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Issue 62 September/October 2008

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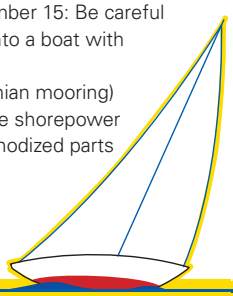

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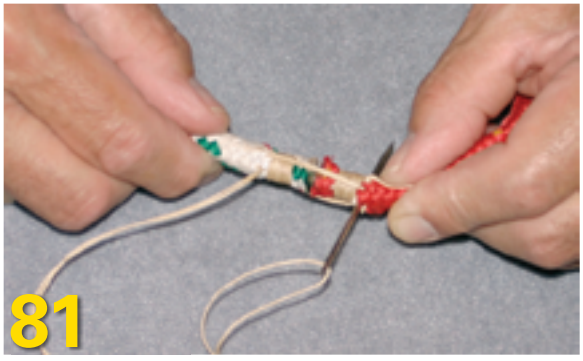

Just for fun

What's more

About the cover . . .
Chatauqua is a 1928 Sam Crocker ketch owned by Joe Zaraschi, Essex, Connecticut. She was photographed by Paul Rezendes from the dock at the Connecticut River Museum in Essex <http://www.paulrezendes.com> .

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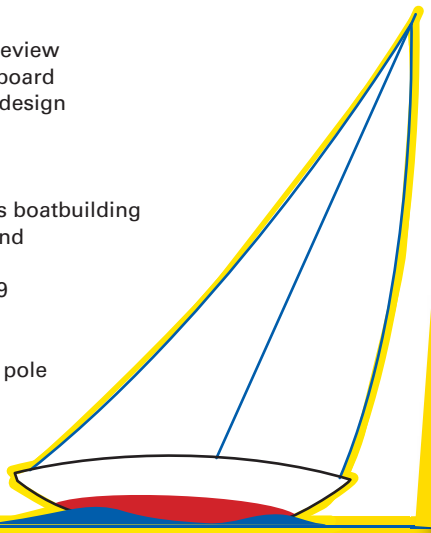

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MMPA

Getting closer to nature

Losing a dodger means gaining a view

Guest editorial by Richard Smith

Our big dodger covered the bridge deck and extended to the sides of the cabintop, making a convenient stowage place for jackets, sweaters, binoculars, and spring lines. We kept a couple of fenders up there, and the cat liked to snooze on a coil of reefing ties next to a thermos of hot coffee.

But the once spanking-new fabric was badly faded and threadbare in places. The not-so-clear plastic was so cracked and crazed it was impossible to see through it in the rain. Metal fasteners were tearing away from the shrunken fabric, and the aluminum framing was wobbly.

When we finally traced a leak to the failed bedding compound under a supporting frame mount, that did it: we'd have to replace our faithful shipmate. The problem was that we had just fitted roller furling and been faced with a big haulout in the spring. We'd have to make do without the dodger for a while.

That was 10 years ago. That first summer without cockpit canvas we got the sky back. Up to the masthead and down, off to port and starboard, close in to the waterline and all the way to the horizon . . . suddenly we were in touch with the sailor's environment again. And there were other advantages: taking the dodger off gave us more control when docking under windy conditions and reduced windage at anchor. It was like getting an extra 50 feet of scope.

> **"…in an open cockpit we sail closer to the company of killer whales and Dall's porpoises."**

Clear view ahead

Its removal cleaned up the deck in other ways too. We took the dinghy off the deck and towed it in all but the worst weather, opening up a clear view ahead. Keeping a good lookout is at the heart of good seamanship.

Apart from safety considerations, sailing well requires careful reading of the water and its varying textures. You've got to see it coming to get the best grip on the wind, well before you feel it on your face or find it indicated on an instrument. It's this careful monitoring of the wind, when zephyrs arrive on little cats' feet, that allows some boats to pass others when least expected.

But there are other, less tangible benefits to sailing in an open cockpit. Rowing the dinghy to shore, I look back and see our boat lying there, more beautiful than she was before, more what Bruce King had in mind when he drew that pretty hull. It's longer and lower with a sheer that sweeps back from the bow to the cockpit and up again to that lovely tumblehome, one sweet and continuous line.

It's a personal thing, this matter of the cockpit as a refuge from the elements or as a way to get closer to nature. There are times when we miss the shelter afforded by a dodger, especially when sailing with guests. But in an open cockpit we sail closer to the company of killer whales and Dall's porpoises. We feel more a part of the wild world when we keep less between it and us.

Of winches, mast raising,

A winch in time . . .

I could hardly believe my eyes when I opened my March 2008 issue and saw the article on Barient winches. Removing and cleaning up the winches on my O'Day 23 had been on my to-do list for a couple of years. However, I was hesitant because I didn't know how to get the darned things apart and I didn't know what I'd find when I did. (I was afraid pieces would go flying.)

The well-written piece by Jamie Harris gave me the confidence to tackle the project. I literally had the magazine open on my workbench as I took the winches apart. Thanks for a great magazine. That one article was worth the subscription price. Now if it will just stop raining long enough for me to finish up my maintenance projects and go sailing!

Kevin Peterson
International Falls, Minn.

Paraffin baths for winches

I have read in winch service manuals to clean parts with a paraffin bath. How do I make the recommended paraffin bath? Why is a paraffin bath recommended above, for example, just a mineral spirit dip?

Roger Shepherd
Tallahassee, Fla.

Paraffin and the English language

My guess is that the winches in that manual were British or at least came from a British Commonwealth country. In those places where Elizabeth is currently the queen, they use the word "paraffin" to describe what we call "kerosene" here in the black-sheep commonwealth country of the U.S. Diesel fuel is similar. In fact, #1 diesel (#2 is the normal summer fuel) is so close to kerosene that one may be substituted for the other for many tasks.

Winston Churchill said it: we are two countries separated by a common language.

Jerry Powlas, technical editor

Proud of his Brewer one-off

I have a Ted Brewer-designed Nimble 30 Express, which I bought in 2003 from Harold Zigmund. Ted designed the boat for Harold. It was built in 1994. Ted says this was the only one built. My son and I put up the mast last weekend and hoisted me up in the bosun's chair to put on the radio aerial and wind instruments (see photo at right). You will notice we did not have the Profurl boom or the boom gallows on yet. I have to go up again after I get a hollow fid to splice the shackle on the new spinnaker halyard and put a new bulb in the deck light. The deck and cabintop need paint, but that can wait a while. I want to go out for a sail this weekend. By the way, I turned 86 on July 4!

Bill Carlson
Duluth, Minn.

How does one lower the mast?

I have a Creekmore 30, whose mast is stepped to a tabernacle. The boat is in the water and I want to lower the mast. Can you help me find the proper procedure for lowering (and subsequently raising) the mast?

Steve Bernard
St. Mary's City, Md.

Answer: very carefully!

That is going to be one very heavy mast. The best thing to do is to use a gin pole. That gives you a sky hook of sorts. I have also seen articles in which two other sailboats were used — one on each side of the boat with a mast to lower — with lines led from their mastheads to the center boat's mast at a point above the center of gravity.

There are two problems with this. One is that as the mast gets more horizontal, a line from the bow to the mast is at a very bad angle and the stresses on it are too high. You need something near the pivot point that sticks out forward and gives you a one-sided spreader as the mast gets low. Then the line from the bow will not wind up at such a bad angle. You also need something that will control the motion of the

and electrical systems . . .

mast from side to side. Lines that lead to the deck edge, up to the mast, and then over winches can work. The winches can allow them to be eased simultaneously.

We ran an article about mast raising and lowering a long time ago (May 2001), but the mast on that boat was much smaller and lighter. The article is online at <http://www.boatus.com/goodoldboat/maststepping.asp>. Author Ron Chappell's solution is a good one. Be careful, however. His mast was lighter.

Jerry Powlas, technical editor

It's a small world (with Google)

I have a trailersailer Sailfish 18 that was built in the '70s in Southampton, U.K. Mine was formerly on a river mooring, so the previous owner never needed to worry about raising and lowering the mast. He just used the club crane at the start and end of the season. He never owned a trailer.

I am setting it up for trailersailing and, after fitting a new furler, I needed a safe and reliable method. The article by Ron Chappell in May 2001, credited to Gerry Catha's bridle system, finally solved a real problem. The idea is simply brilliant. After creating a wooden contraption to test the tie points and the principle (center of bridles rotation at the mast pivot point), I have now graduated to a rope cord version and a single gin pole. Once I get the connection simplified, it will connect, disconnect, and stow easily.

I made some real progress this past weekend raising and lowering the mast numerous times to adjust the gin pole length, work out the furler support, install the jib in the furler, replace the furling line with one of the correct length, and generally just to delight in getting it up (so to speak).

I use the boat trailer winch for the lifting and it works like a dream. Please pass on my thanks to Ron for writing about Gerry's idea, and thanks to *Good Old Boat* for publishing (and the power of Google for finding) it.

Ken Wilson
Lymington, Hampshire
United Kingdom

Electrical system precautions

Phillip Reid's article on a "Good Old Electrical System" in the May 2008 issue is informative, but I'd like to point out a danger. Phillip says that more and more marinas are going to 50-amp hookups and, if your boat has a 30-amp panel/cord, you may need an adapter. Using an adapter to take 50 amps of current into a system designed for 30 amps could be dangerous since the boat's panel only has a 30-amp breaker and the system from the shorepower cord to the boat's breaker panel could be subject to 50 amps. A short could cause a fire before the 50-amp breaker on the shorepower pedestal trips. You wouldn't plug a small household extension cord into a 30-amp shorepower pedestal. If your boat is in a slip with only a 50-amp shorepower feed and your boat has a 30-amp system, get the marina to change it. Having seen the multi-boat devastation from marina fires and finding that many of them were due to overloaded shorepower components, I would not want my boat next to the one with a 50- to 30-amp adapter.

Chuck Fort
Baltimore, Md.

Antifoulant of unknown origin

In Gregg Nestor's article, "Choosing the right antifoulant" (March 2008), he makes reference to antifoulant selection being limited if the boat is "currently painted" and this is "especially true if you don't know what the current paint is." Unfortunately, he doesn't elaborate and it is not offered as a choice in the guidelines in the chart on page 42.

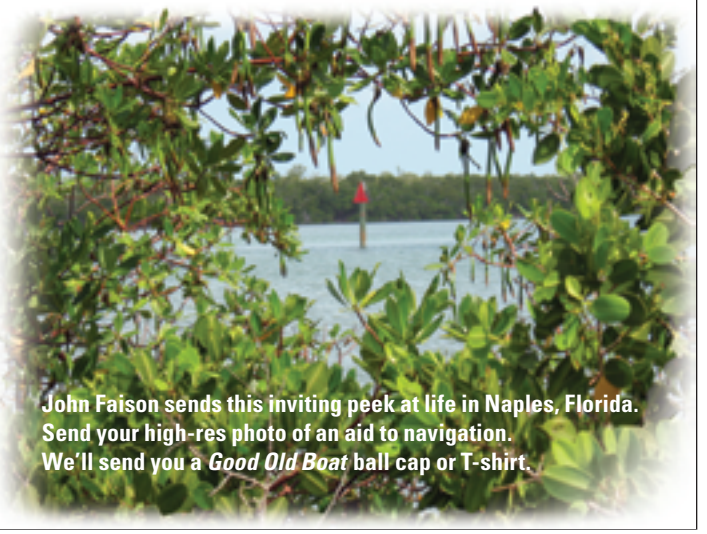
Our old Alberg has an unknown antifouling paint on it that proved quite effective throughout the last season but will eventually need either a touchup or repaint. It would be helpful to me if this important missing information/advice could be provided as a supplement to the article.

Hugh McCormack
Woody Point, Newfoundland

The unfortunate truth

With regard to your question about applying a fresh coat of antifouling paint over an unknown base, break out the sandpaper. The old material must be completely removed, not just roughed up. This is probably not what you wanted to hear; however, there is an upside. If you want to fair the keel, now is the time to do it. If there are any scratches or dings in the hull below the waterline, use epoxy filler and make them disappear. Getting the hull smooth will not only make the boat go faster, it will be easier to paint the next time. Also, if you want to apply an epoxy protection layer, now is a good time.

Gregg Nestor
Middlefield, Ohio



John Faison sends this inviting peek at life in Naples, Florida. Send your high-res photo of an aid to navigation. We'll send you a *Good Old Boat* ball cap or T-shirt.

But not so fast!

Gregg is right in the sense that if you want to be sure, you will need to remove the old bottom paint and — with bottom paint costing what it does (I just paid $225 for a gallon) — it does make sense, in a way, to just remove the old material. There are other alternatives, however, that may save you the backbreaking work of taking off the old paint.

What you are hoping for is that the existing coating is an ablative one. If it is, odds are you can recoat with just about any other ablative. Ablative paint washes away as you sail along. A test for this would be to pressure wash a small section very thoroughly. If the paint comes off with a pressure washer, you know two things. One, it is ablative and can be recoated with more of the same, which is a good deal for you. Two, it comes off with a pressure washer, so if you really want to go to some other paint, you will be able to take the old paint off with the pressure washer instead of sanding it off.

If the paint is very smooth looking, and when you sand it you find extremely thin layers (or even just one extremely thin layer), you are looking at some version of VC 17 or equivalent Teflon-based racing paint. This is a one-season paint and can be recoated with more of the same, but not much else.

If none of the above applies, you are probably looking at some form of solid one-part epoxy-based paint. This stuff goes on and stays on, but the active antifouling material leeches away after a season, leaving the binder. Typically the users of such paint just paint over the old stuff the next year. If this stuff is on there very thick, you will eventually have to remove it all anyway. If it is not on there very thick, you may be able to put ablative paint over it. For confirmation of this, check with the new paint manufacturer. A thin coating of the old-style (cheap) epoxy-based paint, recoated with ablative every year, will probably serve you well enough.

There are many other kinds of paints, but the three most common cases are listed above. Your risk of it being a case not stated above is real, but maybe not so great.

To be absolutely sure, remove the old paint. To take a small risk with a fair, but not certain, chance of success, make an educated guess as outlined above.

To remove old bottom paint, you can use many techniques, including scraping, chemical strippers, and sanding. Of these, I am familiar with scraping and sanding. Both are nasty work. You will needed a cover suit, mask, and respirator. Do not get the sanding dust in your lungs. It will, however, be everywhere else on you. It is a messy deal. As for the chemicals, read the directions and try to find someone who has used the product you have chosen. I have not used any of this stuff, but I have heard enough stories to know that some people are very happy with these products and some have great regrets. I usually think, when I hear such differences, that one person followed the directions better or used a more effective process than the other. Pay critical

attention to timing; by this, I mean how long you leave the stripper in place. That seems to be one of the keys to success. By the way, there are two more articles on painting in this issue on pages 28 and 32.

Jerry Powlas, technical editor

Click to switch screwdriver bits

The most frequently used tool aboard our good old boat is a cleverly designed screwdriver called the Autoloader Multi-Bit Screwdriver (see photos below). I was given one as a present for my shop and liked it so much that I bought another one to keep aboard our boat. I'm confident that many other good old boaters will also enjoy using this tool.

The magazine holds any six bits the user chooses. Changing the working bit is very quick: pull the handle back, rotate the magazine to select the desired bit, push the handle back into place. I keep mine loaded with two sizes each of straight blade, Phillips, and square-drive bits. Other users might choose Torx, Allen, or any other hex bit they frequently need.

The design originated with a Canadian tool company, Franklin Tool Company <http://www.franklintool.com>. However, the tool is available from many sources.

Durkee Richards
Sequim, Wash.

Another use for Don Launer's contraption

I found the mast-track lubrication article by Don Launer in the March 2008 issue to be very interesting. Two years ago, while we were cruising in Louisiana, wasps decided to build their home at the top of our mast. I tried everything to get rid of them without any success.

I built a contraption very similar to the one in Don's article. For the most part, it looked the same. One difference: I attached the halyard to the top of the device, like the downhaul line in the article, and used a separate line for the trigger that I could pull from below on the deck. I ran the can up to the mast top. Early every morning I would give a good blast of bug spray into the mast. It took several days and two cans of spray, but the wasps finally gave up and left. All the folks at the marina thought it was a great invention and that I should write about it. I guess they were correct.

Rob Lee
Cruising with Cheri and Jonathan on the *Bella Rose*

Congrats on the 10-year run!

Yours is one of the few magazines I actually read immediately, cover to cover. I was very flattered to be mentioned in Ted Brewer's article on design evolution (July 2008). Ted was a mentor to me in my early years, and he was always generous with his help and advice. His willingness to advise me when I was doing my first design, the CT 54, was instrumental in making that design a success. Ted was the first "real" yacht designer to tell me I was a yacht designer. I figured, "If Ted thinks I'm a yacht designer, then I must be one." It sure helped my self-image. I hold Ted in very high regard.

Please keep doing what you are doing.

Bob Perry
Marysville, Wash.

Karen Sullivan and her Dana 24, *Minstrel*, sail off Port Townsend, Washington.

We ain't just readers, y'know!

Oh, but it feels so good to rub virtual elbows with such great company in the anniversary issue! [Karen Sullivan's article, "Make-and-Mend Days," appeared in the July 2008 anniversary issue. ***–Eds.***]

I especially like the personal and historical touches in that issue. What's missing in so many publications these days is explicit acknowledgment that readers not only care about the subject matter, but also the people who create and contribute to it. It's rare to see so much column ink and detail used to illuminate the "family" part so personally for the "extended family." It's what makes *Good Old Boat* the sailing magazine for the rest of us!

OK, I'll stop gushing now. I won't say, "Don't ever change," but if you do, do it incrementally. We subscribers ain't just readers, y'know!

Karen Sullivan
Port Townsend, Wash.

One of the rest of us

I'm writing to compliment you and the team on a great magazine. I'm a fairly new subscriber and just received my third issue. I am really, really enjoying it.

I see why you call it "the sailing magazine for the rest of us." I can't even look at other sailing magazines. They're filled with ads for expensive yachts and stories of sailing in exotic places. The subject matter is inaccessible to me.

I bought a 1986 Cal 28 about four years ago and got two new hobbies for the price of one. The first is sailing any chance I get and the second is maintaining and improving a 22-year-old boat. I didn't count on the latter, but it's linked to the former. I don't always enjoy doing the repairs and such,

but it gives me a different kind of connection to the boat and seems to enhance my enjoyment of it in some strange way. It's become something that I'm proud of, and I look after it with considerable care.

Your magazine really celebrates the connection I'm talking about. There are beautiful articles about sailing experiences and helpful articles containing great technical information. It also reminds me that I am part of a bigger community of sailors and that we all share some of the same passions as well as the frustrations!

Rob Yedowitz
Tuckahoe, N.Y.

Favorite photo

It is rare that you have the opportunity to get a picture of your boat with you on it from another boat. The weekend before Christmas my son took his new Nikon and the fishing boat and spent the afternoon shooting *Tamzin*, our Westsail 32, as we messed around on Aransas Bay. It was a special day, and for some reason (sailing off into the sunset, I guess), this one picture (shown at right) has stuck with me, so I thought I would share it. You guys are doing a great job with *Good Old Boat*. Keep it up.

