher winds, reduce the headsail



The galley is a step-through affair at the companionway, top left. Opposing settees in the saloon do double duty as berths, top right, and seats at the dropleaf table, above.

area to maintain balance. When going to windward, keep the centerboard down. This will help the boat point better. On a run, lift up the board to reduce drag and increase speed.

Performance Handicap Racing Fleet (PHRF) ratings for the PY23 average 243 seconds per mile, just 3 seconds per mile slower than the keel model at 240. For comparison, an O'Day 23 rates the same, 243, and a Catalina 22 rates a sluggish 270.

Things to check out

In addition to the problems caused by poor maintenance and age, a few potential other areas of concern are unique to the PY23.

The forward bulkhead not only acts as the compression/support structure for the mast but also the point of attachment for the chainplates. Look for signs of cracking, bending, or movement. If the sliding door is difficult to move, this is an indication of a bigger problem. Carefully examine where the chainplates are mounted to the bulkhead. Discoloration or delamination is a sign of water seepage and can result in rig failure. The best way to check for bulkhead rot or hole enlargement is to remove the chainplates ... after lowering the mast, of course!

The box flange hull-to-deck joint is prone to damage from a collision or a "hard docking." Look for cracks or a waviness in the gunwale suggesting that such an impact has taken place. Also, stains in the hull liner near the joint are an indication of water leakage.

The PY23's keel is cast iron and is prone to corrosion. Protect it with a barrier coating and judicious use of antifouling paint. Don't apply a copper-based bottom paint directly to bare iron.

Lastly, both the centerboard and the rudder have hollow sections that are prone to water penetration, delamination, and subsequent failure. With a little effort, these two appendages can be rebuilt better than new.

Conclusion

The Paceship PY23 is an inexpensive, adequately equipped and appointed pocket cruiser. It's designed for cruising in relatively protected waters. It's a good weekender for two adults and maybe two small children. While it does come with some baggage that needs to be addressed, it's a fun boat to sail. Best of all, hitch it up to the old SUV and your sailing destinations are almost unlimited. Prices, which usually include boat, outboard motor, and trailer, range from \$3,500 to \$7,500, depending upon condition and equipment.

Resources

Paceship website <http://www.paceship.org>

Good old classifieds

Boats

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, easy to handle. In St. Joe, Mich. A lot of boat for a little money. \$43,500.

Dave Kurth DAKurth1@aol.com 219-363-1310



Lord Nelson 41

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

Alan and Joy Doss Fairwind2@earthlink.net

Cal 27

1976. Fresh water only. Standard interior, marine head. Roller furl, deck-stepped mast, spade rudder w/tiller, fin keel, 4' draft. '93 Honda 7.5 4-stroke OB. Sound hull and deck. Needs: paint top and bottom, rubrail, TLC. On the hard at Custom Fiberglass, Buford, Ga. Price includes loading for transport. \$3,500.

Walt Hodge 770-498-1678



Morgan 413 Out Island 1971. Solid-built bluewater cruising liveaboard, center cockpit w/private owners' aft cabin. Much sought-after sloop rig. Repowered w/Westerbeke 42B4 diesel '00. Standing rigging, davits, wind speed '00. Rubrail '05. 12-gal hot water '06. Rewired '06. Radar, AP, wind gen, 2,000watt inverter, GPS, depth, Adler/ Barbour refrig, 3-burner propane stove. Capacious storage/additional cabinetry in main cabin. Bimini w/side covers, electric windlass, CQR, Bruce, Danforth, chain and rope rodes, 2 heads w/ showers, Portosan (uninstalled), inflatable dink, many cruising spares. Hauled and painted '06, no blisters. Selling due to health issues. \$52,000.

Tom Wescott brokenhill@esva.net 757-442-6008 day 757-442-2614 evening



Corbin PH Cutter 39 Custom-designed professionally built interior. Airex-cored hull. Modern fin keel, skeg rudder, 3-bladed folding prop. Seaworthy vessel designed for extended cruising. 35-hp Volvo diesel w/100-gal tank. Commissioned/ documented '86. 8' Whitehall sailing dinghy. Slip at Portsmouth Naval Shipyard, Kittery, Maine (across from Portsmouth, N.H.). Inventory and photos: <http://sailboat9.tripod.com>. Reduced price \$165,000.

> Bob Cummings 413-772-0333 413-222-1454 cell

Pearson Triton 28

1967. Hull #703, Atomic 4. Steel cradle. A project boat; I have too many projects/too little time. Must sell. \$4,700. Located, Grand Isle, Vt., Lake Champlain. Ted Barker atg.th@att.net 802-372-3006



Islander 26

1977. Robert Perry design, second owner, 95 percent "perfectionist restored" and upgraded for comfortable cruising. 1983 OMC saildrive restored like new. Original 1977 saildrive in good running cond as spare. 4 sails. Brandnew replacements or upgrades recently: 20 cushions, matching covers for everything. All 12-V and 120-V wiring and panels, 41-gal water, cold pressure. Big

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

cockpit berth, AP, compass, tons more. Near Annapolis, Md. \$10,000. John Eaton

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



Pearson Vanguard 32

1964. Hull #96. Beautiful rugged classic. Freshwater-cooled Atomic 4 rebuilt by Don Moyer. 155 genoa w/Harken RF, North main w/Dutchman, spinnaker, Edson WS. Bottom and deck professionally restored '05. Fully found, many extras. In Rock Hall, MD. \$19,900.

> Conrad Hoover CLHoove@aol.com 302-888-2722



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. \$14,500. Fritz Jackson 727-372-2448



Bristol 41.1

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

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

Catalina 30

1983. Tall rig, furling genoa, fullbatten main. Lazy-jacks, wheel, new head system, new water heater, GPS, handbooks for all equip. 33-hp Atomic 4. Branford, Conn. \$21,500.

Pat Rosato 203-788-1677



Lazy Jack 32 Schooner. 10'8" beam, 2'10" draft (board up). Ted Brewer design. Photos available at <http://www. bstraus.photosite.com>. In Hudson, Fla. \$46,000.

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Final passage, Continued from Page 41

getting used to the new vibrations. I'd just tightened one of the engine mounts; maybe this was the way it was supposed to feel.

Ka-chunk...clunk. Then silence. And I knew. Becky poked her head out from below. "Out of fuel?"