Larry Smith
Boerne, Texas

Welcome to the family!

I just wanted to drop you a note. I found your magazine at the very back of a local bookstore's magazine rack. I picked it up and devoured it. I grew up sailing and ended up purchasing a sailboat that belonged to the 84-year-old salt who taught my father how to sail. It will take a lot of love and care to bring her back to what she can be, but it is a labor of love.

Interestingly enough, the salt told me she was one of the first boats of her kind. She is a Laser 28; he thought she was about a 1985 unit. I found her first sales receipt though. It said that the boat was a 1983, 28-foot Laser 28 prototype. I guess she was one of the first. Anyway, I am looking forward to working on her and love your magazine.

Matthew Stahlecker
Fruita, Colo.

Trade sailing vacations with other sailors

Inspired by the system of home swaps as an alternative to renting, a new boat swap program has been founded in Europe and facilitates boat exchanges worldwide.

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For more information, visit <http://www.seemysea.com>.

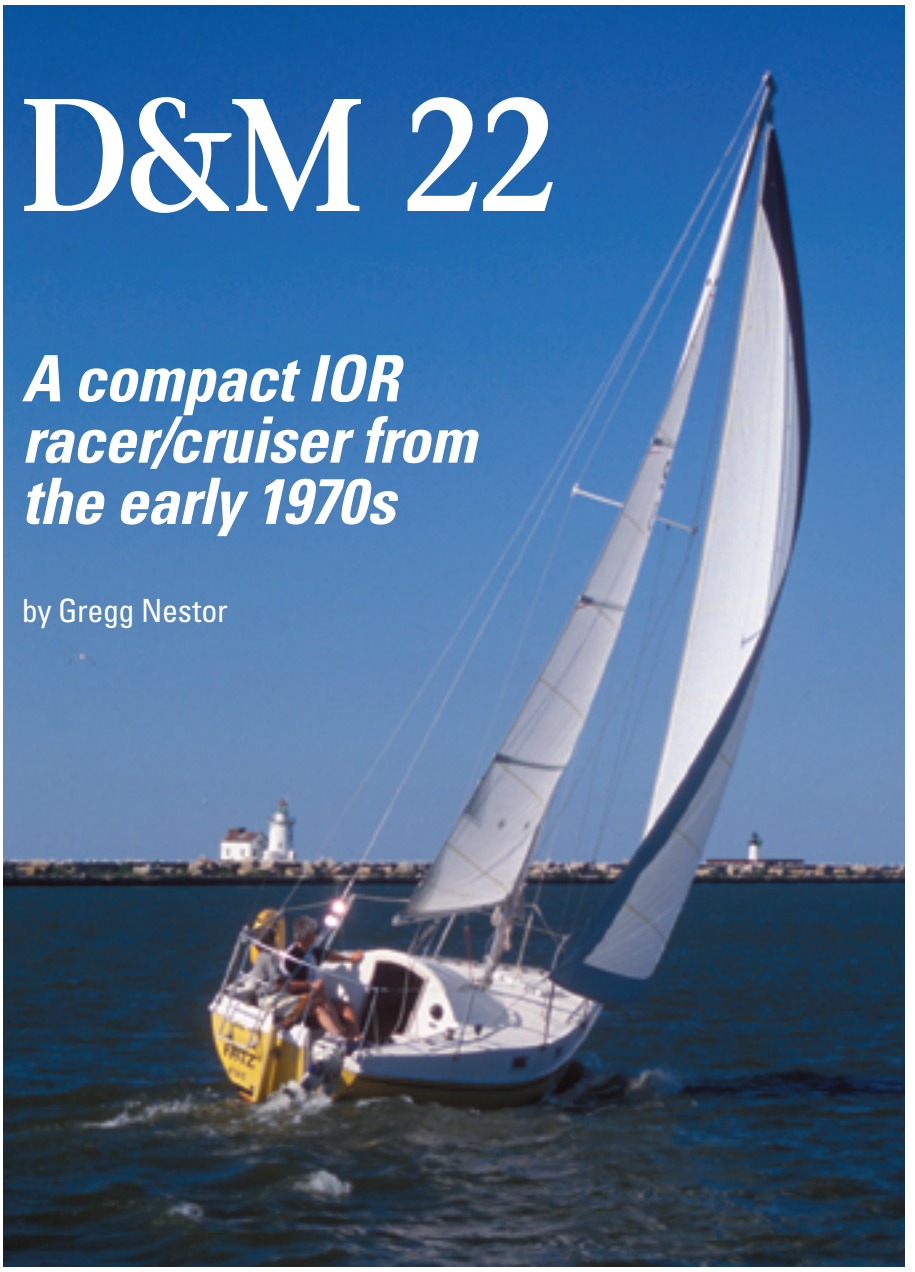
Editors

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

D&M 22

A compact IOR racer/cruiser from the early 1970s

by Gregg Nestor



With its raised deck and bubbletop over the companionway, the D&M 22 is an unusual and distinctive design. Even the early IOR designs derive much of their power from large headsails, which require more crew effort to trim. Nelson and Marta Kirsch are the owners of *Fatz*, hull #93, built in 1974.

In January 1971 a fire broke out in a Grand River, Ohio, factory while the owners were at the New York Boat Show. The blaze destroyed the hull-lamination building and most of the tooling at the Douglas & McLeod Plastic Corporation. Before the fire, the McLeods, Ray Sr. and Jr., had been considering selling their larger auxiliary boat business to concentrate on small-boat production. Without sufficient capital to rebuild, they decided to sell the company to their partner, Charlie Britton.

Charlie moved the company to the opposite side of Grand River in Fairport Harbor. Before the decade ended, his company had been renamed Tartan Marine. As part of the sales agreement, the McLeods retained ownership of the name Douglas & McLeod Inc. and concentrated on building Thistles, Highlanders, and other small sailboats.

Design

In the late 1960s, the International Offshore Rule (IOR) replaced the Cruising Club of America (CCA) rating rule. Anticipating that the immediate future of sailboat design would be determined by the new IOR, the McLeods commissioned Sparkman & Stephens to design one of the first boats to this new rule's specifications. (By the way, Olin Stephens was instrumental in developing the IOR. Who *better* to do the design work?) In 1972, the D&M 22 was introduced with a rating of 18. All told, 135 boats were built. Ray Sr. died soon after the first boat was launched.

The design of the D&M 22 was entirely influenced by the IOR. As the boat's original sales brochure states, "Shape is everything." The boat's most distinctive features include a sweeping sheerline, wide beam, a bubbletop cabin over a raised deck, a clean spacious foredeck, and a pinched bow. Beneath the water, a lead-ballasted fin keel is attached to the boat's fairly flat bottom, and an outboard rudder extends approximately 6 inches below the keel. The rudder is transom-mounted and partially attached to a protective skeg. In the event of a grounding, the rudder does not kick up; it is designed instead to slide up on a long pintle rod. By removing the outboard rudder, the boat is trailerable. Of the 135 boats built, 134 were tiller-steered; one was fitted with a wheel.

The first three to four boats were centerboard models. However, they didn't perform as anticipated. Soon afterward, a representative from Sparkman & Stephens conducted a sea trial, and modifications were made. The centerboard cavity was filled with ballast and the design was modified to add 2 inches at the top of the keel. The resulting fin configuration became the only keel offered. (To distinguish a centerboard version from a fin-keel model, look for a deck pipe just aft of the mast, where the centerboard pendant exits.)

Construction

The hull and deck of the D&M 22 are constructed like a sandwich, with balsa wood between layers of fiberglass. While all horizontal deck surfaces are cored with end-grain balsa, the hull's coring begins a few inches below the sheer and extends to just below the

waterline. Combined with eight to 10 layers of hand-laid fiberglass, this laminate not only makes the hull strong and stiff, it also imparts a significant degree of sound and thermal insulation.

The hull-to-deck joint is an outward-facing flange that is glued together, mechanically fastened with bolts, and glassed over on the inside. A vinyl rub-rail is fitted over the flange to disguise the joint and provide it with a degree of protection.

An interior pan, which terminates at the hull-to-deck joint, is bonded to the hull and adds additional structural integrity. The bubble cabintop and the lack of a sliding companionway hatch together contribute to deck strength. No overhead liner is used to add strength; this saves unwanted weight.

Deck features

The combination of the boat's bubble-top cabin, lack of a sliding hatch, and a raised deck makes for an expansive and clutter-free area. The deck hardware, forward hatch, headsail tracks, and shrouds that would normally be obstructions on a boat of this size seem almost insignificant and do not negatively impact this large non-skid surface. Sail changes, anchoring, and fore-and-aft movement are easily accomplished. The wide-stance stainless-steel bow pulpit, single lifelines, and cabintop handrails contribute to safety on deck.

> **"The combination of the boat's bubbletop cabin, lack of a sliding hatch, and a raised deck makes for an expansive and clutter-free area."**

The cockpit, with its aft-sloping sole and pair of 2-inch drains, comfortably seats five adults. While the port cockpit seat is 6 feet long, the starboard seat measures just 4 feet 7 inches; the balance is taken up by a molded-in outboard-motor well. Beneath the starboard seat is a full-length locker with stowage for an auxiliary fuel tank. The coamings (actually the raised deck) are reasonably high and slope aft to a stern rail, which is the terminus for the single lifelines. Our review boat was fitted on the port side with an optional, transom-mounted, swing-up swim ladder.

The companionway bulkhead features an arch-shaped opening, which measures 37 inches tall and 19 inches at its widest. Even without a bridge deck to climb over, this opening takes a bit of time to get used to; it takes a conscious effort to climb through. The companionway hatchboards, like the forward hatch, are made of fiberglass. To help with ventilation when the companionway is secured, a vent is molded into the upper hatchboard.

While the forward hatch and cockpit companionway provide ventilation, six fixed portlights located above the sheerline in the raised deck offer light in the cabin. Exterior wood is kept to a minimum: a pair of teak handrails and companionway trim.

Belowdecks

The raised deck and 8-foot 5-inch beam provide space for more accommodations than other boats of this size and even a few that are 20 percent longer. Beneath the bubbletop there's headroom of 5 feet 6 inches.

Standard accommodations include a V-berth and insert with large stowage bins and space for a portable toilet beneath. Aft and to port are an open-air

The port cockpit seat is long enough to lie down on, below left, but the starboard seat is shortened by the outboard motor well. The rudder, below right, is transom-mounted and partially attached to a protective skeg. The rudder extends approximately 6 inches below the keel and slides up on a long pintle rod in the case of a grounding.

hanging locker and stowage. Additional stowage is directly across on the starboard side. The bulkhead separating the V-berth from the main cabin is marine-grade plywood veneered with teak. The review boat had this bulkhead removed and a privacy curtain installed in its place.

The main cabin area comprises opposing settee berths with stowage beneath and fiddled shelves outboard. All berths, including the V-berth, are 6 feet 3 inches long. The aisle separating the settees is 32 inches wide and provides ample space for the drop-leaf pedestal table.

A gimbaled, single-burner alcohol stove is mounted to the aft bulkhead to port. To starboard is a molded-in galley unit that includes a fiberglass sink with hand pump, counter space, and flip-up wooden counter extension. Water is supplied from a portable jug. The sink drain exits the hull above the waterline at the transom. There are no through-hull fittings below the waterline.

The single companionway step slides forward to afford access to a cooler and the battery. The 12-volt electrical panel is mounted to the side of the galley unit. There is no quarter berth. In its place is a stowage area that continues underneath the cockpit sole. Access to this cavernous space is excellent, but it could easily put the boat out of trim if it were overstuffed with gear.

The interior surfaces are either finished in gelcoat or painted. Except for a rectangular section of wood, the sole is non-skid gelcoat. All wood trim is hand-rubbed teak.

The rig

The D&M 22 is a high-aspect-ratio, masthead sloop with a sail area (main and 100 percent foretriangle) of 254 square feet. The anodized aluminum mast is deck-stepped on a hinged tabernacle. A pair of cap shrouds and spreaders, a pair of lower shrouds, a baby stay, forestay, and a split backstay all support the 30-foot 6-inch spar. A compression post stands beneath the tabernacle, and directly to port and starboard are large knees and support blocks to which the stainless-steel chainplates are attached.

Both halyards are external and

The galley doesn't amount to much more than a small sink and a flip-up shelf for food preparation, at left. In an effort to save weight on *Fatz*, the bulkhead separating the V-berth has been replaced by a privacy curtain, bottom left. A portable toilet is beneath the V-berth. Because there isn't sufficient galley space for a permanently mounted stovetop, the builder installed a single-burner Sea Swing stove next to the companionway, bottom right.

fashioned from stainless-steel wire with Dacron rope tails. There are no winches on the mast to provide mechanical advantage for the halyards; two sets of 4:1 tackle are provided to tension the sails. Conversion to low-stretch, all-rope halyards with winches would be an improvement. The baby stay has a similar arrangement.

Headsail sheets are led through blocks on tracks and terminate at single-speed winches. These are British-made, stainless-steel, bottom-action winches. The mainsail is sheeted at mid-boom and attached to a traveler over the companionway. Additional sail controls include an adjustable topping lift, outhaul, jiffy reefing, and vang. All standard hardware is adequate, and all deck hardware is through-bolted, with the majority backed with fender washers.

D&M 22

Designer: Sparkman & Stephens
LOA: 21 feet 11½ inches
LWL: 18 feet 9 inches
Beam: 8 feet 5 inches
Draft: 3 feet 6 inches
Ballast: 2,000 pounds
Displacement: 4,000 pounds
Sail area: 254 square feet
Displ./LWL ratio: 271
SA/Displ. ratio: 16.2

“Because the rudder extends below the keel, examine it carefully for signs of damage due to grounding.”

Under way

The D&M 22 is fun to sail. Its wide beam and 50 percent ballast-to-displacement ratio make for a stiff boat. It's sensitive and responsive to the helm, thanks to the tiller steering and the combination of a deep rudder and fin keel. The IOR encouraged large headsails and small mainsails. Having been designed to the rule, the D&M 22 has exactly that and, as such, it performs best on a broad or beam reach.

The boat nevertheless acquits itself quite nicely upwind. A spinnaker will improve performance off the wind, though the helm will need constant attention. This is generally the case with IOR-type hull forms.

There is but one D&M 22 listed with U.S. Sailing; it has a PHRF number of 234 seconds per mile. For comparison, a Catalina 22 swing keel is 270, a fixed fin-keel Tanzer 22 rates 246, and an O'Day 222, 258. So, for a 22-footer, the D&M 22 is fairly fast.

Things to check out

The D&M 22 is a fairly uncomplicated boat that was built to almost bullet-proof standards. However, a few areas require close examination. The deck is balsa-cored, which is always a potential problem on older boats. Areas to check for possible water seepage and subsequent delamination include the mooring cleats, chainplates, baby stay deck strap, and headsail tracks. The fixed portlights may also leak and require replacement and/or resealing. Because the rudder extends below the keel, examine it carefully for signs of damage due to grounding. A previous incident of this type could have caused the rudder to become saturated with water.

Conclusion

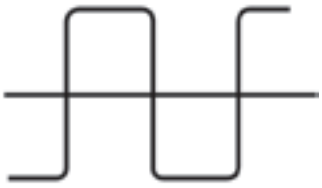
This IOR quarter-tonner packs a lot of space in just 22 feet. Its systems are uncomplicated, it's easy to sail, and its construction is sound. While its looks are different, its pedigree is impeccable. The best places to locate a D&M 22 are the Great Lakes and the Eastern Seaboard, especially New England. These boats don't show up on the market too often, but those that do generally sell for less than $10,000, with actual asking prices dependent on condition.

Gregg Nestor, a contributing editor with Good Old Boat, *developed a keen interest in sailing while growing up on the southern shore of Lake Erie. His third book, currently at the publisher, has a working title of* To Windward at 55: The Trailer Sailer Owner's Manual. *When not writing about sailing, Gregg and his wife, Joyce, cruise aboard* Raconteur, *their Pearson 28-2.*

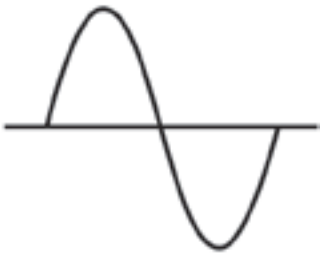
Converting battery power to alternating current

by Don Launer

An inverter is an electronic device that converts direct-current (DC) power (the output of your boat's battery) to alternating-current (AC) power. Although onboard generators (gensets) are necessary for equipment such as refrigerators and air conditioners with high power requirements, the inverter is a good choice for smaller power needs or when high power is used intermittently. There are countless varieties and options available when you're shopping for an inverter. Prices range from less than $30 to thousands of dollars. Although wattage is important, the waveform output of the inverter and what it is going to power can also be deciding factors.



The square wave (left) is the simplest alternating current that can be produced by an inverter. It will operate most appliances, but when used for extended periods with electric motors, these motors may tend to overheat. This is the most common waveform produced by small and/or inexpensive inverters.



The sine wave (right) is the optimum representation of the alternating current (AC) that is supplied by the power company or by an onboard generator. It is the voltage waveform that many appliances are designed for, especially those with electric motors. Some inverters can supply this pure sine wave, although they are the most technically evolved and expensive.

Inverters' waveforms

Inverters come in two basic varieties. One produces a square wave (or a stepped square wave, sometimes called a modified square wave). The other produces a true sine wave similar to the AC waveform supplied by the power company or a genset.

Some electronic equipment will not work well on a square wave and, because there is no simple way to change that square wave into a sine wave, an inverter with a sine-wave output will be necessary. It is always better to purchase an inverter that puts out a pure sine wave if there are no budgetary constraints, but sine-wave inverters are significantly more expensive than the square-wave-output inverters.

It's easiest and cheapest to create a square wave. A square wave works well for most devices, such as power tools and computers. However, a square-wave inverter will produce horizontal lines on a TV, whereas a sine-wave inverter, which has a waveform for which the TV was designed, will not.

For powering equipment with low-wattage requirements, the small-sized square-wave inverter that plugs into a cigarette lighter outlet works just fine. Since most cigarette lighter sockets are fused at 15 amps, the appliance being powered should not draw more than 150 watts.

For powering equipment with higher wattage drains, such as large-screen TVs and microwave ovens, a larger inverter that is wired directly to the battery is necessary. The

LAYOUT AND ILLUSTRATIONS BY TED TOLLEFSON

The simplest and most inexpensive inverters merely plug into a boat's cigarette lighter outlet. These can supply up to about 150 watts of AC power to low-wattage devices and usually have a square-wave output.

inverter should be close to the battery to eliminate losses in the wiring connecting them.

Battery drain

You can easily determine the current (amps) being drawn from your battery when your inverter is providing power to any 120-volt appliance since:

wattage = volts x amps

Using this formula, you'll note that an appliance rated at 240 watts will draw 20 amps from a 12-volt battery when powered by an inverter:

240 watts = 12 volts x 20 amps

In reality, the amperage will be slightly more than 20 amps; the exact amount is determined by the inverter's efficiency rating. When choosing an inverter, first determine the maximum number of watts you anticipate using and for how long.