"No, I fear something far worse."

For a month we'd been dreaming of one day repowering with a new Beta. Lighter, quieter, cleaner, more powerful. She'd even make hot water. Wouldn't it be nice to just put the key in and start her up? How much more convenient than unscrewing the eight bolts from the cockpit sole, pulling off the intake silencer, and bleeding the fuel pump before even turning the key? Then the requisite attempts to start without the ether. Cheering her on as she turned over. Lifting the compression lever and dropping it down once the engine was spinning good and fast. Then, at last, surrendering to ether assist. How nice it would be to have a brandnew engine just waiting to serve. Some day...

Oil underneath

I sat in numbed silence for a few minutes. Then off with the cockpit sole, away with the companionway steps. Sure, there was oil under the engine, but not that much. And the water-temperature gauge had never moved above 120° F.

On the floor beneath the engine was a fair-sized piece of iron. It was green beneath the grease. It had to have fallen from the engine. She was gone. The starter only made the belts scream as they slipped around the unyielding flywheel. The hand crank was equally ineffective. She was gone. At 44° 34' N and 83° 15' W, she had breathed her last.

And then, as the sheriff kindly towed us into port, I was once again amazed by how well I'd married. Becky kept bringing up all the good reasons for the engine to have died at this particular time. It was a sunny afternoon. It was a scenic location. Our schedule was flexible. "And won't that new Beta be nice? Quieter, cleaner, more powerful, more efficient — it'll improve the quality of the whole experience."

So here we sit, as midnight approaches, listening to the cheering crackle of the wood stove. A borrowed outboard is strapped on the transom and tomorrow we begin again. The MD6A is a legend, fallen in battle but brave to the end. She served us long and well. May she rest in peace.



leave the engine and how they will take corners. Sometimes moving the shifter placement an inch or two or switching sides of the cockpit can eliminate excessive hole cutting or impossible situations. I always do a dry run with a cable that is too long. (I have an old one for this purpose.) If the route works, I now have a precise measurement for length. Using rope or a tape measure can yield huge inaccuracies. In tight spaces with sharp bends, reducing or increasing the cable length by as little as a foot can make a huge difference.

Engine electrical panel – This needs to be in a place where it won't get kicked. On *Leight*, David built the panel into a fiberglass box and made an acrylic cover, which was attached with Velcro.

Aftermath

When *Leight* was launched this spring, I stood in the cockpit with David and his wife, Leigh, as they prepared for a sea trial. I tried acting calm, but my heart was in my mouth. They had just written a substantial check to the yard and, if for some reason the engine placement and all the other components failed to work in harmony, I would be in the market for a new paddle. David barely had to turn the key before the engine bounded into life. Off they went.

The next day I watched as they sailed expertly off their mooring. They sailed back onto it again the next day. Later I asked, "How is the new engine working out?"

"Great!" David said. "We didn't have to use it at all!"





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Quick and easy

Disk stowage

Keep your sanding disks flat

by Alan Lucas

A SHORE OR AFLOAT, THE LOOSE STOWING OF THE TYPICAL SANDing disks of any size usually results in their curling like leaves. At best, this is a nuisance when the disk is fitted to an angle grinder. At worst, the disk will actually fracture and become useless. The problem can be solved by making a simple keeper comprised of two panels of plywood and a single through-bolt (shown at right).

C ONSIDERING THE NUMBER OF ROLLER FURLERS IN USE AROUND the world today, the accidental unfurling of a sail on a moored or berthed boat is a remarkably rare event. But it does happen and often with devastating results. I know of one incident where a yacht's headsail suddenly unfurled and then sailed its host around a swing mooring for days before being tamed. Damage to the boat and neighboring vessels was considerable, and the sail had shredded in place.

Many furlers do not have a drum-locking device, leaving their furled state entirely dependent on the condition and security of the furling line. If this carries away, a secondary means should prevent the sail from unfurling. This can be achieved with a simple line tied around the sail (shown above). Place it as high as possible.



LLUSTRATIONS BY ALAN

Protection from the rain and sun

Turn your cockpit into a porch

by Don Launer

T'S ANNOYING TO HAVE TO STAY IN THE CABIN DURING ALL-DAY rains. Some days it's also annoying to have to be out in the cockpit, regardless of how good the foul weather gear is. On days like this, we have a cockpit cover that zips onto the aft edge of the dodger and fastens to the boom gallows beyond the rear of the cockpit. The center of this cover is supported along the boom with ¼-inch lines, which keep the rain from puddling in the center of the cover. The cover also has two side flaps that, when tied off to the stanchions, keep the rain outside the cockpit coaming. This cover provides a wonderful "outdoor porch" during bad weather. For boats without a boom gallows, a horizontal aluminum pole



Don converted his comfortable cockpit into a three-season porch with the addition of a Bimini of sorts with side flaps. This cover zips to his dodger, offering protection from too much sun or rain. This isn't meant for use when sailing, but he says it can come in handy when motoring in the rain.

can be used at the aft end of the cockpit cover. The center of the pole is lashed to the boom and each end is tied down to the lifelines or stanchions. Although we can't use our cockpit cover when the mainsail is up, we have spent many long days motoring through pouring rains without having the need for foul weather gear. It is also great on those hot, stifling days when you want to be out in the cockpit but appreciate having some shade.



Quick and easy

An extra seat in a hurry

Extra guest? No problem with this jumpseat

by Don Launer

When we have guests sailing with us, there never seems to be enough room around the cabin table. To add another seat quickly, I installed brackets on the side of the galley next to the cabin table. Then I made a small mahogany jumpseat with folding legs that fits into the brackets and creates another seat in seconds.

The jumpseat brackets (bottom photo) make it possible to install an extra seat in a hurry. Don slips a seat with its folding support into the brackets, and one more person can fit comfortably at the cabin table.











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Quick and easy

brgotten knot

This hitch is often better than a bowline

by Derk Akerson

THE MOST COMMON KNOTS ON AND about boats are the bowline and the reef knot (commonly known as the square knot). Beyond that, it seems that sailors don't

bother to add to their repertoire of knots. I understand that the many knots in The Ashley Book of Knots are too numerous to remember, but anyone on and about boats should know a fair number of knots. One of the more useful is really a forgotten knot: the buntline hitch. I have seen this knot in only one

book other than Ashley's. Yet it would better serve than a bowline in many cases.

This hitch was used on square-riggers, but it can be just as useful today. A great example of its use is for attaching the halyard of a small sailboat. On such a boat you need to secure the halyard while at the same time you need to get the sail as high up the mast as possible. The buntline hitch allows for this.

I use this knot on the outhaul, among other places, on my own boat. It is a great knot when you wish to attach your line to a shackle or snapshackle, if you aren't going to splice the connection. While splicing is stronger, this knot is close. Another thing is that, while a splice may jam in a block, this knot won't, allowing more efficient use of the line. (See photos for how to tie the knot.)

Having come from the days of the square-riggers, the

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buntline hitch is strong, easy to tie, and useful all over the boat. Learning to tie it is not difficult. Once you do, you'll find yourself using it a lot. As with any knot, practice is the best way to learn. Repetition is the key. Practice until it's second nature. You won't regret it.

The buntline hitch is simple to use once you've learned to tie it.



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Heaving a line

Try the two-handed method for better results

by Geoffrey Toye

A DEDICATED HEAVING LINE SHOULD BE SUPPLE AND EASILY HANdled, weighted at the end by tradition with a monkey's fist knot. It is used as a messenger to get a heavier cable to another vessel or, aboard a small yacht, may serve also a standalone function, thanks to the high tensile strength of many modern synthetic ropes. The dedicated heaving line should be thrown in the correct fashion, although its weighted end may make it tolerant of error.

Often there is no time to use the messenger; you find yourself needing to throw someone a line and the nearest rope is the only option. Then it may be a matter of life or death that you can heave that line to the hand waiting to grasp it.

If you find throwing a rope difficult, you might like to try the following method (shown in the photos at the top of facing page). Take a rope of manageable length and weight and form it without kinks into a clean coil. Split the coil into two coils, one held in the left hand, the other in the right (1). For a right-handed person the bitter end of the left hand's coil should be secured aboard. There should be somewhat less rope in the left-hand coil. Rotate your body and swing back both coils, one in each hand, then steadily and firmly heave both simultaneously, the right hand releasing its coil fractionally in advance of the left (2). The idea is that the left-hand coil should not act as a drag holding back the right-hand coil.

It is tempting to secure the bitter end by standing on it, we've all done it, but when you put your best into the heave, in the style of a Sumo wrestler, that foot may lift off its charge. Worse still, the line thrown to another boat may be secured at once to the bitts on that vessel, while aboard your own ship it's tangled around your ankle.

To catch a line, stand with arms outstretched to present the maximum target (3). Heaver and catcher, beware! I have seen lines with a lead-ballasted monkey's fist that could double as a mace in a medieval jousting tournament.

With practice, the two-handed heave is very efficient. Try it with a rope of modest weight and, say, 30 to 50 feet in length, depending on your physique. Once the trick of getting the two hands to work together is mastered, it should be possible to throw the rope dependably to its full length.





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Heaving method described on facing page: Make two coils (1). Wind up (2). Toss the first just a bit in advance of the second (3).

Another not-so-nautical heaving line *This heaving line is simple to make and works like a charm*

by Jerry Powlas

L ast summer, after fretting about the weight of the throwing object inside a monkey's fist knot, I came up with a mouthwash-bottle heaving line that is easy to make and simple to use. Everyone who has tried it — male and female — has been able to throw it the full length of the 50-foot line it contains. And there's no heavy monkey's fist on the end.

I used a 1-liter (33.8-fluid-ounce) Scope bottle, but any plastic bottle that will hold 50 feet of line and has a tapered opening should work (1). The rope used is somewhat critical. I tested several alternatives and found that cheap ³/₁₆-inch line of the type found in 50foot packages in discount and hardware stores seems to work best. Lighter high-tech lines did not have the weight necessary, did not have a greater range, and were more prone to tangle.

Punch a hole in the bottom of your bottle and push the line through it and make a stopper knot at the end. Push the rest of the line into the bottle and make a loop to secure around your throwing hand. As you fill the bottle with 50 feet of line, you will have to use a rod to push the last of it into the bottle. Throw the bottle high so it goes over the receiver's head and lands behind him or her (2 and 3). It's not heavy enough to hurt anyone all that much, but throw high nonetheless. If you have to make a second throw, remove any water that got in the bottle. A bottle with water in it is no longer a safe thing to throw at someone.

The $\frac{3}{16}$ -inch line will be adequate to pull in a person who has fallen overboard. The speed and potential accuracy of this heaving line make it an attractive first move in a man-overboard situation. The $\frac{3}{16}$ -inch line also is a good messenger line for moving heavier cordage, such as anchor or mooring lines.

The great drawback to this device is that it takes several minutes to reload it. So your first shot needs to be good. On the other hand, the thing is so simple, lightweight, and cheap that you could make up several ahead of time.

Practice with it a little before you really need it. It's fun, and you'll know what to expect when you really need to use it.

Happy heaving.



Recycling: breathe new life into an old Scope bottle (1). Throw overhand (2). The bottle lands behind the receiver (3).

Faux fridge

Portable refrigerator provides economical ice

by Carl Hunt

O LDER BOATS LACK MANY OF THE AMENITIES FOUND IN NEWER boats. Chartering a newer Beneteau in the British Virgin Islands brought that to the attention of my wife, Nancy. She noted the Beneteau had amenities that our 1979 Bristol 35.5 didn't.

The difference in amenities is especially vexing if your spouse keeps bringing the issue up. One particular item Nancy mentioned frequently was refrigeration. We have been lugging ice for several decades. This is good for lengthening and strengthening arms. Ice gets the beer cold and keeps some foods fresh for a while. However, as Nancy pointed out, we didn't have to dash in for ice every five days with the Beneteau, and we ate much better.

I tried to argue for the simplicity and economy of the icebox. My arguments crumbled against the twin pillars of convenience and amenities. Keeping in mind the notion that when my wife is happy, I am happy, I set out in search of refrigeration for our boat.

I have to admit to some enjoyment in researching boat projects. Ratty (of *The Wind in the Willows* fame) certainly was correct that simply messing about with boats is enjoyable. I spent many hours reading and discussing options with people. I finally purchased an Isotherm with a holding plate. It was at this point that the project began plummeting downhill.