The choice of a genset or inverter is not mutually exclusive. Both systems can live aboard together and serve different functions.

Many high-wattage inverters also have a sophisticated control panel that allows you to monitor the number of amp-hours that have been consumed and calls your attention to a low battery with an alarm. But those amp-hours taken out of the battery have to be replaced by the alternator on your engine or by shorepower, a genset, solar panels, or a wind generator.

Frequency concerns

One additional concern is that while the power company supplies an AC frequency of 60 cycles per second (60 Hz), inverters don't necessarily create the exact frequency unless they are crystal-controlled. This could cause problems with appliances that are frequency-sensitive, such as equipment using synchronous motors, as well as some TVs and computers.

There are also units that combine an inverter with a battery charger. Some of these units automatically switch to the battery-charging mode, either when the genset is turned on or when you plug into shorepower.

If you want the AC outlets on board to automatically switch from shorepower to the output of an inverter, this can be accomplished with a double-pole-double-throw (DPDT) relay. With the relay contacts in the "at rest" position, shorepower is connected to the AC outlets on board. But when the inverter is activated, the relay is energized and the onboard outlets are switched to the output of the inverter. Be sure to purchase a marine-grade relay that is made for this type of service.

A 1,000-watt inverter that doubles as a 50-amp battery charger when connected to shorepower is an excellent choice, even for a fairly small good old boat.

Don Launer, 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.*

High-wattage inverters are wired directly to the battery and are capable of an AC output of thousands of watts. Although many supply square-wave outputs, high-end inverters can supply sine-wave output, which rivals or is better than that supplied by the power company. Many of these units have monitoring panels that keep an eye on voltage, battery capacity, and amp-hours.

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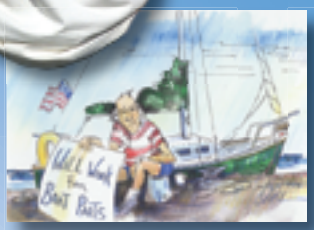

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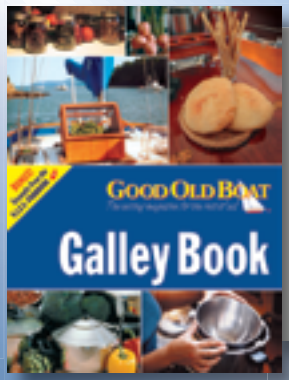

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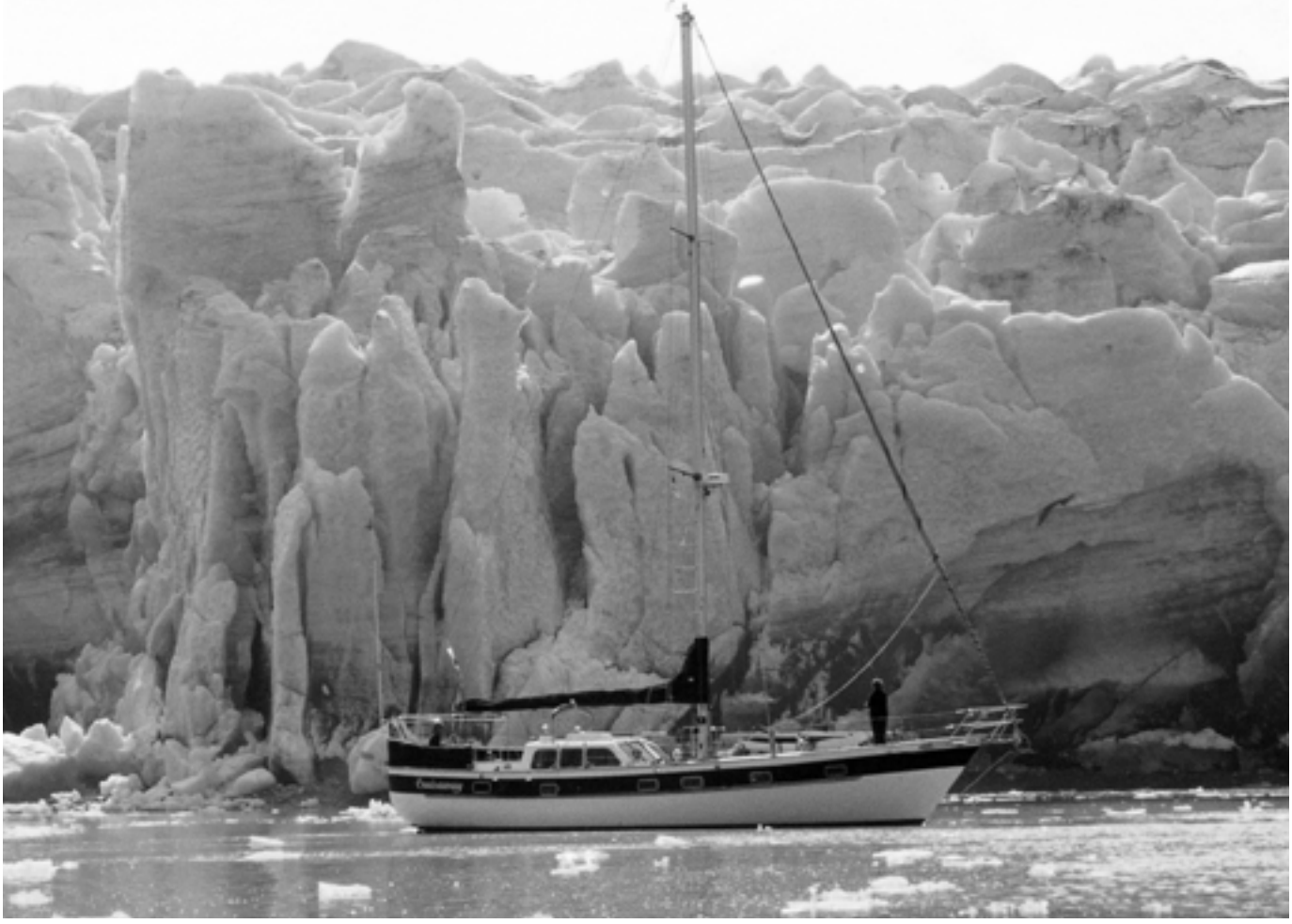
Seakindliness

A noted designer tells what makes a boat seakindly

by Ted Brewer

"Seakindly: the condition of a ship when she is in good trim and rides comfortably"
— *The Mariner's Dictionary*, Gershom Bradford, 1972

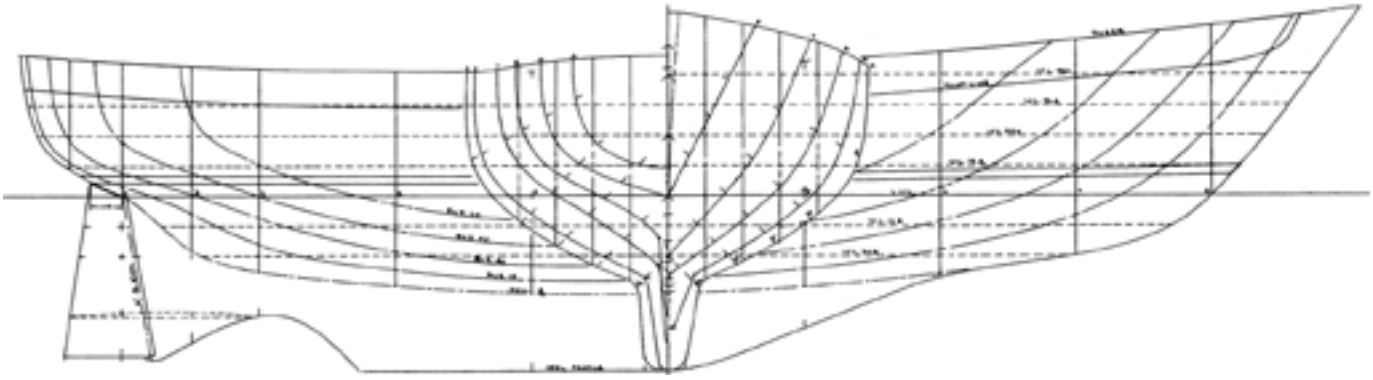


LINDSAY AND OLIVE STEWART

In all the books I have studied about yacht design and the sea, there has been very little written about seakindliness. Many years ago, I read that the skippers of big four- and five-masted lumber schooners sailing out of Maine at the turn of the century often hoisted heavy weights to their masthead, to ease the snappy motion of the vessels when they were riding lightly loaded in a combination of large ocean swells and soft breezes.

These big schooners normally carried a hold full of timber as well as a full deck load, resulting in a relatively high vertical center of gravity (VCG) and a very easy motion when sailing up to Boston and New York to deliver their cargo. However, when returning to Maine with a heavy cargo of coal and without the great weight of timber on deck, the ship would have a very low VCG and be much more stable. This resulted in a snappy roll in light air, snappy enough that it could tear the rig out of the ship or the stomach out of a seaman, so they said. The answer was to hoist heavy weights to the masthead to raise the vertical center of gravity, thus slowing the roll and easing the motion, particularly when beam seas and light breezes combined to place the vessel on her worst behavior.

Now, as I think back on the 1969 Transpac Race aboard *Mystic*, my 56-foot aluminum ketch design, I



The Oceanic 46, above and on facing page, has a cutaway "full" keel. A displacement/waterline length ratio of 308, combined with soft bilges and good deadrise, gives her an easy motion. Reese Palley, the owner of #1, sailed his 46 through a hurricane and later commented on her seakindliness under such adverse conditions.

realize that the reason for her doing so surprisingly well was due, in large part, to her seakindliness in rough weather rather than to any design brilliance of mine. *Mystic* is a keel/centerboard, ketch-rigged motorsailer, with a moderate 15-foot beam on an almost 47-foot waterline, a deep wineglass hull section, moderate displacement, and a rather shoal 6-foot draft.

The start of the race was in very light air; during the first night we feared we might even drift onto the rocks of Catalina Island. After a couple of days of very light air, the breeze began to fill in and continued to pick up until, finally, we were on a broad reach with all sail set, the anemometer measuring 26 to 28 knots and the knotmeter reading 10 to 11 — even 13 to 14 knots at times on the face of a wave. In effect, we were running before a stiff 40-knot breeze, a near gale!

After the first rough day, as we listened to other yachts on the radio, we heard that some boats were falling out with broken gear, others with "crew fatigue" (read: seasickness). Indeed, a couple of our own crew were not showing any great appetites, but the rest of us were able to stand our watches.

Three-course dinners

Fortunately, our cook, a remarkable young woman, was one of the finest and served up a solid breakfast, hearty sandwiches at lunch, and marvelous three-course dinners complete with wine and desserts. This kept us at our best and working hard on deck to get every fraction of a knot that we could out of the boat. *Mystic's* 24-foot 6-inch x 56-foot foretriangle permitted us to set a huge spinnaker, and we also carried a big mizzen spinnaker, thus making every mile we could while the strong quartering breezes held.

Along with the great food, *Mystic's* relatively easy motion allowed her crew to get a decent rest, and a well-fed and well-rested crew can often perform miracles. Our miracle was a surprisingly good second place in Class B. It was an incredible finish for a vessel that was designed as a husky, comfortable motorsailer — not a racing yacht, by any stretch of the imagination.

> **"Obviously, the best cruising yacht of all is one that is both seakindly and seaworthy, while at the same time providing good performance in all weather."**

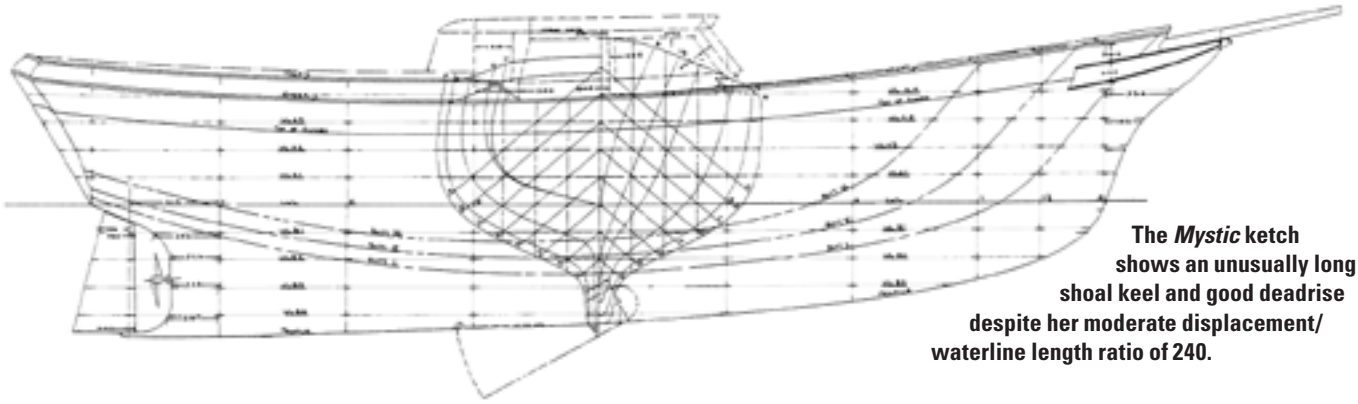
The advantage of a seakindly vessel was really brought home to me by the late Lindsay Stewart, a New Zealand delivery skipper. Lindsay visited me about eight years ago, and we had a fascinating time together as he told me about the travels that he and his wife, Olive, had made. They covered thousands of miles aboard *Cruisaway*, their Oceanic 46 cutter, sailing the waters from New Zealand to all over the South Pacific, north to Alaska, south to Patagonia and many other areas that most of us just dream about. (See cover photo, *Good Old Boat*, January 2002 issue, and photo on facing page.)

Lindsay was adamant that *Cruisaway* was the best cruising yacht of her size that he had ever sailed, and he sailed dozens of vessels in his yacht-delivery career. The reason he gave for this was her easy motion — her seakindliness — in heavy weather. This one factor enabled him and Olive to maintain boat speed when "faster" yachts were slowed by high seas and their crews fatigued by the snap motion. Lindsay regaled me with stories of occasions when, cruising in company, they would leave harbor a day after lighter, faster yachts and, due to stormy conditions, arrive at their destination well ahead of the fleet.

Unfortunately, Lindsay Stewart was killed a few years ago while on a delivery trip in the Mediterranean, thrown overboard while up the mast trying to make repairs in storm conditions. However, his words about seakindliness and comfort were, to a large degree, the inspiration for this article. So much has been written about performance and speed, and so little about the importance of seakindliness in maintaining speed in heavy going, that I felt such an article would be of interest to readers.

Note the difference

It is important to note the difference between "seakindly" and "seaworthy." Perhaps the best way to consider it is



The *Mystic* ketch shows an unusually long shoal keel and good deadrise despite her moderate displacement/ waterline length ratio of 240.

to say that a seakindly vessel is one that is easy on her crew and gear, while a seaworthy vessel is one that gives the expectation of getting there and back in safety. Obviously, the best cruising yacht of all is one that is both seakindly and seaworthy, while at the same time providing good performance in all weather. I will further qualify that by emphasizing "good" performance and not "great" or "spectacular" performance and "all weather," not just "light" or "heavy" weather.

The primary motions that affect seakindliness and crew comfort are heave, roll, and pitch. *Heave* is the rise (ascent) and fall of the vessel as a wave passes under her and, to some degree, the amount and speed with which she is thrown to leeward by the force of the seas. *Roll* is the side-to-side oscillation in a beam sea. *Pitch* is the fore-and-aft oscillation in waves. The factors that affect those motions are displacement, beam, waterline area, prismatic coefficient (Cp), and center of buoyancy (CB).

Obviously, a boat will only be set in motion when a force is acting upon her. The speed of that motion will be determined by the mass (displacement) of the boat and the amount of the force. That amount is governed by the waterplane (waterline) area; the larger the area the wave has to act upon, the greater the force and the swifter the motion for a given mass.

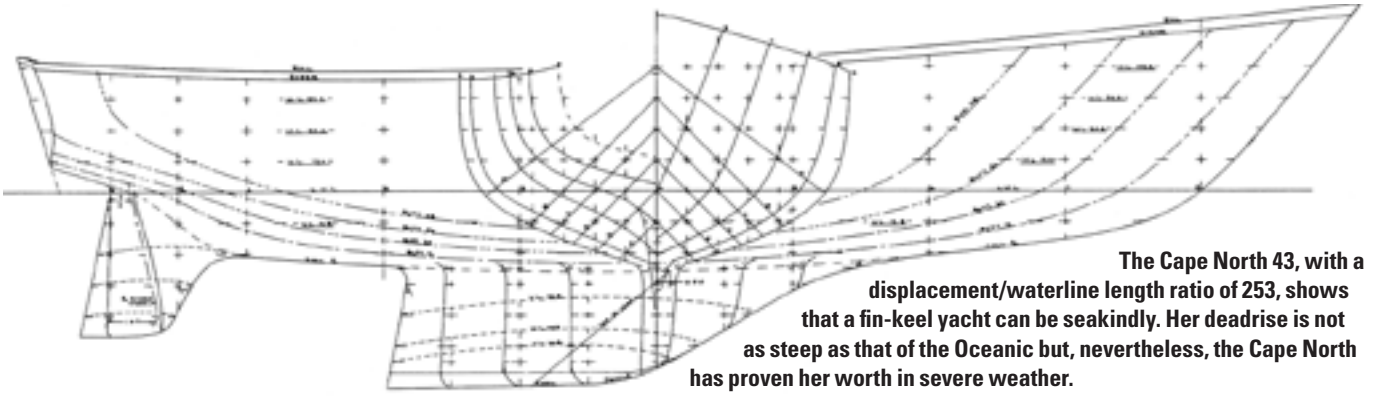
Displacement is, undoubtedly, the greatest single factor in determining motion comfort and seakindliness. For a given wave height, the heavier vessel will ascend more slowly and over less distance than a lighter vessel of similar length and beam. Beam is the second major factor. A beamy yacht will have greater waterplane area and will rise higher and faster than a narrower yacht of similar displacement, since there is greater force acting on the same mass. Beam also increases stability; a very stable yacht will react more quickly to beam seas than her narrower sister.

The shape of the hull obviously has a definite effect on seakindliness, and the vertical height of the center of buoyancy (VCB) can make a big difference. Two vessels of identical length, beam, and displacement can have very different reactions to a swell. A vessel with a high VCB, due to having hard bilges and a relatively flat bottom, will be more stable than one with moderate deadrise and slacker bilges that carries her displacement lower. The latter, having less form stability, will tend to roll more slowly as a beam sea slides beneath her, perhaps to a greater angle of heel, but her slower motion will be more comfortable than the snap roll of her more powerful sister.

Carried to extremes

Heavy displacement can be carried to extremes, of course, particularly when combined with a small waterplane area, as it was in the ridiculously narrow British Six-Beam cutters of the 1890s. Such a vessel may ascend so slowly when beating to windward in heavy seas that she takes green water over the bows with every wave, thus limiting the crew's ability to handle the yacht or even to move safely about on deck. Though she will have a very easy motion, that type of yacht can be almost as dangerous as one that cannot be safely handled due to crew fatigue and seasickness.