As we all know, the insulation on many older boats is a bit thin to start with. Furthermore, it probably has deteriorated over the years, leaving even lower R-values. I asked Don Birdwell, a ship's carpenter on San Diego's Shelter Island, to give me a bid on adding some insulation to the icebox interior.

Not possible

The peals of laughter in my boat came from Don as he contemplated fixing my icebox. It couldn't be done. The configuration would not allow room for a holding plate and insulation...plus food and beer. Leaving out the food and beer seemed to defeat the purpose.

The fix would be to rebuild the cabinetry and install a proper box. I stand tall for proper boxes, but I can lug a lot of ice for \$6,000 or more. I might even be able to put lugging the ice into the category of healthy exercise.

I was set to have a moment of despair when I remembered a small item in my refrigeration search — a portable refrigerator. It offered a ray of hope, but hope soon turned to confusion since there didn't seem to be a standard for comparing these boxes. One unit would state that it had a



OK, so it takes up a bit of cabin space, and it's not as elegant, perhaps, as a built-in refrigerator, but Carl points out that this costs \$600, plus another \$125 to hook it up and keep it in place when under way. Converting his icebox to refrigeration would have cost him closer to \$6,000.

50-quart capacity, another that it had a 1.8-cubic-foot capacity. I had to trundle down to the local hardware store to see the various cooler sizes. I learned that most coolers are sized in quarts. I measured the inside of several differentsized coolers to convert quarts to cubic feet.

The other problem was comparing power requirements. Some brands provided measurements in amps at different ambient temperatures. One brand might have power consumption at 72-degree ambient temperature, another might measure consumption at 68. One brand may provide data in amps, another in watts and run time. The price of the units also varied widely, even for units of the same size.

Same basics

A truly dedicated researcher might have built a spreadsheet using a common denominator to make accurate comparisons. Instead, I decided that all the portable refrigerators used the same basic components and materials. For example, I was interested in the 50-quart size. These all seemed to have a Danfoss 3.5-amp compressor with polyurethane insulation. As a result, I decided to base my decision on price. I bought an Adler/Barbour CF-50 from Fisheries Supply in Seattle, Washington. The CF-50 is actually a 52-quart unit, but I didn't let this little discrepancy in designation deter me.

I chose a unit of this size because it conveniently fit against the bulkhead and the port settee. It would be as out of the way as a box could be in a small boat. I could also set it on the starboard settee by the stove when we needed to use the port settee as a double berth or needed more room at the table. The \$600 cost was a big savings over rebuilding the galley. It was less than half the price of a real refrigeration unit that would have gone in the old icebox.

Keeping the batteries charged would be a necessity with the greater electrical loads from the new refrigerator. I already had a three-stage regulator to go with the stock 50amp alternator. The 50-amp alternator might have worked, but I thought a high-output alternator would reduce engine running time, thereby expanding the cocktail hour. I chose a Powerline 100-amp alternator for \$530 from Downwind Marine in San Diego.

Appropriate alternator

Downwind Marine helped me choose the appropriate alternator. It's more than a matter of just buying a larger alternator. The actual maximum output of my new 100-amp alternator is 76 amps. Some reduction is due to heat in the engine compartment and the size of the engine pulley relative to the alternator pulley. I don't consider this a disadvantage because my 225-amp-hour house batteries won't accept much more than 50 amps. At cruising speeds, the 100-amp alternator charges the batteries at close to a 65-amp rate. At anchor I can run the engine at 1,400 rpm to obtain close to a 50-amp charge rate. You could say that I bought less for more, but it matches my system reasonably well. That's always a blessing.

I asked Dr. Electron, otherwise known as Alan Katz, to install the alternator and a switch and fuse in my electrical panel. I ran 14-gauge wiring from the panel to two 12-volt receptacles. The switch, fuse, wiring, and receptacles cost about \$100. I also recognized that a 40-pound refrigerator flying around below while we're sailing might cause a problem. As a result, I spent an additional \$25 on pad-eyes and rope to secure the unit so it wouldn't hurt the boat or one of us.

For less than the price of the basic Isotherm compressor, controller, and holding plate, I had my baby refrigerator fully installed and working, including high-output alternator. In doing so, I opened up a huge storage locker: the old icebox. And I could still use the old icebox if the portable refrigerator failed. This seemed like a great solution to my refrigeration issue. The major question was whether or not the unit would work as well as advertised.

Cold vs. amps

The basic issue was whether the unit could keep beer and food cold without severely discharging the batteries. The shock of dead batteries can be terminal to a good cruise. If I were one of the folks at *Practical Sailor* or Nigel Calder, I

could have hooked up sensitive instruments to determine how well the unit performed in meeting certain criteria under varying conditions. I don't have any sensitive instruments. I was nonetheless paranoid about running the batteries down. Nancy and I were getting ready for a summer cruise, and I didn't want to end up in some remote location with dead house batteries.

Our plan was for me to sail from San Diego to Marina del Rey, where I would pick her up. We then would spend two weeks on Catalina Island and other places on the coast. As a result, I decided to design my own field test... well, you have to call it something. The first stage of my test was to disconnect the shorepower while working on the boat in our San Diego slip. For three days I ran the refrigerator. I left lights on. I ran fans. I tried to simulate the amount of electricity we would use while cruising.



Beer and sodas go in a separate compartment, which maintains temperatures of about 45 degrees. The frozen food goes in the bottom of the box, set at 32 degrees.

At the end of three days, my digital multimeter said the batteries had fallen to just over 12 volts. The ambient temperature ranged from a low in the mid-60s to highs in the high 70s and low 80s. I have no idea how many amp-hours actually were used, but a reading of more than 12 volts after three days gave me the confidence to continue. I was ready for the next step of my field test.

Three-day trip

I would not hook up to shorepower overnight while on the voyage from San Diego to Marina del Rey unless the house bank was fully discharged. I took three days to get to Marina del Rey. Unfortunately, two of those days were spent motoring, so the final step of the field test occurred at Marina del Rey.

I sat there for two days, unhooked, without running the engine. Southern California was experiencing a heat wave with highs reaching 85 both days. By the time Nancy arrived, my multimeter read 12.3 volts. I was beginning to feel confident that our 225-amp-hour house bank with the 100-amp alternator was up to the job.

The moment of the real test had arrived. Nancy and I purchased groceries. In addition to beer and sodas, we purchased lettuce, vegetables, cheese, Egg Beaters, lunchmeat, steaks, frozen fish, and frozen scallops. During our two-week cruise, the refrigerator met our expectations. I ran the engine 30 minutes in the morning and 30 minutes in the evening. This kept the batteries above 12.3 volts.

The perishables stayed fresh for longer than I expected. The unit has a number of discrete settings in what appears to be about 8-degree increments. We placed the frozen food on the bottom and set the unit on the third lowest setting. It kept the bottom of the box at 32 degrees and the top somewhat warmer. We stored the beer and sodas in a separate compartment that was about 45 degrees. Apparently, the temperature does vary in dif-

ferent parts of the box, just as the manual says.

We ate the frozen food within three days, but on the third day it still was frozen solid. It probably would have stayed frozen for a day or two longer, which would have presented an opportunity for another field test. After we finished the frozen food, we turned the unit down a notch. The bottom was about 40 degrees at the lower setting with the upper regions of the box somewhat warmer. The beer and soda area was above 50 degrees at this setting.

All in all, we are very satisfied with the portable refrigerator and consider it a worthwhile upgrade for our boat. It was a fraction of the price of adding refrigeration to our current icebox. I doubt that it is a perfect substitute for built-in refrigeration, but for our purposes, it appears to be a reasonable compromise.

A friend in the engine compartment

Borel Manufacturing has come out with a diesel alarm system that monitors the two most common causes of engine failure: a plugged fuel filter and raw-water pump failure. It's like having a friend watching over your engine and preventing it from becoming a very expensive piece of useless equipment.

Even before the engine stalls from lack of fuel, the fuelfilter vacuum sensor will sound an alarm in the event of filter fouling. In the event of raw cooling-water restriction or failure, a fast-acting thermistor sensor will sound the alarm well before

traditional engine overheat alarms will activate and in time to prevent damage to the engine, exhaust hose, or waterlift muffler. The installation instructions are easy to understand also.

The system retails for \$144. Borel carries a line of boat alarms, along with a marine digital recorder, an underwater camera, and more.

Contact Borel Manufacturing: 800-824-4449, <http://www.borelmfg.com>, borelmfg@earthlink.net

Prevent pots' headlong rush to starboard

The creative folks at Simply Brilliant are at it again. Their latest innovation is the Pot-Sticker, a little mat that keeps things from sliding around at sea. Hot pots of boiling stew or soups come to mind. Computers and expensive electronic gear. Dinner plates. You get the idea. The PotSticker can be used as a pad under hot pots, is flexible enough to serve as a potholder for grabbing hot lids and handles, is sticky enough to serve as a great jar opener, and makes a small, but handy, placemat. You can wash it in a dishwasher. Patriotic too, the PotSticker comes in red, white, and blue. Your boat will need more than one. It measures 9 x 9 inches and retails for \$8.95. What's next from those creative folks at Simply Brilliant? They've already come up with Shockles, the bungees with a difference: Mini-Shockles; the RailLight cockpit lantern; and the Light-Cap water bottle with a solar-powered LED. As for what's next, watch their website. They're always brainstorming!

Contact Simply Brilliant: 888-557-6464, <http://www.shockles.com>, info@shockles.com

An electrical spray that knows all the tricks

It's amazing what you get in a single can of Electro-Seal. This rubber spray coating, by Ducky Products, acts as a moisture barrier to protect sensitive electrical components. It's a waterproof, flexible, and permanent coating that works even when totally submerged. It can be applied to any surface without worrying about discoloration, and it forms a bond to protect against rust and moisture. Since it dries clear, you can visually inspect wires and connections protected by Electro-Seal. One thing to note: it won't hold up in direct sunlight, so use it on those electrical components that are kept out of sight. It can be used as an insulator in circuit boards, electrical panels, and connection boxes. It works with battery terminals and exterior wire connections. And it helps prevent nuts and bolts from rusting. Just 4 mils of Electro-Seal (the equivalent of four coats of spray) will withstand 300 volts. Oops! You want to remove it? Mineral spirits or paint thinner will do the trick. An 11-ounce

aerosol can retails for \$12.95. Contact Ducky Products, 626-797-7726, <http://www. duckyproducts.com>, duckyprod@earthlink.net

To be featured on this page, items must be new products. If you would like to have your product featured here, please send an email to Michael Facius, michael@goodoldboat.com, or call him at 612-605-8319. By the way, readers, if you contact a marine supplier mentioned here or elsewhere in our magazine, please remember to tell the folks there that *Good Old Boat* sent you.



Off to a good start

The second annual Canadian Islands Night Race took place June 9 and 10 off Cedar Island Yacht Club near Kingsville, Ontario. This year 15 tried-and-true good old boats were on the line at the 8 p.m. start. Through the night, crews were treated to brilliant moonlight coupled with 25-knot winds and Lake Erie's famous 8-foot rollers 8 feet apart. Fearlessly, the fleet dashed around 57 miles of Lake Erie's picturesque Pelee and Middle Bass Islands. Meanwhile back at the club, the pig was roasting peacefully on the BBQ.

Thanks to *Good Old Boat* for support and encouragement of this truly unique Good Old Boat Regatta.

Mike Lippman and Thor Powell Founders and race chairmen Cedar Island Yacht Club

With the Canadian Islands Night Race, the gang at the Cedar Island Yacht Club has started something good and sure to grow. The photos show the evening spinnaker start, top, and winners of the cruising class division, Thor and Debbie Powell, in their Nonsuch 26, Mariner's Cat V, at right. Other winners included Ron Taillieu, Obsession, a C&C31 in the spinnaker class and overall best corrected time, and Mike Lippman, Bears



Mistress II, a Hunter 31, in the JOG class. We noticed right away that the founders and chairs of this event both managed to win first place. But they swear it wasn't rigged. For more photos and statistics, visit our regatta page: <http://www.goodoldboat.com/regatta_nightrace.html>.