Another factor to consider is the rig. A husky rig can be an asset in heavy weather, slowing the roll, due to its inertia. On the other hand, a very light rig, such as a carbon-fiber mast, will tend to promote faster acceleration of both the initial roll and the recovery. In any case, losing the rig in a storm is a

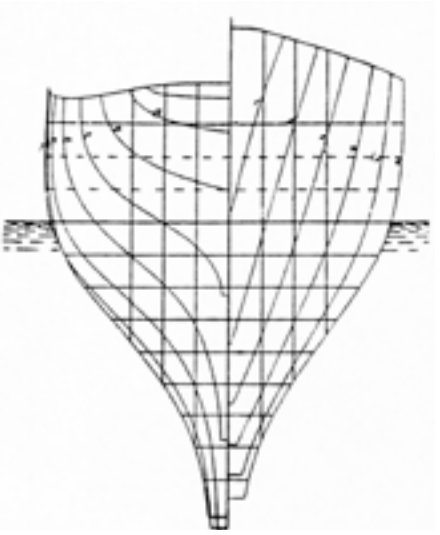


The Cape North 43, with a displacement/waterline length ratio of 253, shows that a fin-keel yacht can be seakindly. Her deadrise is not as steep as that of the Oceanic but, nevertheless, the Cape North has proven her worth in severe weather.

double disaster, as the yacht is unable to make sail and at the same time is rolling to extremes with a snappy motion, due to loss of inertia.

The lateral plane is a consideration as well, since generous lateral plane area can dampen the roll. That, undoubtedly, is one of the factors that *Mystic* had going for her on the Transpac: her long keel and centerboard slowed the roll. The boats that had the most trouble with crew fatigue in that race were the small, light, beamy, fin-keel/spade-rudder yachts with minimal lateral plane.

I do not feel that a long, full keel is essential to seakindliness, though. A cutaway full keel or a moderate fin hull with a skeg-hung rudder or even a large spade rudder can be seakindly, provided the vessel's directional stability is sufficient enough that she does not overtire the helmsman. I have had reports from owners of a Douglas 31 that survived a hurricane and a Cape North 43 that handled a gale with aplomb. The Douglas is a very cutaway "full-keel" hull and the Cape North is a moderate fin hull with skeg/rudder. However, both yachts are of good displacement with reasonable deadrise, factors contributing to seakindliness.



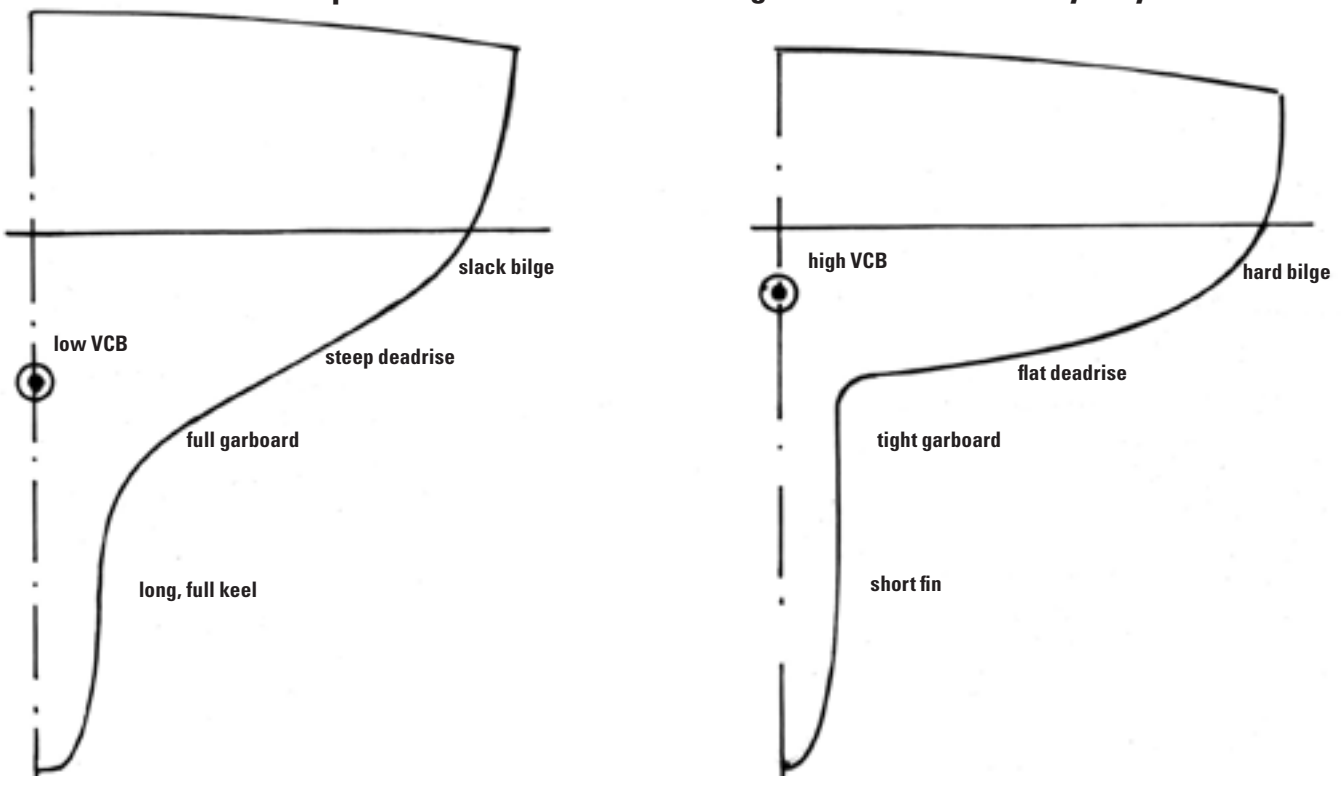
The lines of an old English cutter show the ultimate in slack bilges, full garboards, and heavy displacement. She would have a very easy motion but might scend so slowly that she would be swept by the seas like a half-tide rock in a storm.

A lesser villain

Pitching is usually a lesser villain when it comes to seakindliness, at least with sailing yachts. The average sailing yacht has a prismatic coefficient between 0.52 and 0.56 and a center of buoyancy about 52 to 54 percent of her waterline length abaft the bow. I have seen pitching become a problem with a very low Cp of 0.46 to 0.48 in a short chop, but that affects performance more than comfort. I do feel that some Euro-style designs, principally those with extremely wide sterns and fine bows, may move the center of buoyancy and the center of flotation too far aft for comfortable motion in some seas, and I would not even try to predict such a vessel's motion or safety in severe storm conditions. The combination of wide stern and fine bows can also create a yacht that trims down by the bow as she heels, thus increasing the chance of green water on the foredeck in adverse weather.

What really determines seakindliness and comfort in extreme conditions is the acceleration of the rise and fall of the yacht or of the snap of the roll. Scientists have shown that an alternating force of one gravity (1 *g*) will cause motion sickness in the average person. Tank tests at Stevens Institute on a

Hull shape as it affects the vertical height of the center of buoyancy



The 70-foot schooner, *Tree of Life,* has a comfortable Comfort Ratio of 64.7. To prevent odd outcomes and heated discussions, this formula should only be used to compare boats that are similar in size.

model of a 100-foot motor yacht of my design proved to me that a yacht can develop 1 *g* of acceleration and greater in beam seas of only 10- to 15-foot height. Fortunately, the roll of the motor yacht was eased with the installation of bilge fins, and the roll of a sailing yacht is eased with wind pressure on the sails, as long as the breeze holds steady.

The necessity for seakindliness becomes a major factor in safety, seaworthiness, and comfort when storm conditions increase wave size while the sail area is reduced to compensate for gale winds. Then the amount of sail that can be carried may be of too small an area and set too low to effectively dampen the roll in heavy seas. In those circumstances, the combination of heave and roll can make it almost impossible to work on deck and equally impossible for the crew to operate efficiently due to fatigue and nausea.

A rough guide to seakindliness is the Comfort Ratio. This is expressed as:

$$\frac{\text{displacement (in pounds)}}{0.65 \times (0.7\ \text{LWL} + .3\ \text{LOA}) \times \text{B}^{1.333}}$$

The waterplane area is rarely given by designers or builders, so the formula calculates it roughly from the overall length, the waterline length, and the beam, and adds an additional beam factor for rolling. The formula cannot take into consideration the variations in hull shape, the deadrise, VCG, form stability, rig weight, or other factors that affect seakindliness. It is only a very general guide and, as any guide, should be used intelligently and with consideration given to the points mentioned previously.

Use with discretion

Also, the formula should only be used to compare yachts of relatively similar size. For example, the 70-foot schooner, *Tree of Life*, has a Comfort Ratio of 64.7. The Hiscocks' world-girdling 30-foot 6-inch *Wanderer III*, with her 20,160-pound displacement carried on 26.5-foot waterline and a slender 8.4-foot beam, has a ratio of 65.4. Despite the figures being so close, no one can possibly imagine that the little *Wanderer III* will be as comfortable in heavy weather as a 60-ton schooner. However, the *Wanderer III* definitely will have a much easier motion than 90 percent of the boats her size, including my Douglas 31 design with a Comfort Ratio of 31.3. And the Douglas will be more seakindly than my 30-foot Nimble yawl with a ratio of just 22. Conversely, the much lighter, fin-keel Nimble will be faster than the Douglas, which will be faster than *Wanderer III*. That is the trade-off.

Finally, I will stress that the Comfort Ratio and general seakindliness of a yacht are major concerns only to those sailors who intend to take their vessels on extended voyages where they may expect to encounter severe storm conditions. These can occur in some of the larger lakes, such as Superior, but are rare during the sailing season and can usually be avoided by keeping an eye on the weather. The same comment applies to coastal cruising and short voyages in the Caribbean.

Still, if you are one of those adventurous sailors who dream of rounding Cape Horn and sailing the Seven Seas, then seakindliness should play a large part in your choice of a yacht. I suggest you look for moderation in all aspects of the vessel, avoiding extremes of light displacement, wide beam, flat deadrise, super-wide sterns, high-aspect-ratio fins, and very light rigs. Such top-performing yachts make fine racers and fun coastal cruisers but are a long way from being a good choice in which to ride out a mid-Atlantic gale or a South Pacific gear-buster.

But also be aware that there is a happy medium between the speedsters and those ultraheavy yachts, such as the old Tahiti ketch, that to my mind sacrifice too much in the way of performance and livability for the ultimate in seakindliness. Moderation is the answer. And always remember: Murphy's Law reigns supreme once you lose sight of land.

Ted Brewer is a contributing editor with Good Old Boat *and one of North America's best-known yacht designers, having worked on America's Cup boats, as well as boats that won the Olympics, the Gold Cup, and dozens of celebrated ocean races. He also is the man who designed scores of good old boats . . . the ones still sailing after all these years.*

Mississippi hero

Was it luck or a guardian angel that saved them?

by Zora Aiken

It was not the time of year when the river usually floods. High water could be expected in spring, but this was late November and the Mississippi was rising at a rate of about 2 feet a day. We were just two days from New Orleans and more than anxious to be off this unpredictable river soon.

At first we thought the high water wasn't all bad; it was hurrying us along. With the current's velocity strengthened by all the extra water, our speed sometimes jumped to almost 11 miles per hour, double our normal 5.5. But, just so we didn't get too optimistic, a new hazard developed. We saw a marked increase in the amount of floating debris, much of it larger than our boat. As the river climbed its banks, anything not firmly rooted slid into the water and started heading south. While massive logs and full-sized trees were intimidating to see, at least their visibility helped us avoid them; few had been in the water long enough to soak up and become the dreaded submerged snags.

After nervously weaving our way through a maze of floating timber, we were startled first by a dull thump, then by a loud thwack, and immediately the boat began to shudder like an overgrown blender. The sounds were not like those that accompany log-hitting or bottom-bumping; we'd had enough experience with these to call them familiar. After a near stall we slowed to idle, and surprisingly the engine continued to run. In neutral, it hummed quietly and the boat quit shaking. In forward at low RPM, the vibration was noticeable but not jarring. At normal RPM, nothing was normal. We guessed prop damage, a circumstance with which we had no experience. Whatever the problem, we were not going anywhere fast, if at all.

The current would continue to carry us downstream at near-cruising speed, so we could go, but probably not stop, with any control. Turning to either side to avoid traffic would be iffy, and turning 180 degrees to travel upstream in order to dock or anchor in a side channel was impossible. The mast was tied on deck, so that alternate power source was unavailable. The dinghy had no outboard; why did we think rowing and sailing were such good ideas? This was a few good years ago, and no towing services were available for recreational boats. In fact, no small-boat facilities existed in the busiest section of the Mississippi where ocean freighters joined the already abundant commercial traffic.

A silly thought

No doubt, some self-sufficient, independent boater would have tossed out an anchor, donned scuba gear (and lights), jumped over the side (into the Mississippi?), and fought the current while finding and fixing the problem before lunch. For us, on our first trip away from Lake Michigan's familiar shores, doing it ourselves would have been a silly thought. This river trip was a time of many firsts, and the new feeling of helplessness was most unwelcome.

What happened next went beyond good luck. Today, the concept of guardian angel — not just the figurative one — might be suggested, and an argument could be made that the coincidence fit the profile. Just as the depressing reality of our situation set in, a towboat rounded the last bend. A towboat with no barges in tow. Without consultation, two sometime sailors began waving frantically. We did own a VHF radio — it had been purchased just for this trip — but we hadn't developed the habit of actually using it yet. Arm-waving was an acceptable and understandable distress signal, and we knew we fit *that* profile. We can only guess what the towboat crew was thinking when they spotted the two figures on that little boat, fanning the air as though arm power might propel the boat. The tow turned toward us; we hadn't realized how big it was until it

continued on next page

Mississippi hero, continued from page 25

crossed the river and came alongside. Small by Mississippi standards at 80 feet, *Joe-C* was huge next to our 27-foot Ericson, *Munchkin*.

Shouting over engine sounds, we explained our problem. The captain shook his head as he told us there were no yards for recreational boats between here and New Orleans, a fact we didn't want confirmed. That meant 70 more miles downriver and through a connecting lock into Lake Pontchartrain. Our spirits sank. As if reading our thoughts, Captain Jack said, "I'll take you to the lake. You'll find small-boat docks there." He spoke as casually as if he were giving us a ride to the corner store, but our spirits did another about-face. "Get ready to come aboard," he said. "I won't tow the boat with you in it."

This turn of events was practically cause for celebration. Not only were we saved, we were also getting a ride in a real riverboat. Not wanting our two scaredy-cats to attempt an escape (and not even thinking about water ingress), I hurried to close all ports and hatches as David made up a towing bridle with our mooring lines. One of the towboat's crewmen then tied a knot connecting our tiny bridle to the tow's 2-inch-diameter line and quickly tossed the combination astern. Panicked, David wondered out loud what kind of knot was now holding our home. The crewman replied, in charming Cajun cadence, "I don't know . . . it holds *most* of the time."

"This river trip was a time of many firsts, and the new feeling of helplessness was most unwelcome."

And of course it did this time too. Once we'd boarded the tow, we learned that it, too, had suffered damage from river debris. Encounters with logs had bent its shafts, explaining why the tow had no barges. That bad luck had become our good, but we were too relieved to feel any guilt.

Instant hero

Captain Jack was our instant hero. Two of the three crewmembers were his sons, so boat operations were handled in the informal way families adopt after years of working together. Home port and a repair yard for *Joe-C* were on the north shore of Lake Pontchartrain. Our destination was on the south side, so at least the tow would not go out of its usual way to take us along.

Pointed downstream again, Captain Jack kicked up the RPM. Because of the bent shafts, he said, he'd be traveling slower than usual, with his "slow" defined as small-boat "speed." Still, as we watched anxiously, our boat was leaving a wake no sailboat was meant to make. (How were those cleats installed? How are the cats doing? What are the cats thinking? Good thing I can't hear their yowls.)

As we moved along at Captain Jack's version of slow, we'd hear an occasional muffled thud, followed by a distant crunching noise. With the initial sound, the captain would turn the wheel sharply, forcing the stern to swerve to one side, thereby redirecting the tow's wake. "Wheel inspectors," he finally said. "Don't want them to inspect your boat." Temporary confusion gave way to nervous enlightenment when we looked astern and watched huge logs shoot out of the tow's wake and, thankfully, away from our boat. Apart from the new concern about wheel inspectors, we now understood just how tiny our boat looked to the river people. No wonder they thought we were crazy to be taking "that li'l boat" out into the ocean.

The crew launched an activity campaign, we guessed for the kind purpose of keeping our minds off the little boat. First, we were given the grand tour, and it *was* grand. The tow was spotless, from bridge to engine room. In order to enter the spotless engine room, however, we were required to don jumbo earmuffs that protect eardrums from jumbo motor noises. Naturally, the muffs excluded all other sounds too, but this did not stop our tour guide from continuing his explanation of ship's functions. And, since we did not wish to seem impolite, we continued to nod and smile as though we'd always been competent lip-readers.

An enjoyable supper

Supper was another delight, proof that all towboat crews do not suffer from the absence of home cooking. Sunday dinner by our standards, it was apparently an ordinary meal by theirs. Luckily, we'd relaxed enough to be able to enjoy it.

After dinner came the river stories, many of which were no doubt very amusing, except that "funny" so often depends on the listener's position relative to the story. We knew the crew's intentions were good, but it was difficult to listen to tales of small-boat disasters without thinking, "There, but for the grace of *Joe-C*, go we." Much better, from our perspective, were the stories about riverboats and river people; we could, and did, listen to those for hours.

The hazards of commercial traffic and even ordinary river debris generally keep recreational boaters in port after dark, so night travel on the river was a new experience. From the vantage point of the towboat's wheelhouse, the blinking channel lights fell into place to outline a clear water map. The loom of New Orleans grew into an eerie glow of light patterns, as all manner of big-ship facilities lit up the banks.

It was past midnight by the time we arrived at the lock that would put us into Lake Pontchartrain. Captain Jack called the lockmaster with what was probably an unusual request: "I have this little boat here with me; you want me to tie it on behind, bring it alongside, or just haul it up on deck?" We suspect this last option was tossed in for our entertainment, but fortunately, the lockmaster voted for the side tie, so that was how we locked through — much less rocking for our boat.

A few more minutes and we were out of the lock and about to lose our security-boat. Captain Jack gave us clear directions and some cautious advice: "There's an anchor-

age right here where you could spend the night, but you'd be smarter to go on to the small-boat harbor. It's calm tonight, and you should be able to travel OK if you take it slow. But tomorrow, it's going to blow like stink." Never having understood the precise conditions of "stink," we chose not to learn them firsthand at this time and under these circumstances. As the crew cast off our lines, we started the long, slow trip to the little-boat harbor: "Just follow that shore till you see a real bright white light; turn left, and you're there. I'd take you myself, but I'd put this tow aground if I tried."

A very black night

The harbor was not far distant, but with our top speed of maybe 1½ miles an hour, it took a few hours. In the middle of a very black night, we turned left at the bright white light and tied up to the first vacant small-boat dock we found. Sometime between then and daybreak, the weather did indeed take a turn, bringing howling wind, pelting rain, and a nasty chill. From the cocoon of our cozy bunk, we silently thanked Captain Jack one more time and drifted back to dreamland.