In praise of the Nonsuch 30

You have finally reviewed what I consider to be one of the best vessels I have owned: the Nonsuch 30 (July 2006). About six years ago I decided my back and knees were too old to jump around a sailboat...I did the unthinkable and bought a 32-foot powerboat. Oh, the *shame* of it! At every harbor my sailing friends would come to my 12- by 15-foot cockpit and eat and drink until my freezer gave forth no more ice. We noticed a sailboat next to us in Boothbay Harbor and speculated as to its size. Guesses went from 34 to 38 feet. The owner rowed by; I asked him to settle the argument. When he said, "30 feet," I asked him if I could have a look.

I sold the powerboat and purchased a 30-foot Nonsuch. Everything was done from the cockpit faster than you can talk about it. The only reason to go forward is to anchor.

Don't change your format or your market nitch. You fill a desperate need for people who are not purchasing one-of-a-kind megayachts.

Don Lippoth York, Maine

Further Spray resources

I enjoyed Ted Brewer's article on Joshua Slocum's *Spray* (July 2006). It brought back many fond memories of my own studies into the *Spray* design in the mid-1970s.

When discussing the design of the yawl, mention must surely be made of Australian Ken Slack's excellent 1966/1981 book, *In the Wake of the Spray*, in which he exhaustively analyzes the *Spray* and every early copy of her he could trace. It is long out of print, but copies are still available secondhand. Check <http://www.abebooks.com> or ask Mark Busta at *Good Old Boat* to find you a used copy: Mark@goodoldboat.com, 763-420-8923. It's well worth the study for any serious student of the *Spray*. I still have my copy, now well-creased and marked up with pencil.

I also note that Ken Slack still sells copies of his plans on his website <http://www.kenslack.com> with the comment, "My plans are as close to the original as possible since I prepared them for my own use and have no need to respond to market demands." (A dig, I assume, at fellow Australian Bruce Roberts and his myriad copies?)

Thanks for stirring up some fine memories. Who knows? I may still build the old *Spray* yet...

By the way, Millicent Library <http://www.millicent library.org/souvenir.htm> has photos of every page of a 48-page 1901 souvenir booklet of newspaper clippings about the captain and his voyage. It sold for 25 cents and included a tipped-in square of canvas cut from the *Spray's* old sails.

> David Smith Glenwood, New Brunswick

Rigging modification question

The rigging on my 1967 Creekmore 30, *Niña*, is only $\frac{3}{6}$ inch. Even though I've had her 13 years and sailed her hard at times (her No. 1 is 155 percent), the rigging is still sound. Here's my question: if I install a roller furler, can I use the opportunity when going aloft to increase the forestay diameter to either $\frac{7}{6}$ or $\frac{1}{4}$ inch? Must I then replace all rigging to match?

> Michael Posey West Orange, N.J.



ww.goodoldboat.com 81

Jerry Powlas responds

You can increase the size of your forestay without increasing the size of the other wires, but I usually don't recommend it unless you have a serious reason to do that. It seems easy in concept, but in detail, changing the wire size of your standing rigging is quite involved. Think of the forestay as a system. Every part of the system — from the fasteners that attach the tangs to the mast, the tangs themselves, the region in the tangs where the pinhole is, the pin itself, the terminal (and pinhole), and finally the wire — is important at the top. At the bottom end, each of these is critical: the terminal, terminal pinhole area, pin size, chainplate, chainplate pin area, pin itself, and even the attachment of the chainplate to the hull with its fasteners.

If any of these critical elements is not up to the strength of the new forestay wire, the increased wire size is of no great use. It just adds weight aloft. The place where wire increases commonly run amuck is in the area of the pins. The new terminals will typically have a larger hole than the existing chainplates and tangs. There is a temptation to drill out the chainplates and tangs to the larger hole size, but this should only be done if the remaining area after the drilling meets minimum specifications for the strength of the new wire. This is typically not investigated fully, so the modification causes a stronger wire to be connected to a weaker chainplate and tang.

It can be worthwhile to upgrade all your rigging if you plan to use the boat in some extreme or uncommon way that is outside the probable intent of the designer and builder. Dave Martin recommends doing this, but then Dave sails around the world in his boats. If you go to this trouble, you really should analyze every component from the mast attachment to the hull attachment and upgrade each that is not up to the strength of the new wire.

Even if you do all that, when you tune the rig, tune it to the tensions recommended for the old wire. The hull may not be strong enough to take the stress of pre-tensioning to the recommended tensions of the new wires.

Thus, as in so many things, if it ain't broke ...

Jerry Powlas Technical Editor

Nautical time nitpicks

I read and enjoyed the "Nautical Time 101" article in the May 2006 issue. It covered a lot of information in a brief piece. However, I did notice one nit, and being an inveterate nitpicker, I will pick it. Don Launer says, "Clocks existed during the Elizabethan era, but they generally used a pendulum ..." The pendulum mechanism for clocks was invented in 1657, well after the Elizabethan era. Before that, clocks used either a device called a *foliot* (on the continent) or a balance wheel — which was used on English clocks (which were just beginning to be manufactured there at the end of Elizabeth's reign). Both of those systems were hard-pressed to maintain an accuracy of an hour a day on land. Forget it at sea.

Other than that, I enjoyed the article and look forward to more by Don Launer.

Gene Bjerke Williamsburg, Va.





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The key to locks

The article Vern Hobbs wrote on navigating locks (July 2006) was excellent. My experience as a novice going from the Hudson River to the St. Lawrence River via Lake Champlain might be of interest to others.

A lot of water is moved quickly in filling or emptying a lock, causing strong currents, eddies, and whirlpools. Vern was correct to suggest a hitch around a cleat, because these currents will give the boat motion. Even with a crewmember on each line, it is difficult to adjust lines quickly enough to keep the boat parallel to the wall, so it is a good idea to have fenders from stem to stern along the wall side. Check the amount of lift of the lock. Generally speaking, the higher the lift, the more exciting the beginning of the ride up.

Locals advised us to use burlap bags or grain bags stuffed full with hay or straw as fenders, and it was good advice. The old concrete walls on some locks were in rough shape and regular-sized fenders would not have been effective. When we were through all the locks, we gave our "hay fenders" to a boat headed the other way.

When rafting is necessary, I prefer to have a larger boat next to the wall and to tie up next to it (offering our crew to assist with its lines). One canal required single file, no passing, so a group of us remained in the same order through several locks. Being able to think ahead about which boat to raft with in the next lock was helpful.