After the weather stopped stinking, David was able to confirm our guess about the damaged prop. A small strand of polypropylene line had wrapped the prop; when it could not unwrap, it forced one propeller blade to break away from the hub. (Why wasn't the poly line floating, which is supposed to be its advantage over other materials?) It was

"...lend a hand to somebody who needs help. That's the way things work on this river."

good to learn that a one-bladed prop could actually push the boat. But the best thing we learned was from our hero. We'd wondered out loud if there was some way to repay him for his help, but Captain Jack had just smiled. "The only payment I want is to know that someday, you'll lend a hand to somebody who needs help. That's the way things work on this river." If it were a movie, that would be the signal for the symphony to begin. But Captain Jack's sincerity was both honest and contagious.

The whole experience was so contrary to the endless horror stories we'd heard before our departure about "inevitable" Mississippi encounters. We were so lucky to have found another side of the river.

David and ***Zora Aiken*** *have been meandering by boat since 1974, finding inspiration for painting and writing. Their home since 1978 has been a good old now-classic 1963 Chris-Craft sloop,* Atelier. *Their published books include* Good Boatkeeping, Second Edition; Cruising, the Basics; *and* Fiberglass Repair: Polyester or Epoxy.

DAVID AIKEN

A paint

Beginners save

Nothing looks worse than a wobbly boot stripe …so take care!

Want to lose weight, meet interesting people, and sleep like a baby at night? Then paint your own boat.

My husband and I could deny it no longer. Our 31-foot fiberglass yacht, *Coco*, designed and built by Halvorsen, Mawson, and Gowland, Australia, badly needed painting.

At first we thought we'd pay someone else to do the job, so we called around asking for quotes. But after deciding that we didn't want to sell a kidney each to make our boat look decent, we opted to do the job ourselves.

We aimed to tackle the project during the Christmas holidays, which for us were five weeks long.

> **"But after deciding that we didn't want to sell a kidney each to make our boat look decent, we opted to do the job ourselves."**

"Yeah, Lou, we'll put her on the hard just after Christmas," said my husband, Stephen. "We should have her finished in a couple of weeks, then we can have the rest of the vacation to cruise and relax."

Sounded great.

Well, we were a little optimistic about our time frame. We actually finished her three months later. But she looked sensational. We were very proud of our mammoth effort and we really enjoyed working together.

OK, that's the story in a nutshell. Let's get on with the technical stuff.

Step one was to contact local boatyards for a place to keep the boat while painting. Like most people, our budget was tight so we wanted a good price. However, we also wanted a professional setup with reliable lifting gear, security, and a decent chandlery. We found all this in a yard only an hour's cruise from our mooring. The cost was $18 (Australian — about the same as the U.S. dollar) per day, with an additional charge of $3 per night if we wanted to camp on the boat while working. Showers and toilets were available in blocks dotted around the compound.

As part of our research we spoke to a lot of spray painters, boatbuilders, and others within the industry. Like most professionals, they were more than happy to share their knowledge and experience. It was quite a daunting project, so we were really grateful for the advice we received and made notes on everything.

Last-minute tips

Once the boat was on the hard we asked the resident spray painter, Dave, if he would mind looking over our boat before we started and for any last-minute tips. He was great and talked to us about all the different paint choices. We could choose top-of–the-line, medium-quality, or "trawler" paint. We wanted a two-part preparation as we felt it would give us a tougher, longer-lasting finish. We use our boat a lot and probably aren't careful enough about throwing things around the deck. Dave gave us brochures and a DVD on different products and methods, then told us to treat the job as we would a house: start at the top and work our way down. We read the literature and watched the movie 400 times. We then compared prices of various suppliers and finally chose mid-priced paints for the deck, the hull, cove stripe, and boot stripe. All advice told us that, if applied correctly, the paint should give a good 10 years' service. Antifouling paint would be applied a couple of days before we put the boat back in the water.

We chose a day to start and rolled up to the job fresh, eager, and a little scared. We had decided that — as we were on vacation and our kids had left home— we would camp on board to save ourselves a daily commute. We stowed our clothing and groceries and then planned our workspace.

job to remember

thousands, get professional finish

by Louise Krick

Because *Coco* was up on supports, we could store our equipment under one side of her hull in two large plastic tubs with lids; these were great for keeping everything tidy and protected from the weather. We also had trestles and planks that we used as a workbench: on these we could lay out everything we needed for the job with space on the end for sanding, polishing, or mixing. Other trestles were set up to give access along the sides and stern of the boat.

It was important to keep a tidy worksite, as nothing is more depressing than trying to sift through a huge mess to find tools and equipment. Garbage bags were kept handy and emptied each day into the bins provided by the boatyard. The yard had a good recycling system to separate all manner of metal, wood, and fiberglass, which was cleared away at no extra cost to us. After securing a ladder up one side of the boat to allow us on and off, we were ready to attack the job.

Stripped for action

First, we stripped the deck. We didn't pull down the mast, but we taped the chainplates and took off the pushpit and ladder; removed all the stanchions, the pulpit, hatch covers, traveler, and anchor cleats; and pulled out all the portlights. We taped pieces of plastic to the inside of the portlight frames to keep out any adverse weather.

Now it was fun time: sanding. We started off quite timidly until we realized that we needed some heavy-duty action if we wanted to get the job done. We had bought a couple of disk sanders and an orbital sander, so we got to work with those until the sandpaper ran out a couple of days later. I went into the chandlery to buy some more and was dismayed to find the price double what I'd paid elsewhere. I wasn't dismayed for long, however, because after 10 minutes of using the more costly stuff, I realized it did a far better job than the cheaper paper. That was an important lesson: some things you can buy cheaply; others, you shouldn't.

We used 80-grit paper on most parts of the deck and then finished off with 120-grit. On other parts we actually had to use a belt sander with 60-grit paper. Not everyone would need to go to such lengths, but *Coco* had suffered a fire with her previous owner, who had repaired her with timber and a fiberglass finish. Some places were very uneven but, because Stephen had experience as a drywall plasterer and fiberglasser, he sanded back and reset the problem areas. He was advised by a boatbuilder to use an epoxy resin with micron filler (almost like car filler) and he did a great job.

While Stephen was making repairs with that epoxy resin, I finished the nooks and crannies along the toerail and around the hatches and anchor locker. I then attacked the woodwork on the hatch covers and frames. Now I was ready for the next step, so we decided I could start on the cove stripe. Even though Dave had said to treat the project like a house, there were times when we had to leapfrog each other to work on different sections or we would have wasted time hanging around waiting for one of us to finish. But we never got too far ahead of each other.

It was while working on the cove stripe that we discovered delamination had occurred in a couple of places due to the fire. Delamination occurs when layers of fiberglass separate under some forms of stress, and this compromises strength. You can imagine how happy we were to find this problem when we thought we were nearing the end of our preparation. We knew, however, that we had to strip it back and re-glass or we couldn't have slept at night.

Great for the biceps

The hull didn't need as much work as the deck, so I sanded the cove stripe and the rest of the

Stephen stripped the deck of everything but the mast before starting the actual work. Patience in clearing, repairing, and sanding makes the difference between an adequate job and a great one.

Trestle benches were invaluable as work surfaces for laying out tools and mixing paint.

hull with a disk sander and 120-grit paper. It was great for the biceps. And that brings me to another important point: breaks.

It's essential to stop regularly to eat and drink. Even if you don't feel like consuming anything, make yourself drink plenty of water and eat something substantial. At lunchtime we would sit and chat about our work plan and dream of what *Coco* would look like when finished, and this inspired us to keep going. We even made sure we had a walk to loosen up a bit. We're quite fit but we were using muscles we never knew we had. It was also important to have a set finishing time. The work was really physical and repetitive, and it helped to know that we could put in a big day and put down tools at a certain time.

Anyway, back to the hull. Once I finished sanding, Stephen got out his trusty plastering tool and, using a microsmooth product, proceeded to fill every nick and scratch he could find. I'd sand with 240-grit paper over his repairs once they were dry, and he'd go 'round again looking for anything we'd missed. We must have gone over the hull four times before we were satisfied.

"That, perhaps, was one of the biggest obstacles we had to overcome — knowing when to stop sanding . . . But to tell the truth, we were frightened to start painting."

That, perhaps, was one of the biggest obstacles we had to overcome — knowing when to stop sanding. We had been told so many times that the paint job would only be as good as the preparation, and we knew that was true. After all the hard work we had done we wanted the job to be as near to perfect as we could get it. But to tell the truth, we were frightened to start painting.

Finally, a friend we met in the yard said to us, "For goodness' sake, guys. It's only paint." That spurred us on.

To begin, we washed the whole boat with a good dirt-and-grease remover. We then rinsed and wiped all over with clean cotton rags. From then on it was "socks only" on board to keep everything clean and ready for the paint.

The paint was a two-part preparation with instructions that would have scared Michelangelo. Warnings regarding painting in the correct temperature and humidity had us running for our thermometers and reading the same literature over and over. The reason temperature is important is so that the paint won't cure too quickly after it's mixed, which would make it hard to apply. And too high a humidity will make your paint job "bloom." This means that after drying, the paint will have a dull appearance rather than the slick shiny one you're after.

An early start

Because we opted to paint in the summer (Christmas in Australia, remember, is in summertime), we knew we had to start early in the morning. A day dawned where no rain and low humidity were predicted, and we set to work in the early-morning darkness. Our project for the day was the deck.

On our workbench were sponge rollers, good-quality brushes, trays, thinners, and cloths. Stephen mixed the paint thoroughly and then left it to stand the required half an hour to allow any bubbles to disperse. Meanwhile, I wiped down the deck with clean rags to remove the dew. The time had come.

We both started at the bow and worked our way down the respective sides of the deck. We rolled on the paint and then "tipped off," using just the end of the bristles of a good-quality brush. This method, together with the levelers in the paint, produced the lovely smooth finish we were after. Two important tips: make sure to finish by the ladder so you can get off without stepping on any wet paint, and wear long pants to protect your knees.

The deck required four coats of paint: two of a thick heavy undercoat and two of the finishing coat. Between each coat we allowed for curing time, then lightly sanded with 120-grit paper, and then wiped down with clean cloths. As you can imagine, it took quite a few days to finish the deck since we had to do all this under the right conditions. We also wanted to add a non-skid agent to our final topcoat so that the finished deck wouldn't be too slippery. However, we didn't want the non-skid all over the deck, so we

defined the areas that would receive non-skid by taping around them. Our final topcoat was done in two stages.

First, we painted around the taped spaces, lifted the tape, and lightly sanded the edging. Then, we re-taped the perimeter of the designated non-skid areas and painted inside those areas with paint containing non-skid agent (1 tablespoon of agent to 1 liter of paint).

Incidentally, be sure to stir the paint regularly while applying, to ensure an even coating of non-skid. We chose to make the non-skid areas the same color as the rest of the deck, so perhaps we could have added the agent to the entire final coating. But we had never used the product before, so we used it conservatively. Non-slip adhesive cutouts work too.

A confidence boost

The finished deck looked sensational, which was a great confidence boost and inspired us to complete the rest of the boat as soon as we could. The cove stripe was our next step, which was exciting and a bit nerve-racking, as we decided to use color.

Because we had a lot of white paint, we bought a small can of navy blue paint and mixed the two paints to produce a light shade of blue for the two topcoats. You can buy cans of colored paint, but the shade we were after would have taken a week to get on order, so we mixed our own. The first topcoat looked so bright — like something out of a Disney cartoon — that we added more white to the final batch. Perfect.

The kids came over and gave us a hand painting the hull, which was a treat after the more intricate areas of the deck and cove stripe, and we completed it in record time. However, as with the rest of the job, we always adhered to the rules of sanding between every coat with fine sandpaper (240-grit) and wiping down with clean cloths. And we always checked humidity and temperatures if we had any doubts.

By this time, people from all over the boatyard were dropping by. We met sailors from the U.S., England, the Mediterranean, and of course our local waters. The camaraderie was great. Everyone offered advice, help, and encouragement. The funny thing was that whoever started painting became a hero, with those still preparing to do this sort of project gazing at the shiny new paint and asking questions, questions, questions! We offered encouragement and passed on advice that we had been given.

Just before we put our final topcoat on the hull, we met an old painter who told us that he thins every coat he puts on to a ratio of 25 percent for the first undercoat; 20 percent, second undercoat; 15 percent, first topcoat; and 10 percent for the final topcoat. We thinned our final topcoat because of that advice and it worked so well that we wished we had known to do it with all the coats.

“We’d go for a walk just to be able to come back and see her fresh all over again. Sound pitiful? Yep, it was, but it was great.”

Mission complete

We were so pleased with how the job was looking that by the time we reached the boot stripe we were really brave, and we opted to paint it navy blue. It finished the boat off beautifully. We applied two coats of good quality antifouling and our mission was complete.

It’s hard to believe how it makes you feel to work so hard for so long and to be so proud of a finished product. We cleaned and stored all our tools and equipment and then spent a weekend just walking around and around our boat: high on the hard, glistening in all her glory. We’d go for a walk just to be able to come back and see her fresh all over again. Sound pitiful? Yep, it was, but it was great. Stephen, the kids, and I had worked hard, through all the dust, dirt, heat, and insecurities of painting our own boat. We saved thousands of dollars, learned a lot, and we’re now proud to take *Coco* anywhere.

Mind you though, if the paint doesn’t last for the promised 10 years, heads will roll!

Louise Krick lives in beautiful Hunter Valley, New South Wales, Australia, where she works with at-risk teens and finds writing a great way to download at the end of the day. In their spare time, Louise and her family are either on the water or under it, all being keen sailors, surfers, and divers.

Louise celebrates: done at last!

Applying bottom paint

Thorough preparation is the golden rule

by Gregg Nestor

Before you apply any bottom paint to your sailboat, some basic preparation is in order. This includes not only having the proper application equipment and the correct amount of paint on hand, but also having the necessary safety and cleanup equipment assembled.

By its very nature, bottom paint is toxic. And, since the majority of the work will be conducted over your head, bodily contact with the paint is seemingly unavoidable. Proper personal protective equipment (gloves, clothing, eye goggles, and a respirator) will help prevent overexposure to any sanding residue or to the paint. It's also a good idea to place a tarp beneath the boat. The tarp collects any sanding/scraping debris and paint splatters, and it may help keep dust off the freshly painted surface.

After your boat is in the slings, if your boatyard is a friendly one and you can be quick about it, apply paint in those areas that were previously inaccessible.

Surface preparation

Adhesion of the new paint is directly related to the quality of what's beneath it. If the old bottom paint is in good condition, all you need to do is sand it with 80-grit paper, wash off the dust, and roll on a fresh coat or two of new bottom paint. With an uneven or thick build-up of paint, it may be necessary to resort to a more aggressive approach such as scraping or chemical stripping. Once the loose or flaking old paint has been removed, the surface should be sanded.

If this is the first time that the boat's bottom is to be painted (or if, after sanding/stripping, a significant amount of gelcoat is showing), it would be wise to either apply a primer or sand the boat's hull with 80-grit paper prior to applying the first coat of bottom paint. Fiberglass, by itself, is not the best material for holding paint. Applying primer or sanding the bottom creates a surface porous enough for the bottom paint to adhere. Additionally, a new boat that has not been previously painted has mold-release wax on its fiberglass. This wax must be removed before any kind of paint will stick. Clean the hull thoroughly with a dewaxing solvent, changing rags often throughout the process. Once cleaned, the hull is ready for sanding or priming prior to the application of bottom paint.

Application

At last, it's time to roll on the bottom paint. Assemble your application and cleanup equipment: short-nap roller, sponge brushes (for use in tight areas where the roller can't reach), paint tray, mixing stick, solvent, and rags. Once you've marked off the waterline with masking tape, don your disposable clothing, such as a Tyvek suit, and put on your gloves and goggles.

“If the old bottom paint is in good condition, all you need to do is sand it with 80-grit paper, wash off the dust, and roll on a fresh coat or two of new bottom paint.”

Mix the paint thoroughly with your mixing stick, making sure to stir up all the sediment from the bottom of the can. In most instances, it's the cuprous oxide biocide that's on the bottom of the can. Once the paint is well mixed, decant some into the paint tray. To make cleanup easier, use a disposable tray liner. Place the lid securely back on the can to minimize evaporation and to prevent an expensive accident. This is the voice of experience speaking.

Start painting at the bow. Try to work at a comfortable height. Kneepads help, and a roller handle extension saves a lot of stretching and makes painting the keel easier. Dip your roller into the paint tray, unload the excess paint on the tray's slope, and begin by rolling it up and down on the hull from waterline to keel. To insure proper coverage, go over the area from side to side. Using this technique, work your way aft.

The cuprous oxide is a high-density material that settles fairly rapidly. Therefore, each time you refill the tray, be sure to stir the paint. If the cuprous oxide is not evenly distributed within the paint, some areas of your hull won't be adequately protected. Apply an extra coat of paint along the waterline and on the leading and trailing edges of the keel and the rudder. Bottom paint doesn't last as long in areas where there is constant water turbulence.

Performance and thickness

Generally speaking, the performance of bottom paint is directly proportional to its thickness. Don't try to economize by thinning the paint. Follow the manufacturer's recommendations. For the first coat (the flag coat), use a bottom paint of a different color. When applying additional coats or when sanding, the flag coat will signal when you've obtained complete coverage or when you've sanded enough.

There's no need to paint the prop or shaft. Also, be sure to leave all zinc anodes unpainted. And if you're planning on installing fresh zincs, make certain that their mounting locations are paint-free. To protect any underwater transducers, use specially formulated transducer antifouling paint.

Lastly, keep your receipts and make note of the paint's batch number, just in case there's a problem later on.

Gregg Nestor's bio is on Page 15.

When you're rushing to paint the bottom before launching your boat, remember to give the leading and trailing edges of the rudder and keel an extra coat, at left, including the area at waterline. The paint here will experience the most turbulence and will wear more quickly. After the masking tape has been applied to the boot stripe, begin at the bow, below, rolling up and down, then sideways. Don't forget to stir the paint often. Kneepads and a roller extension help.

The walk-through transom and resulting split backstay offered a neat solution for the owners of this Moorings 39.3. Their Bimini is laced to a tube attached to the backstay.

Twin backstays, anyone?

Two practical uses for two stays aft

by Bob Steadman

Twin backstays, or double backstays, a pair of aft stays that go all the way to the top of the mast, are becoming more popular these days on boats with walk-through transoms. Split backstays, which are split at the transom but typically join about a third of the way up the mast to form one stay, are also found on many boats.

In both cases, the helmsman can stand at the wheel and not have a backstay right behind his head. If equipped with a backstay adjuster, the racer can perform magic on a "bendy mast." And, with such designs, a great deal of aft-rail real estate is available for swim platforms. Sailboat designers, no doubt, had many more good reasons for the development of these adaptations to the backstays of yore.