On a cold, dark, rainy, and rough night, we entered the lock at Canso, Nova Scotia. Some difficult-to-make-out light had been slowly gaining on us, and the lockmaster told us to move as far forward as possible to accommodate the following vessel. It turned out to be a tug pushing a bargeload of crushed stone. It took the full width of the lock and most of the length. Looking up at the lock doors immediately forward and looking up at the barge behind us, which seemed to overhang our stern, I determined to be more careful about whom I went into a lock with.

Many locks are easy. Some have floats in them to tie up to, so there are no lines to adjust as the water level changes. I particularly remember the lock at the Louise Basin in Québec City. It has significant lift but also a float to tie up to, and is a lovely, smooth ride.

If you are unfamiliar with locks, most have a place to tie up before entering the lock. You can usually tie up there, go ashore, and watch a cycle or two of the lock operations. Often a lock has a picnic area associated with it, which would allow a picnic ashore while getting the feel for how things work.

> Ted Cady Warwick, Mass.

Lifeline modification

I take people for rides on my 1985 O'Day 31 on the Chesapeake. The tidal range is not much — about $1\frac{1}{3}$ feet — but this is enough to make it difficult for some people to climb up onto the deck and over the lifelines. I have pelican hooks on the stern ends of the lifelines but, because of dock configuration, it is much easier to come in bow first.

In addition, the finger pier from the dock is narrow and serves two boats. This makes it difficult to install steps and

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— since he has much less freeboard than I do — my dock neighbor would not like stairs there.

Also, when docking at a destination slip, I may not have a choice. The problem then is to provide easy access over the bow lifelines.

When my insurance surveyor told me I should replace my lifelines, I took the opportunity to have pelican hooks put on the stern and bow ends of my lifelines. It is easy to reach the hooks at the bow to unhook them. It's even easier to simply leave the hooks unhooked when leaving the boat. I never have to worry about whether I will have a line I can lower wherever I am docked.

Before I made this modification, I walked through my local boatyard (about 500 boats) and didn't see any boats rigged like this. Still, I assume there is no safety issue. I haven't had any problem so far (two months) and hope I won't have any in the future.

Dallas Frederick Unionville, Va.

Go

In our travels, we have noticed a peculiar dock configuration phenomenon, in Maryland in particular, which Dallas must surely be dealing with in his marina. We figure it is because of the large number of boats and the need to make them fit in as small a space as possible when docked. The finger piers we've observed extend only partway out from the main pier, perhaps only 8 or 10 feet. And they are very narrow. Sometimes they are wedgeshaped as well. These tiny finger piers almost require that a boat be docked bow forward and that the hapless crew climb aboard over the bow. It's not easy, but it does make it possible for marinas to squish in a few more parking spots in their allotted space.

Thanks for Sport-a-Seat recommendation

I wanted to thank you (THANK YOU! THANK YOU!) for recommending the Sport-a-Seat in *Good Old Boat*. We just got ours and they're just wonderful. There have been plenty of times I haven't wanted to spend a lot of time down on the boat just hanging out simply because there's not really a comfortable place to sit with decent back support. The



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Northern Breezes Sailing School 3949 Winnetka Ave. N., Minneapolis, MN 55427 763-542-9707 www.sailingbreezes.com cockpit is hard and uncomfortable and the settees have that cutout where my lower back is; even stuffing pillows back there doesn't do much. I'd always leave with an aching lower back and a sore bottom.

But the Sport-a-Seat is perfect above and below. Comfortable, but firm, and the right length for my legs with good back support. Most excellent.

We bought one as a gift for good friends of ours. He wants to spend lots of time down on the boat, but one of the reasons his wife gives for not joining him more often is that, with her back problems, there's not a comfortable place to sit. Well, now she has a Sport-a-Seat with lumbar support, so she'll have to come up with a different excuse!

Thanks again for the recommendation. We're loving them!

Andie Reid Wilmington, N.C.

Local cruisers "R" us

I'm sure you are aware that the rest of the sailing magazines cater to those who cruise, dream of doing so, or race. Those of us who are happy cruising local waters sort of get left out with the exception of *Good Old Boat*.

John Hansen Austin, Texas

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.



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sions include comments by Ted Brewer about the *Spray* and more than 60 illustrations from the book's first printing.

Next we've recorded a trio from John Vigor.



Call it "The Vigor Trilogy." Narrated by Theresa Meis, it begins with John's wildly popular *Danger*, *Dolphins*, *and Ginger Beer*, which was published around the globe. It is now available for the first time as an audiobook.

A "youth adventure novel" with a sailing theme for 8- to 12-year-olds, this book is as big a hit with parents and grandparents. (You don't even need to have a kid along in order to enjoy it.) The download includes an introduction by the author, a ginger beer recipe, and a map of the sailing area described in the story.

Two more audiobooks will follow; neither has been published in book form. The first, called *Sally Steals an Elephant*, involves the same family introduced in *Danger*, *Dolphins, and Ginger Beer*. The second, called *So Long, Foxtrot Charlie*, introduces a new set of characters.

What else is in the works?

We're producing several more (an eclectic mix actually): Jaja Martin is narrating *Into the Light: A Family's Epic Journey*, written by Dave and Jaja Martin about their travels to Iceland and Norway above the Arctic Circle. Gregory Newell Smith is narrating his



own excellent tale about his circumnavigation, *The Solitude of the Open Sea*. And we have a few more surprises in store.

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A place for everything and everything out of place

by Karen Larson

G RIDLOCK IS A CONDITION EASILY achieved ... way too easily on a boat in the spring. I was able to manage it with a can of paint.

Perhaps you've experienced it. Boat gridlock isn't a condition that occurs only in spring. It can happen when you're stowing a ton of provisions just before a vacation cruise. It can happen when a really large project rips the interior of the boat apart, opens every locker, and causes tools to be strewn around. If you can't put something somewhere because something else is in the way, checkmate! If it goes several steps (this thing needs to go there, but that thing can't clear the way because it needs to go somewhere else where something else is), abandon all hope!

This spring, with *Mystic* a 12-hour drive from home, it was tough to choose the perfect weekend for our annual pre-launch preparations. Instead of a weekend, we needed a six-day window of opportunity. Those days had to mesh nicely with our deadline schedule and meetings. I selected six days in a row that were clear on the calendar. The weather gods chose the same six days for wet and blustery weather in east/ central Ontario north of Lake Huron, where our baby had spent the winter.