I'd like to add one they never thought of. Newer backstay configurations provide mounting support for Biminis and radar mounts at a considerable savings over commercially produced radar masts and arches. In fact, since radar masts and arches are expensive, the installation of two new backstays and tangs might very well be a more affordable alternative for a boat with a traditional backstay. They don't steal any precious aft-deck space, plus there are no frame attachments on the cockpit coamings, which often get in the way of winches and sheet leads. (A quick note before you begin looking at your transom, however: remember that split backstays that have backstay adjusters are not suitable as mounting supports since their geometry will change as the backstays are tensioned.)

Because of its configuration, a split backstay provides a narrower base for the Bimini/radar support; however, a split backstay can be easily converted to a twin backstay configuration, if need be. The modification can be made with two longer stays and an appropriate toggle at the masthead.

The radar mount

I didn't want to put the radar antenna on the mast of our Cascade 36 because it would interfere with the leech of our staysail. A radar mast aft would have been difficult, due to lack of deck space available for mounting it.

Our double backstays offered an elegant solution: simply mount the antenna between the stays on a tubular mount. I first made a mockup using a 2 x 4 and some bits of plywood to see if I had all the angles right. From the boat's sail plan, I got the forward slope of the backstays. Making the platform

level was easy then. The other angle I needed was athwartships between the two backstays. Since I knew their length and the distance between their chainplates, I could make a little scale drawing and measure the angle.

Installation was simple. I used four high-quality hose clamps. My welder reproduced my wooden prototype with ⅞-inch tubing. The finished assembly weighs only 5 pounds. He did a beautiful job and charged me $150 for labor. The tubing itself was probably worth less than $25, with another $25 for electro-polishing. The total was around $200, much cheaper than a radar mast.

Bimini mount

Our double backstays also came in handy when I wanted to add a Bimini for sun protection. I attached a length of 1¼-inch aluminum tubing to the two backstays using cable clamps to position the tubing and a simple lashing to secure it. Wooden closet dowelling or PVC pipe could also be used.

Our Bimini and its windshield were the products of a long evolution. Years ago, I was caught in a vicious storm and resolved to install a boom gallows to control my wildly swinging boom when the mainsail was down. I was true to my resolution. I placed this gallows not aft where you might expect it, however, but rather on the coachroof forward of the sliding hatch. After doing that, I discovered that the new gallows provides a great handhold when entering and exiting the cockpit. The real advantage of this gallows appeared later when we used it to provide the forward support for our Bimini.

The Bimini itself is made from a waterproof material called Boat Topping. This is a vinyl-and-Dacron laminate that we ordered from Sailrite. The fabric goes over the tube at the backstays and is secured with a zipper. Two small windows were installed overhead in the center so we can see the mainsail.

Bob Steadman found a creative use for the split backstay on his Cascade 36. He mounted his radar antenna on a tube supported by the two parts of the backstay, at right. The corner angles in the tubular mount prevent it from rotating under the weight of the antenna and allowing it to pitch forward.

“Newer backstay configurations provide mounting support for Biminis and radar mounts at a considerable savings over commercially produced radar masts and arches.”

On night passages we like to be able to see the stars, so we unzip the Bimini, rolling it forward and tying it to the gallows. Having the ability to quickly roll it up is a great advantage, particularly when a sudden and violent squall approaches.

Because the sun will get under the Bimini early and late in the day, we designed side panels that zip on and attach to the lifelines. These panels also provide additional protection from the rain. None of this gear interferes with handling sails and can be left up at all times, although we prefer to take it down to reduce windage and for its own preservation when a squall blows in. The boom gallows was expensive — about $1,000 (more today) — but the Bimini ran about $220, since we made it ourselves.

Regretful choices

In 1978, when I had *Bettie's* hull custom-built by Yacht Constructors, I made some choices that I regretted later. After the hull was delivered, I spent four years finishing her construction before launching her in 1982. Because of this, I made most of my fitting-out choices before sailing her, sometimes based on the state of my pocketbook rather than on comfort or cruising considerations. One of the decisions I regretted later was my choice of a pram dodger instead of a full-width dodger. This smaller dodger was just the width of the sliding hatch and was designed to shelter one person sitting in the companionway. It worked, but I never liked the look of it.

Many years later our boom gallows provided a solution to this problem. We made a panel of isinglass, put some grommets in the edges, and stretched it over the front of the gallows. Now we have a windshield. While not as protective as a full-width dodger with side panels, it works quite well and provides great visibility. We attached the windshield with wire ties through the grommets. The bottom edge is held by a bolt rope extrusion. Total cost — about $80.

***Bettie's* side and stern curtains can be zipped on or off as needed.**

While we were at it, we put a drain in the middle of the Bimini to catch rainwater. That worked pretty well, but we noticed that we were losing a lot of water as it ran off the edges of the Bimini. The solution was absurdly simple: we got a couple of funnels and suspended them under the forward edges of the Bimini. Short lengths of vinyl hose take the water to jugs that we empty into our tank when they are full.

Before we started our current cruise from Los Angeles to Boston, via the Panama Canal, and from the U.S. East Coast back to the Caribbean, I had already put 16,000 miles on *Bettie*. Living aboard and sailing a boat naturally causes one to make adaptations to the original equipment and layout, no matter how well planned it was to begin with. The most recent 11,000 miles have caused us to make further modifications to make *Bettie* more comfortable and to accommodate additional gear. There are many more miles (and modifications) left in our good old boat. We look forward to every one.

Bob Steadman and Kaye Nottbusch have been cruising for three years. Bob is a professional cinematographer and the two have produced a DVD, Cruising with Bettie. *The DVD can be found at <http://www.TheSailingChannel.tv>.*

Getting that prop off

Here's a $5 propeller puller you can build yourself

by Rudy and Jill Sechez

We wanted our own propeller puller but it had to fulfill the following requirements:

1. It must be simple to work with.
2. It must be cheap.
3. It should be easy to make at home by ourselves.
4. It should store easily and compactly on our boat.
5. It should assemble and disassemble easily.

As a result, we created a design that needs only the following tools for construction: a hacksaw, an electric drill, a 9/16- or 17/32-inch drill bit, and a 17/64- or ¼-inch drill bit.

The materials needed are: two pieces of 1-inch x 1½-inch x 13½-inch flat bar, two pieces of ½-inch x 8-inch threaded rod, four ½-inch nuts, four ½-inch flat washers, one ¼-inch x 2-inch bolt, and one ¼-inch nut. The material can be regular steel. There is no necessity for stainless steel or bronze. Aluminum may be considered if weight is a major concern, and dimensions may be altered or tailored for a specific boat's needs or if available materials dictate the need to do so.

The flat bar is available from steel-supply companies, machine shops, or welding shops, and any of these places can cut the steel to size. In fact, if desired, they can also drill the holes. The threaded rod, nuts, and bolt are available at hardware stores.

The holes for the threaded rods are 9/16-inch but could also be 17/32-inch. The holes are oversized to accommodate sloppy drilling technique, to allow for easy assembly or disassembly, and to allow for misalignment of the sides of the puller during use without distorting the threaded rod.

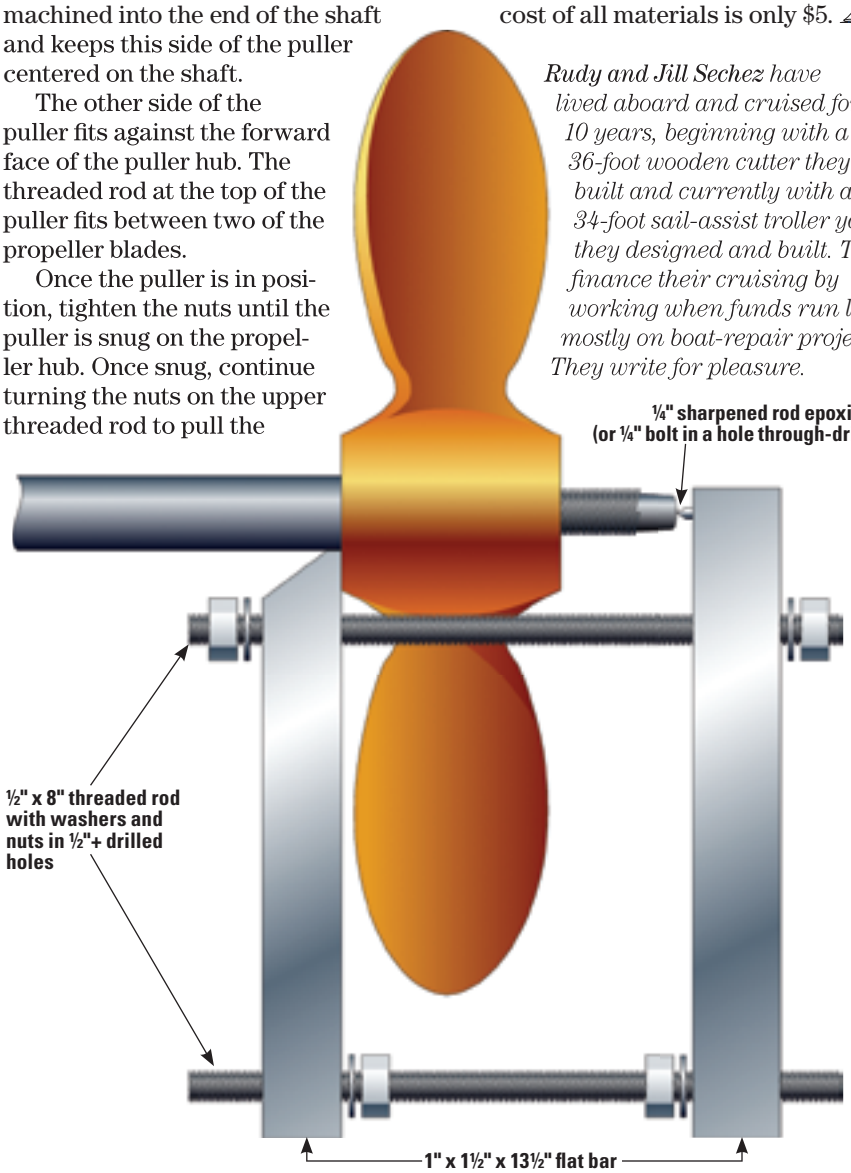
The hole for the ¼-inch bolt is drilled 17/64-inch to allow for easy access for the bolt, but ¼-inch could also be used. Alternatively, a ¼-inch sharpened rod can be epoxied into place, as shown in the diagram below.

To use the puller, remove the shaft nuts and place the side of the puller with the ¼-inch bolt against the end of the shaft. The sharpened point on the bolt should fit into the dimple machined into the end of the shaft and keeps this side of the puller centered on the shaft.

The other side of the puller fits against the forward face of the puller hub. The threaded rod at the top of the puller fits between two of the propeller blades.

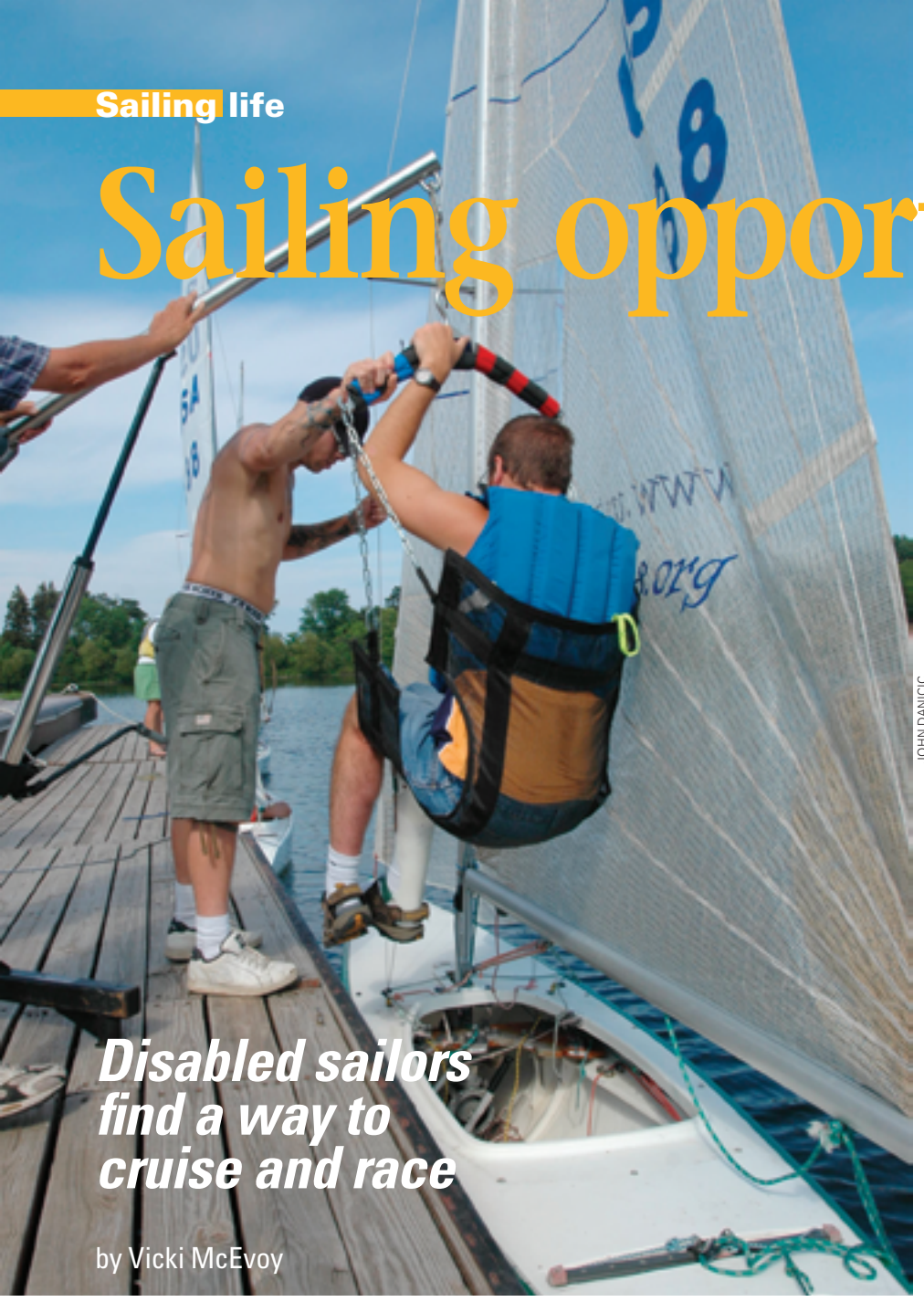
Once the puller is in position, tighten the nuts until the puller is snug on the propeller hub. Once snug, continue turning the nuts on the upper threaded rod to pull the sides of the puller together. The force created will pop the prop loose from the shaft.

The puller is very successful on a 15-inch propeller on a 1¼-inch shaft. It can also be used on larger or smaller props. It performs wonderfully, especially when you consider that the total cost of all materials is only $5.



Rudy and Jill Sechez have lived aboard and cruised for 10 years, beginning with a 36-foot wooden cutter they built and currently with a 34-foot sail-assist troller yacht they designed and built. They finance their cruising by working when funds run low, mostly on boat-repair projects. They write for pleasure.

Sailing opportunities for all



JOHN DANICIC

Disabled sailors find a way to cruise and race

by Vicki McEvoy

We've all seen the image of a racing dinghy, heeling sharply, a lithe, muscular sailor balancing on the rail, hiked parallel to the water, gripping the line with a pinky finger. A truly competitive athlete. But times are changing, and good old sailors, like good old boats, now come in all shapes and sizes, all ages, and all physical abilities.

Sailors have had strokes, brain injuries, or spinal cord injuries. Sailors have arthritis, cerebral palsy, multiple sclerosis, or cognitive or developmental disabilities. Sailors have vision or hearing impairments. Other sailors are amputees, paraplegics, or quadriplegics, or they rely on a ventilator to breathe. The common denominator: all are sailing and loving it!

The last 30 years have seen two trends that are increasing the number of sailors with disabilities. One is the advocacy for full inclusion of people with disabilities into all aspects of society, including participation in sports and recreation. This has spurred the development of local sailing programs designed to get people with disabilities out on the water, which have become popular within the sailing community worldwide. A second trend is the development of adaptive sailboats and gear that capitalize on the strength and ability of individual sailors and ensure a safe experience. The combination of these two trends is a powerful force for inclusion in the sailing experience.

Some people come out simply to experience the thrill of being on the water and the camaraderie of being on the boat. Others want to learn how to sail and to challenge their skills and knowledge, pushing their capacities. Still others learn to sail competitively, competing in regattas against sailors with or without disabilities. Some will participate in the Paralympics in China in September 2008. Various programs across the country have varied foci to meet these different interests, use a variety of sailboats and adaptations for different disabilities, and partner or cooperate with many types of organizations to get people out sailing.

East Coast programs

Shake-A-Leg, in Newport, Rhode Island, started in 1982 and is the longest-running disabled sailing center in the U.S. This program is part of a second-stage rehabilitation center for spinal-cord injuries and other neurological disabilities. It partners with Sail Newport, the neighboring community sailing program. More than 600 disabled sailors participate annually, with approximately 40 percent returning each year.

This program promotes the involvement of family and friends, has an extensive recreational and racing program, and serves as base camp for several Paralympic teams that race both in able-bodied and disabled fleets. Boats used include fully adapted Freedom 20s, Sonars, and Martin 16s, with Hoyer or Spectrum lifts to transfer sailors into the boats. Shake-A-Leg's motto: "There are no disabilities once you leave the dock — only equal challenges!"

Chesapeake Region Accessible Boating (CRAB) sails within sight of the state capitol dome in Annapolis, Maryland. The program operates with minimal staff and relies on more than

FRANK HELD

Facing page: The Courage Center uses the Hoyer lift to transfer disabled sailors. This page: The Judd Goldman Adaptive Sailing Program uses movable benches to transfer sailors from wheelchairs to boats.

70 volunteers, including recreational therapists, retired U.S. Navy personnel, and midshipmen from the U.S. Naval Academy. This program sails out of Sandy Point State Park, under contract with the Maryland Department of Natural Resources; all park facilities comply with the Americans with Disabilities Act. CRAB is a chapter of Disabled Sports/USA.

CRAB sails with people of all ages and disabilities; more than 1,000 register to sail every year. The program includes recreational and instructional sailing, plus organized racing. Once a month there is a SailFree Sunday that attracts up to 160 participants. CRAB also hosts children who come with their school program, bringing personal-care attendants or mentors. Many of these children have multiple physical and cognitive disabilities and do not have power over much in their life. To be given the power to control a sailboat is incredible.

The main sailboat CRAB uses for its program is the Freedom Independence 20, designed in 1985 for people with disabilities. The boat has a heavy keel for stability, a small cuddy, and a large cockpit that accommodates up to 10 people (if the group includes children). The cockpit has pivoting seats with counterweights, and even very disabled people can be strapped in securely.

CRAB also provides opportunities for people with disabilities to sail with friends and family members who do not have disabilities. One father truly appreciates this experience: "I have three young kids, and the CRAB Freedom sailboats have allowed me to get my kids out on the water and introduce them to the sport I love so much — not from the sidelines as a disabled parent must so often do, but as a direct participant. It has certainly made me a proud father."

CRAB organizes five Sunday regattas for its members. An annual CRAB Cup regatta is open to people with disabilities in the mid-Atlantic region and is a qualifier for the annual U.S. Disabled Sailing Championship, a national event sponsored by U.S. Sailing. CRAB also sponsors a regatta that is a fund-raiser and a wonderful opportunity for interaction between disabled and able-bodied sailors. In 2007 this event hosted five CRAB boats and 54 boats from the general population.

West Coast sailors

The Bay Area Association of Disabled Sailors (BAADS) began in 1987, but it really took off in 1989 when it joined forces with the South Beach Yacht Club in San Francisco, California. BAADS members are first and foremost people who love sailing, and about half have severe disabilities. Members believe that sailing is the sport in which disabled people feel most able, and they promote the idea of co-ability, matching crew members to complement their various disabilities. BAADS' belief is that "when people are given the chance to challenge themselves with sailing as the tool, they blossom!" Their 125-plus members include cruisers sailing all over the world.

BAADS members are encouraged to participate in racing events; members have competed in Canada, Italy, and Australia. They have also participated in U.S. Sailing national championships and in Paralympic qualification regattas. In 2007 they sponsored their first national regatta and had 27 sailors competing.

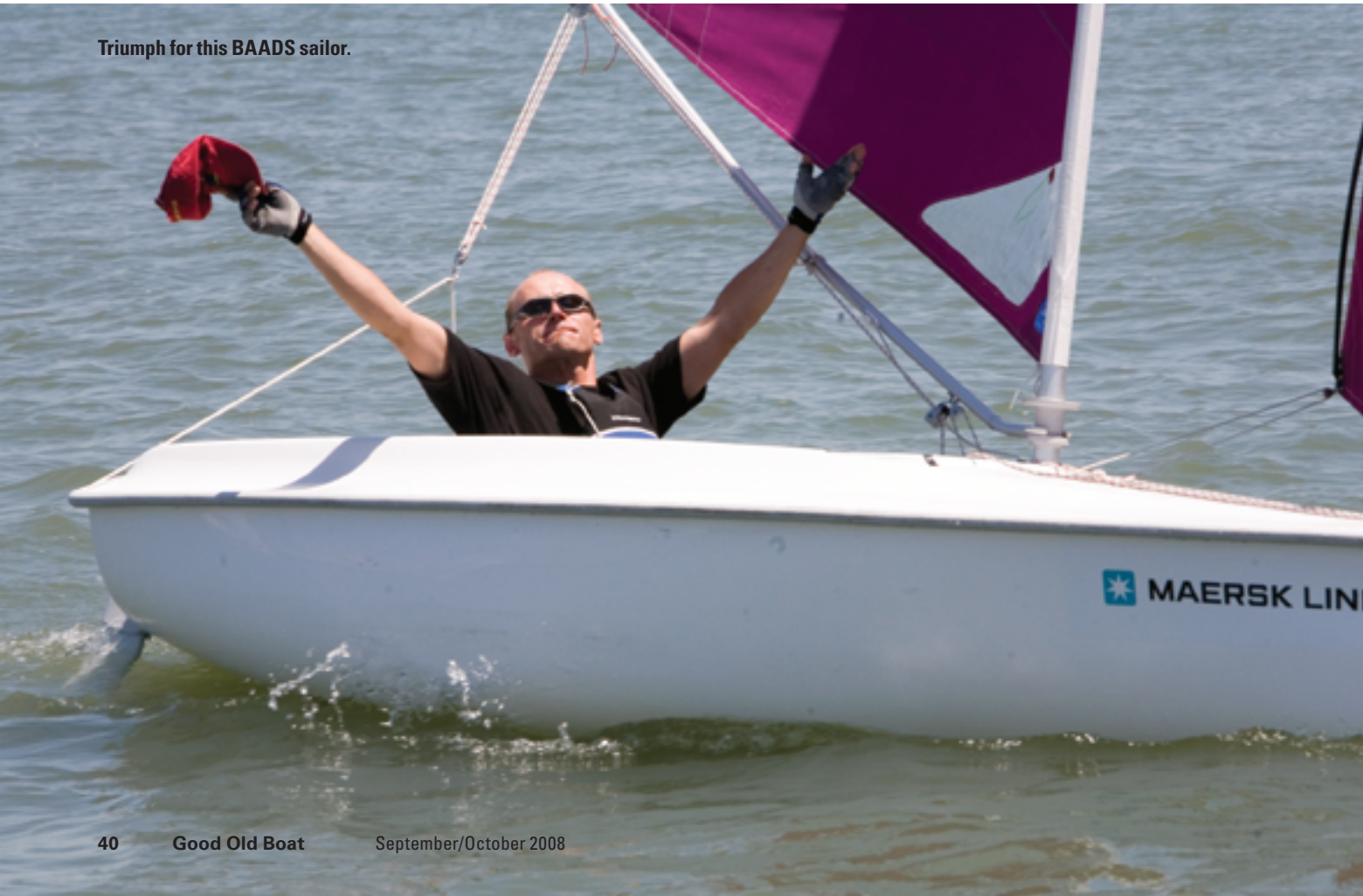
BAADS provides for training of skippers through the American Sailing Association and U.S. Sailing. It currently has three keelboats, including the Freedom Independence, and recently acquired several Access Dinghies that have a ballasted centerboard, cannot capsize, and are self-righting. The Access seats are comfortable and provide more stability. Because the Access uses an electric servo-drive for the steering and sheet winch, even quadriplegics can steer and set the mainsheet, using their chins to manipulate joysticks.

Located as it is in the center of the world's high-tech industry, BAADS continually updates its accessible equipment using state-of-the-art tech-

"But times are changing, and good old sailors, like good old boats, now come in all shapes and sizes, all ages, and all physical abilities."

A happy sailor in the BAADS program.

This BAADS sailor sips and puffs into one tube to control the mainsheet and sips and puffs into the other tube to control the tiller.



Triumph for this BAADS sailor.

nology. One example of such technology is the "sip and puff" method of controlling a sailboat. Two tubes are placed near a sailor's mouth. The sailor puffs and sips into one tube to control the mainsheet, and puffs and sips into the other tube to control the rudder. This amazing technology allows sailors with very limited mobility and/or strength to control the boat on their own. BAADS members also designed a sailing seat by modifying a racecar bucket seat to provide back support for sailors with limited trunk stability. The seat has a five-point harness system and is mounted on a swiveling post. An access port allows for easy mounting and removal.

PHOTOS BY JOHN SEBASTIAN RUSSO

Midwest programs

The Judd Goldman Adaptive Sailing Program (JGASP) was established in 1990 as a public/private partnership with the Chicago Park District. It aims to serve all people who have impaired mobility or vision, but it requires a sailor to be able to float calmly for five minutes while wearing a personal flotation device. JGASP has more than 1,000 sailors each year who enjoy participating in sailing on Lake Michigan. This program uses Freedom 20s for beginning sailors and Sonar and 2.4-meter Norlins for more advanced racing sailors. Sailors use boarding benches to move from the dock to the boats and counterweighted seats to pivot from one side of the boat to the other while being supported. For more than a decade, JGASP partnered with the Chicago Yacht Club to host the U.S. Sailing disabled nationals.

Courage Center in Minnesota is a nonprofit rehabilitation and resource center that has been helping people with disabilities lead healthier and more independent lives for 80 years. Its sailing programs are part of a wide range of sporting and camp activities; many of its sailors are also active in other sports. The program is led by certified therapeutic recreation specialists, with certified sailing instructors from the program's partnership with the Duluth Superior Sailing Association in Duluth, Minnesota, and the Lake Harriet Yacht Club in Minneapolis, Minnesota.

The sailing program in Duluth, located on Lake Superior, helps people in and out of the boats using a hand-operated hydraulic lift that has a base permanently attached to the dock. A Soling 27 is used for group sails and the Norlin 2.4 is used for solo sailing. Both boats are very responsive but have heavy keels to prevent capsizing.

This program uses very simple adaptations on the boats. To the Soling have been added seats made of plastic tubing, netting to secure sailors in the boat, and a line attached to the tiller to control steering. The Norlin is rigged so that controls are operated by hand, very close to the body. The Norlin is the solo sailboat used in the Paralympic sailing competition, but sailors with disabilities also sail this boat in regattas against able-bodied sailors and do quite well. One mother watched with tears in her eyes as her son in his early 20s sailed off the dock with a big grin spread across his face. He had a traumatic brain injury as the result of a motorcycle accident, and that was the first time she had seen him transport himself by independent means since his accident.

Under way in San Francisco Bay with the "sip and puff" method.

PHOTOS BY JOHN DANICIC

At Courage Center, two new sailors learn to sail from a certified sailing instructor, above left. This boat uses a simple adaptation: a line attached to the tiller allows a sailor with limited mobility to control the tiller, while the other sailor controls the mainsheet. Courage Center sailors in Duluth Harbor, Lake Superior, above right.

Courage Center also has sailing programs on the urban chain of lakes in Minneapolis. This includes weekend sails on Lake Calhoun that invite families and friends of disabled sailors to enjoy sailing together. During the week, Lake Harriet has the action, with people solo-sailing in Mini-12s. One participant is a former wheelchair racer who has won 11 gold and five silver medals in the Paralympics. He enjoys sailing because of the intellectual challenge: "The moment you sail from the shore, you are the navigator. No matter which way the wind blows, you are in charge of your safe return." He gets twinkles in his eyes when asked if he's planning on competitive sailing.

One obstacle all sailing programs face is transferring sailors from wheelchairs to boats. Some programs use mechanical lifts, which are very safe but also expensive and not portable. Other programs use portable benches, which are not expensive but require upper-body strength and physical assistance. BlueSky Designs, an ergonomic design firm in Minneapolis, is designing two new portable watercraft-transfer devices that can be used for any style of boat, including sailboats, canoes, and kayaks. Both devices provide a transfer path, are lightweight, and collapse for storage on a boat or in the trunk of a car.

Volunteers welcome

What do *all* the accessible sailing programs have in common? They thrive on participation, volunteers, and donations. Know disabled people who might enjoy sailing? Encourage them to participate in a local program.

Know how to sail? Volunteer to be a sailing buddy, to teach sailing, or to coach new racers. Volunteer to help on the dock, getting people in and out of the boats, or go out in the chase boat and be part of the safety team. People with an engineering bent can design and build modifications for individual needs.

Monetary donations always help. Most of these programs are nonprofit, so your contribution qualifies as a charitable tax deduction. Have a boat you don't use? Boat donations can also be tax deductions. Some of the programs, including CRAB and Courage Center, accept donations of both sailboats and motorboats. If the boat is not appropriate for use in the program, it will be sold, with proceeds used to offset program operation costs.

No sailing programs for people with disabilities in your area and you or family members or friends would like to sail? Contact some of the organizations listed in the Resources list and ask for advice in starting a program. Partner with your local or state park system, rehabilitation center, community sailing program, yacht club or marina, sailing school, Coast Guard Auxiliary, veterans' hospitals, or a disability organization to start a sailing program.

If a person with disabilities has the desire to sail, there is a way to make that happen. Sailing programs and adaptive equipment make it possible. As one volunteer describes it: "It is all about the smiles."

Vicki McEvoy and her husband, Paul Boschert, sail Nokomis, *a 37-foot Pacific Seacraft, on Lake Superior.*

Resources

Bay Area Association of Disabled Sailors
Pier 40, The Embarcadero
San Francisco, CA 94107
415-281-0212; baadsgal@hotmail.com
<http://www.baads.org>

Chesapeake Region Accessible Boating
P.O. Box 6564
Annapolis, MD 21401
410-626-0273; donbacke@aol.com
<http://www.crab-sailing.org>

Courage Center
3915 Golden Valley Rd.
Minneapolis, MN 55422
888-846-8253; mike.bauler@courage.org
<http://www.CourageCenter.org>

Courage Center Duluth
200 Ordean Building
424 West Superior St.
Duluth, MN 55802
218-726-4762; eric.larson@courage.org
<http://www.CourageCenter.org>

Judd Goldman Adaptive Sailing Program
875 N. Michigan Ave., Suite 3718
Chicago, IL 60611
312-747-7684; info@juddgoldmansailing.org
<http://www.juddgoldmansailing.org>

Shake-A-Leg
850 Aquidneck Ave.
Middletown, RI 02842
401-965-2000; paul@shakealeg.org
<http://www.shakealeg.org>

For a list of more than 30 organizations around the country, visit <http://www.goodoldboat.com/reader_services/more_online/disabled_sailors.php>. To add to a "living directory" of services for disabled sailors, visit <http://www.goodoldboat.com/resources_for_sailors/disabled_sailing_orgs.php>.

Fixing that Cutless bearing

A step-by-step guide to replacement

by Barry Hammerberg

When the engine started and the transmission engaged, a vibration underfoot told the skipper he had a problem. Experience offered a suspect: his propeller shaft Cutless bearing had exhibited a little play when checked during the last haulout. He'd made a mental note to replace it next time. But now it was dark, an unfamiliar harbor entrance was ahead, and he had limited engine availability.

Once the boat was safely tied up in the marina, a quick dive confirmed that the Cutless was shot — the shaft could be moved almost a quarter inch from side to side. After 13 years and several thousand hours, the bearing had failed. Operating in this condition would likely lead to prop shaft damage or failure. With judicious use of the engine, the skipper limped into several foreign ports before sailing back to Florida, where he commissioned a tow into Marathon to do a haulout. I offered to help him replace the bearing.

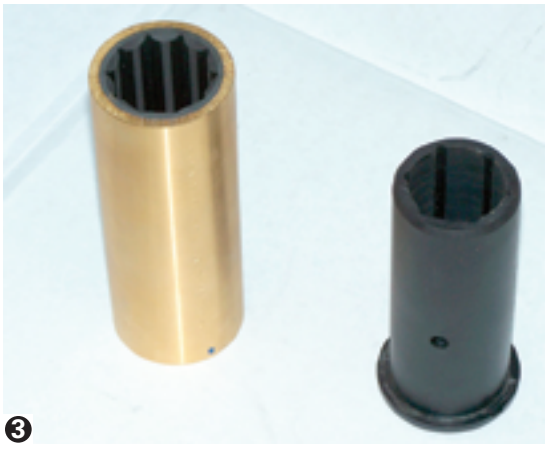
Let's take a look at his problem. A Cutless bearing is located at the outboard end of the propeller shaft. It supports the shaft and minimizes wear on the shaft and shaft housing. The bearing is commonly made of rubber, although other synthetic materials are used (the early bearings were made of wood). The Cutless is lubricated by water flowing through the bearing via a series of longitudinal slots spaced around the outside of the shaft surface. This creates a thin water film on the shaft as it rotates, minimizing contact and wear. If you block this water flow, you are guaranteed to have a short service life.

While the Internet provides a variety of manufacturers, the most convenient source for a bearing is your local marine hardware supplier. You'll need to know the bearing style, overall length, shaft diameter, and outside diameter to purchase the proper replacement.

With that background, let's return to the skipper's problem. Once the boat was hauled out, visual inspection confirmed that the Cutless bearing was essentially gone. As the shaft was supported by a bronze tube molded into the hull (as opposed to the more common strut configurations) and because we lacked drawings of the assembly, we had to assess the damage and figure out what size bearing we needed. That meant removing the propeller shaft to determine where there was physical damage, what parts were needed, and the procedure to use for installing a new bearing.

Removed coupling

Step one was removal of the coupling at the transmission. The bolts securing the two halves of the coupling came out easily. It took a wheel puller, penetrating oil, and lots of sweat to get the shaft end of the coupling off. I was reminded of the reason for annually spraying preservative on the coupling in my boat, as I once had to cut one off an older boat.



Enclosed prop shaft, a tube inside the skeg with prop and shaft removed (1). Typical strut supporting the Cutless, with shaft in place (2). Two Cutless bearings: bronze casing, left, used in a strut; composite, right, used in a shaft tube (3). The tube after removal of old Cutless bearing residue (4).

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Our ignorance led us to disconnect the coupling between the shaft and the transmission (5). The propeller shaft was removed and cleaned, and new zinc anodes were installed (6). Coupling and prop shaft were cleaned before reinstallation (7). The Cutless was pressed into the tube and secured (white fastener) and the prop shaft inserted (8). After coating the coupling with protective oil, the shaft was locked in place (9). Completed installation with propeller, zinc, and Cutless bearing back in place (10). On facing page: Homemade Cutless puller/installer for strut-style bearings (11), also featured in diagram.

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Another method

Had we known how the bearing was mounted, we could have replaced the bearing without pulling the shaft. The steps would have been:

- Remove the propeller and zinc anode.
- Clear away the old bearing.
- Clean up the tube.
- Slide the new Cutless over the shaft and press it into the tube.
- Replace or reinstall the zinc, taking care to leave a gap so we didn't block water flow through the bearing.
- Replace the propeller.

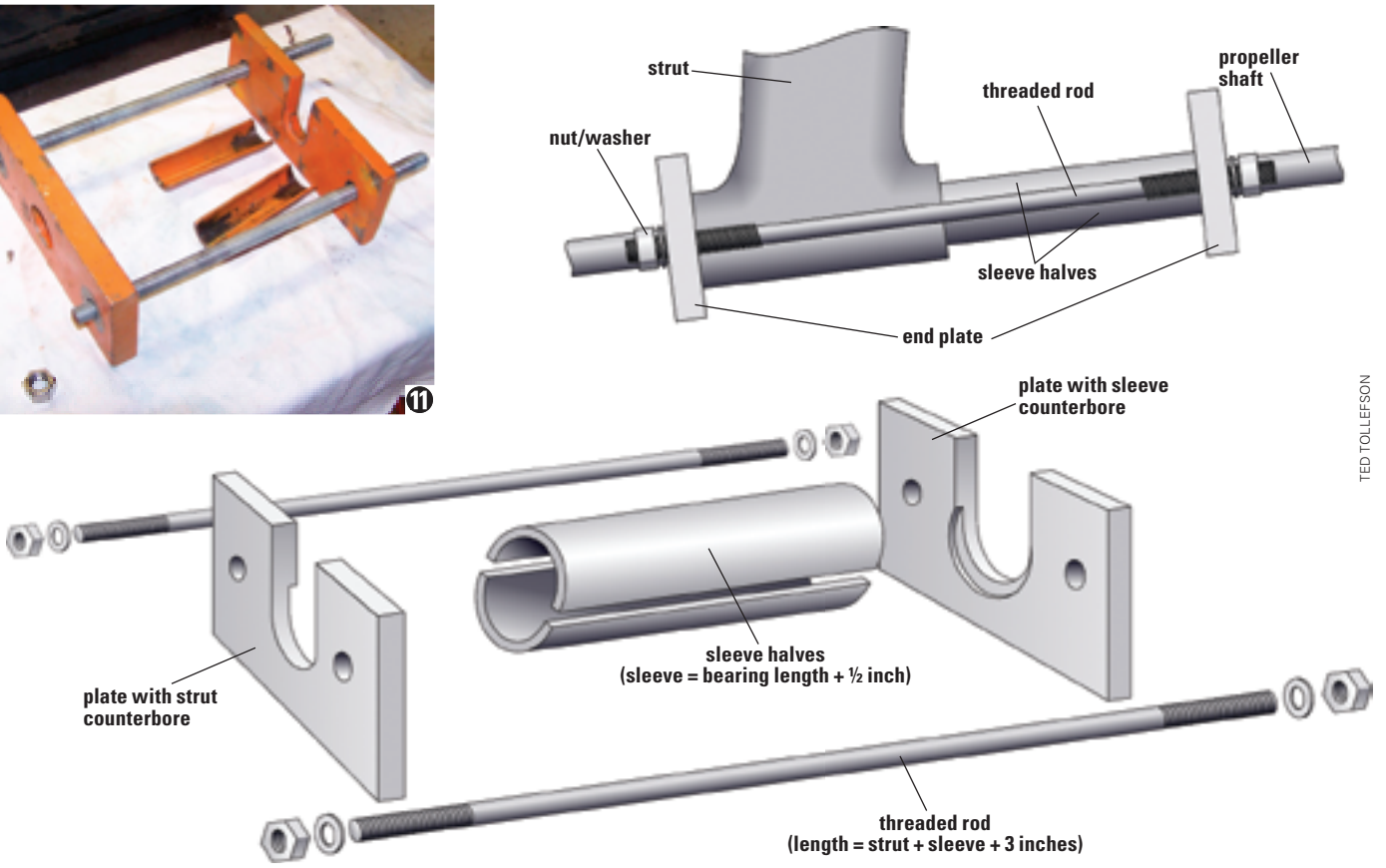
The procedure for replacing a strut-mounted Cutless is similar:

- Remove the propeller and zinc anode(s).
- Clean up the strut.
- Remove the set screws that retain the Cutless sleeve.
- Remove the Cutless with a puller.
- Press in the new Cutless (I use the puller in reverse to do this).
- Install the propeller.
- Check to insure that the zinc anodes are positioned far enough ahead of the Cutless to permit water flow through the bearing.