It seemed smart at the time

In spite of weather too wet and cold for painting, I went ahead with an

ongoing project that involves cleaning and painting the lockers in a different section of the boat each year. I'm about four years into it. The lockers from Year One still look good. Conquering a few lockers at a time makes it a longterm conquest, but I'm winning. And there is still much to be done.

This year the head and V-berth were to be the recipients of my ministrations. It seemed like a good plan at the time. We had already removed and stowed the tarp. We'd replaced the stanchions and lifelines. We'd taped and painted the bootstripe before the rain arrived. But it had become too wet to work outdoors. Too wet to paint the bottom. Too wet to move our gear aboard. Unfortunately, according to the label on the paint can, it was too wet and way too cold to paint. But we had driven a long way to launch the boat, gosh-darn-it, and time weighed heavy on our hands.

Anxiety attack

I filled the main cabin with all the gear that had been stowed in the V-berth and head. I scrubbed and painted. Jerry had his head in the engine compartment replacing the alternator mount. We were making progress on the launch program in spite of a cold and wet weekend. Life was good. But on Day Two the paint was still tacky. Life was less good.

By Day Three, after running cabin heaters for 24 hours, the paint was still tacky. Now was the time to move all the gear we'd brought along with us into the boat. Now was the time for stowing, cleaning, launching, and returning to the rat race at home. Now was the time for an anxiety attack!

Launch day dawned clear and cold. This being Day Four, the paint was ready at last to make stowage possible once again. The V-berth once more absorbed a truckful of gear. Our spring ritual was concluded successfully, much to our relief. *Mystic* was launched. Life was good.

The problem with happy endings is that we sometimes forget the lessons learned painfully in the days leading up to those happy conclusions. A season of sailing will surely follow. By the time next spring rolls around, I will have designs on the lockers in yet another section of boat. I hope it won't be too wet and cold; if it is, I'll probably paint them anyway.





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Reflections

The *other* boat

Domestic bliss returns after a short-lived middle-aged fling

by George Bollenbacher

F YOU ARE, OR WERE EVER, MARRIED OR EVEN IN A LONG-TERM relationship, you will know what I mean when I admit to having had a fling with another boat.

I didn't set out to get into trouble this way. It began when I took a six-month consulting assignment in San Francisco, which entailed renting a furnished apartment in the South Beach neighborhood, a few blocks from the Embarcadero and literally in the shadow of the Bay Bridge. I would only be returning to New York every other weekend, so my wife worried that I might have a middle-aged fling with another woman (which only goes to show that she doesn't understand the heart of a sailor).

As soon as I had moved into my little apartment and started my project, I went on the prowl...not for a woman but for a boat to crew on. The mecca for crew, as it is for singles, is the Internet, and it was there that I found the South Beach Yacht Club (SBYC) just down the Embarcadero.

By some industrious poking around I located the club's membership chairwoman, and she hooked me up with the owner of "the other boat," a J/105. SBYC has a series of winter races, one every month from November through March, and Dick Smith proved to be the perfect boatowner for someone looking to crew. He was congenial, adaptable, and not overly focused on winning every race.

I joined Dick and his crew on *LunaSea* for the next race. For sailors and for racers, in particular, winter on the bay has pluses and minuses: it is seldom cold enough to make sailing really uncomfortable, but the wind can be fluky.

On this mid-January day, we got the plus and the minus. The temperature was mid-50s. The wind took the day off. Coupled with a 3-knot ebb tide, that meant that we motored out to the course, hung there next to the committee boat until the race was canceled, and motored back to the slip. A little disappointing, perhaps, but better than hanging around my apartment.

She was captivating

Even under those conditions, *LunaSea* was captivating. J/Boats are really one-design racers with bunks and a galley, and *LunaSea* in her berth was like Seabiscuit in his stall: all athlete and ready to run. The retracted bowsprit was just waiting to be extended, the asymmetrical spinnaker was lying at the ready, and the big Harken two-speeds gave off that unmistakable purr. Just boarding her made you feel like a sailor.

A few weeks later, Dick and I took her out for an afternoon romp, and I got to see her with the bit in her teeth. Not a howling wind, mind you, but enough for her to kick up her heels. We sailed around Yerba Buena Island, under the Bay Bridge twice, and were home in time for tea. Two of us could handle



her very well, if you made allowances for my unfamiliar fumbling, and I came away from the dock all smiles.

In many ways, *LunaSea* was everything that *Greyhound*, my Alacrity 19, is not. She was big, almost twice as big, and fast. She was much newer. *Greyhound* was almost twice as old. And she was impressive, while *Greyhound* was simple and, you might say, adequate.

But mostly, she belonged to someone else. Dick paid for her, her slip, and the small amount of diesel fuel she used. He bought her new canvas when the old sails wore out and fixed her winches when the pawls stopped working. He even had a spare PFD on board for crewmembers who showed up unprepared.

Being someone else's boat made *LunaSea* all the more attractive.

And it wasn't just to me, either. One of the crewmembers I met owned his own sloop, but he manned the helm for Dick instead of the helm of his own boat. Maybe it was the camaraderie of the crew on *LunaSea*, but I think she appealed to his senses the same way she appealed to mine. Everyone wants to spend time with the prettiest girl at the party.

End of a fling

But someone else's boat is still not yours, and all flings must come to an end. In fact, Dick had put *LunaSea* up for sale long before I came to San Francisco. Shortly before I was due to return to the East Coast, Dick found a buyer and announced that she was gone. After having her on the market for many months, the departure was pretty sudden, with no time even for a final race or a sail around the bay.

So I came back home to *Greyhound* and appreciated her more than before I left. While I was playing with another, she had huddled patiently under her tarp biding her time until I came back. No hard feelings.

As I reclaimed her, I realized that she was just right for me: not too big and not too small. Her tiller fit right in my hand, while *LunaSea's* wheel always felt a bit foreign to me. I knew every inch of *Greyhound*, above and below the waterline, and I'd fixed or replaced many of her parts. Oddly, as I got her ready for launch the following spring, she seemed almost like a new boat. I had a ball on *LunaSea*, but I know where my heart is.

Oh, and my wife was glad I came home from the West Coast too. $\hline \hline$



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