The strut puller I use is homemade. I took a ⅛-inch-wall steel tube with an internal diameter the same as the outside diameter of my shaft. The outside diameter was slightly smaller than the outer diameter of the Cutless bearing. A band saw made splitting the tube along its central axis a simple task. I made two steel plates, with holes drilled and notched for the shaft, and two ½-inch threaded rods. The notches allow the plates to fit over the shaft. In use, I fit the two halves of the sleeve over the shaft. One steel plate has a counterbore that slips over the outboard end of the strut. The other has a counterbore that fits over the steel sleeve to lock the two halves on the shaft. Tightening the two ½-inch nuts forces the sleeve out of the strut. I reverse the plates without the sleeve in order to press the new bearing into the strut.

How long does a Cutless last? It depends. If the engine is aligned and care is taken to ensure water flow through the bearing, life will be measured in years. The Beneteau Cutless had lasted for 13 years — 12 months a year — in fresh and salt water. The strut-mounted bearing on our Hunter lasted 10 years under similar conditions. We replaced it when it exhibited play of about 1/16 inch. (Would it have gone another three years? Who knows?)

Have you checked your Cutless lately, or are you waiting for it to add excitement to a future cruise?



TED TOLLEFSON

When we extracted the shaft, we found a small piece of the Cutless bearing in the tube. All the bearings I'd previously worked on had a rubber composite bonded into a bronze sleeve. This bearing had no sleeve, so the sleeved bearing we'd bought wasn't going to work. A phone call to sailboat builder Beneteau USA in Marion, South Carolina, confirmed that we needed a flanged composite bearing with no sleeve; the company overnighted one to us.

The bearing arrived as promised and we compared it to the one we had. The difference was obvious. The sleeved bearing was designed to be inserted into a strut. I'd dealt with this before and had built a tool for pressing the old sleeve out of the strut, as it often corrodes into place. We didn't have to worry about the old bearing in this case — it had removed itself.

We slid the new flanged bearing into the tube after we checked for damage and foreign material in the sleeve. The tube has a water pickup that floods the tube and the bearing. We didn't want the slots for the cooling/lubricating water blocked when the new bearing was seated. Then we polished the propeller shaft with emery cloth to remove scaling and inserted it through the bearing and the dripless packing gland. While the coupling was being reinstalled, we checked it with a feeler gauge to ensure that the engine was still in alignment. We then tightened the two plastic machine screws that retained the bearing at the outboard end of the tube. We mounted a zinc anode on the shaft, sliding it tightly against the propeller to ensure that we weren't blocking water passage out of the bearing. The job was done.

Barry Hammerberg rebuilt a wooden Snipe and learned to sail while in high school. He and wife, Ruth, owned a charter boat in the Florida Keys, sailed the British Virgin Islands and Leeward Islands, and now live aboard their 43-foot sailboat on the East Coast.

Stern-rail seats

Add to your sailing comfort this way

by Al Lorman

Stern-rail seats make it easier for a skipper to enjoy company while at the wheel.

PHOTOS BY ALEX LORMAN

"You've got too much time on your hands" was my son's verdict when I said I was thinking about building stern-rail seats for my 1987 Freedom 30. He was only partly right; building stern-rail seats was one of those boat jobs I could do almost entirely in my basement shop without wasting sailing time during the sailing season or driving an hour to the boat each way during the off-season.

Almost all new boats, from Hunter 27s to large Hallberg-Rassys, come with stern-rail seats these days; they seem to be the equivalent of cup holders in minivans. When someone else is at the wheel of *Ab Initio*, my Freedom 30, I like to sit in one of the aft corners formed by the pushpit. The only problem is that there's not a lot of cockpit coaming back there to sit on, so it becomes an uncomfortable perch after a while.

Resolving my concerns

I could buy custom-made stern-rail seats from a marine supplier, but that posed three problems. First, although a supplier said it would built a set for a Freedom 30, it had neither pattern nor photos to show me. Second, it used plastic fittings to attach the seats to the rail, which means that the entire weight of each seat and the person on it was point-loaded on those plastic fittings and an additional stainless-steel leg. Third, the custom-made seats were expensive. So I decided to build my own seats, and in the process I fully resolved my first and second concerns and partially resolved my concerns about the cost.

> **"Making your own seats does not take a lot of skill. The only tools required are a few clamps, a pencil, a drill, a saber saw, and a router."**

Making your own seats does not take a lot of skill. The only tools required are a few clamps, a pencil, a drill, a saber saw, and a router. My first order of business was to create a cardboard template that would provide the biggest seat without affecting the helmsman. I also wanted, if possible, to fit two seats on the half-sheet of the marine-grade plastic I bought for the project.

To make the first template, I cut a large piece of cardboard from a shipping package. At the boat, I used two spring clamps to attach the cardboard to the pushpit to establish the maximum size, making sure it reached both uprights I would have to deal with.

After clamping the cardboard to the rail, I used a pencil to trace the outer edge of the rail to the underside of the cardboard. This created the stern and side dimensions of the future seat.

When I took the template home, I experimented with making fair transitions between straight lines. I found that using the base of a 1-pound coffee can as a template made a curve that pleased my eye and assured that all three curves on the seat were pretty much the same. I took the refined template back to the boat the next time I went sailing and made some

adjustments after a test fit. Once again at home, I transferred the pattern to a piece of ¾-inch particleboard and cut it to match. I didn't worry too much about precision at this point, because I knew that I'd be making further adjustments.

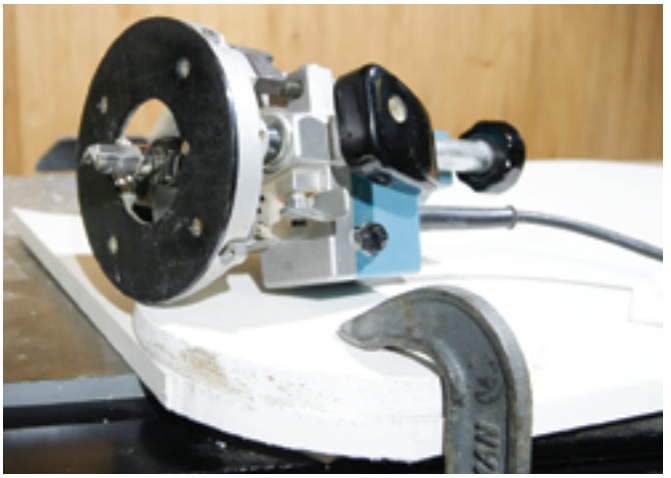
Back at the boat again, I attached the particleboard template to the stern rail using the conduit clamps I had discovered (more on that later). I gingerly tested the seat and decided that it fit nicely. It was a good thing I tested it gingerly; without the planned support leg, the screws pulled right out of the particleboard when I sat down. Since I was making only one pattern, I flipped it 180 degrees and tried it on the other corner of the pushpit. It fit pretty well.

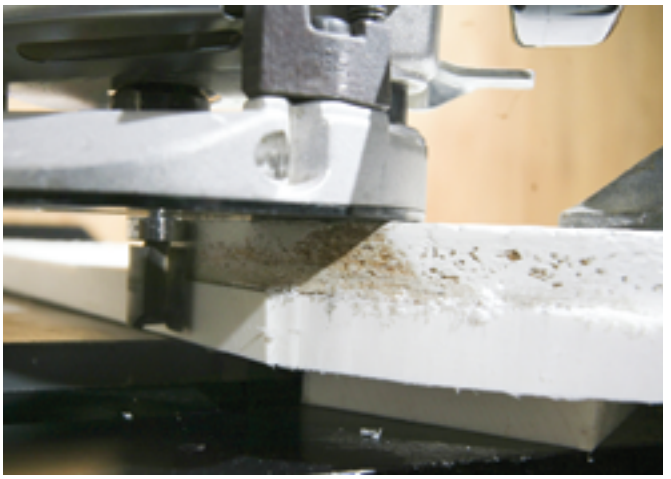
Fair and vertical

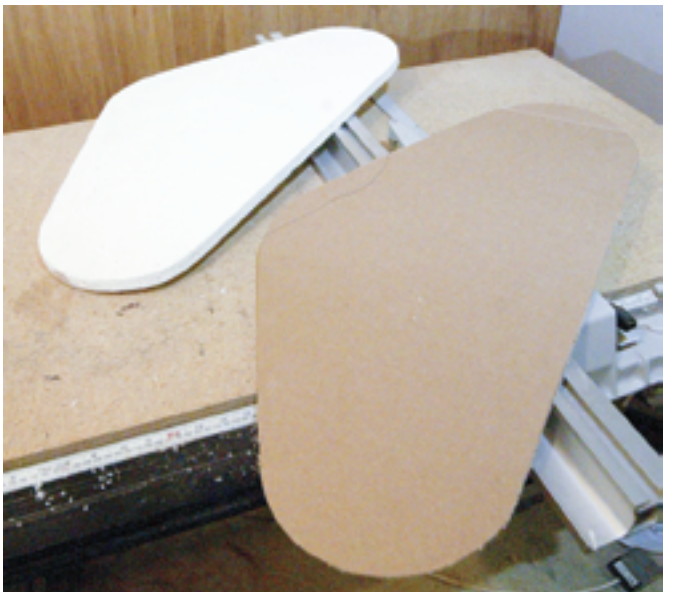
Back in my shop, I made sure that the edge of the template was fair and vertical because the router bit I planned to use would have to follow it very precisely, including copying any mistakes I made. The nice thing about a pattern like this is that you can fill, sand, file, and fill some more until you get it as right as you care to. Once I had a pattern I was satisfied with, I traced it directly onto the plastic I would use for the seats.

"The nice thing about a pattern like this is that you can fill, sand, file, and fill some more until you get it as right as you care to."

Stern-rail seats are generally made from UV-resistant, ultra-high molecular weight (UHMW) polyethylene, the best-known brand of which is Starboard. UHMW polyethylene is what plastic cutting boards are generally made of; the marine version has UV stabilizers added during the manufacturing process. Since genuine Starboard is not inexpensive, I surfed the Internet and found a Canadian product that was less expensive, including freight, at <http://www.polyzone.com/>. Most commercially available stern-rail seats are made from ½-inch material; I used ¾-inch material for added rigidity, a decision I did not regret.







It takes some planning to clamp both the pattern and workpiece to a flat surface. You may need to move the workpiece around at least once so that you can trace the pattern completely, top left. With the pattern on top, a router bit with a pilot bearing on top follows the pattern you've created to make a duplicate in the weatherproof material, bottom left. This is a posed photo; in real life, you need to lower the router bit enough to clear the bottom of the workpiece. The cardboard template in the foreground was used to make the particleboard template in the background, below. The particleboard template was painted white so that it could be test-installed on the boat to give a realistic idea of what the finished product would look like.

The port side stern-rail seat is installed and ready for use, below left. The leg can be installed in different locations so that it fits on a variety of boats. The three barrel nuts that attach to the pipe clamps on the railing under the seat are barely visible. A builder's level was used to make sure that the seat was level fore and aft and side to side. Stern-rail seat seen from the underside shows three clamps, one in the corner and one along each of the opposite sides, below right.

> **"At first, I thought that using ¾-inch material might obviate the need for a leg. It didn't, which made me doubly glad that I didn't use ½-inch material."**

Once the pattern was traced onto the plastic (don't use a pencil for this; it is one of the few things that sticks to the material), I used a saber saw to cut out the seats about ¼-inch outside the pattern line. The remainder of the material would be removed by using a router with a pattern bit. After the rough cut, I clamped the particleboard pattern onto the plastic and adjusted the router so the bearing was on the pattern and the cutter was on the plastic. Because the two pieces were clamped together, I could not run the router around it in one pass. I arranged things so that after cutting about half of the pattern, I moved one of the clamps to another location and continued cutting without allowing the pattern and the workpiece to separate.

Looking svelte

After successfully cutting both workpieces with the router, I chucked a round-over bit into the router and rounded over the tops and bottoms of the seats. This had the effect of making the chunky-looking ¾-inch material suddenly look quite svelte. If you use your router carefully, there's little cleanup to do when you're done. While you can sand Starboard and its clones, it is not the best way to end up with a smooth edge.

As I noted, attaching the seats to the rail was an issue. Most new boats have flat stainless tabs welded to the rail for this purpose. Or the manufacturer drills through the rail itself and screws the seat down from below. I didn't want to weaken the rail by putting holes in it and I have no welding skills. Yet I did not want a system that

used two or three attachment points to support the full weight of the seat and the sitter. By surfing the Internet I found what I wanted on the McMaster-Carr website <http://www.mcmaster.com>. Having done some electrical work in the past, I knew that electrical conduit is routinely attached to hard surfaces, so I went through the various website offerings. The hardest part was figuring out the size I needed.

Marine stainless steel is usually measured by the outside diameter of the tubing; electrical conduit is sized by the inside diameter, which means that the outside diameter can vary for two different products that are designed for the same inside diameter. Luckily, McMaster-Carr's wonderful catalog included both dimensions so I was able to locate 304-grade stainless-steel ½-inch conduit clamps (technically, they're EMT straps) that would fit the ⅞-inch lower rail on my boat. Given the cost of marine supplies, the price of the clamps for $2.71, plus $4 shipping, was a joy. (I could have purchased the clamps in 316-grade stainless, but they were twice as expensive and I decided the extra cost was unnecessary for something that didn't show.)

One screw hole

I elected to use conduit clamps that have only one screw hole since this would permit me to pretty much match the edge of the seat to the edge of the lower pushpit rail. A dual-hole clamp would require about an inch over the edge of the rail and I saw no reason to do that. I used three clamps per seat, one in the corner and one along each of the opposite sides. To assure that the clamps were firmly attached yet removable, I drilled a hole through the seats using the clamps as templates. I used a barrel bolt and matching machine screw for each clamp. The barrel-bolt heads are on top and are barely higher than the seat top.

Since every aftermarket stern-rail seat I've ever seen has a leg to help support it, I had bought the hardware to add one per seat. At first, I thought that using ¾-inch material might eliminate the need for a leg. It didn't, which made me doubly glad that I didn't use ½-inch material. The leg is simply a piece of ⅞-inch stainless tubing inserted into a stainless fitting under the seat. I used self-tapping screws rather than screws and bolts for this fitting because the forces it will experience will be small.

I attached a white plastic chair protector to the bottom of each leg to protect the gelcoat on deck. After making a few adjustments to get the height of the legs correct (washers in the base make great height adjusters), I declared the project a success.

Al Lorman, a Washington, D.C,. lawyer, sold Ab Initio *to an American living in Thailand not long after completing the stern-rail seats. Al now sails his Bristol 31.1,* Seriatim, *on the Chesapeake Bay.*

Note: *We hope you'll enjoy these excerpts from* Telegram from the Palace, *a whodunit novel by our talented Welsh friend and frequent contributor to* Good Old Boat, *Geoffrey Toye. In this book, Geoffrey weaves the political intrigues involving the British royalty in Victorian Great Britain into a climax ending several generations later in the present day. There are lots of sailing scenes and plenty of suspense; you really don't know "who dunit" or why until the very end. Join us for a couple of short excerpts. The audiobook is beautifully read by Jeremy McGeary.* ***–Eds.***

Telegram from the Palace

by Geoffrey Toye

Chapter 18

Gallagher had remained in the tree until it started to get light. Her legs were stiff and her eyelids sticky with dew. She dropped off the lowest bough into the stream and had a wash. Then she drank some water and made her way cautiously back down toward the lane. There was no sign of her pursuers.

Acutely conscious that by this time her scent would be established on the lane, she walked quickly until she reached a point from which she knew she could get down to the sea and turned off.

She emerged onto a hill overlooking the sea. There she lay down in some long grass and waited. In the distance she could hear dogs barking, but they did not seem to be getting closer. Then she heard a voice, a man shouting an instruction. Another voice answered. She heard them shout to each other several times; they did not seem to be closing the distance but rather moving in a wide arc. Then, far out to the east, she saw the white sails of a ketch.

Taking the Nikon from her bag, she fitted the zoom lens and extended it to maximum magnification to use as a telescope. She could see the yacht heeling hard over, carrying too much sail. There was spray bursting from her bows. Then the helmsman altered course slightly to the west, and she could make out the upright bow and counter stern. She packed the camera back into the bag and ran down toward the sea.

She attempted to go out onto the first promontory but it became apparent that there was insufficient depth alongside, so she returned to the beach and tried the second. This took her out to where the swells were no longer breaking, and although the reef continued seaward, there appeared to be no rocks beside the promontory. She hoped it would be as clear to John.

A headland now occluded *Morgan le Fay*, but Gallagher reckoned the yacht would come back into view in a matter of minutes. She crouched down among the rocks and took a black plastic binliner from the Billingham. Into this she placed the camera bag, her boots, and her jacket. Then she blew some air into it and tied it off at the neck. The next time she looked up, the yacht had entered the bay and was sailing fast on a broad reach, parallel to the shore.

She heard the crack of a rifle shot, then voices. There was a group of men on the first promontory. They had dogs with them, and they were pointing at her. The group turned and ran toward the beach.

She waved and shouted at the top of her voice, but there was no sign that John had seen her. Then, to her horror, she saw the yacht slowly come to the wind and head back out to sea. There was a rippling sound in the air as a rifle bullet passed over her head. A stone rattled somewhere behind her. There was no choice. Throwing the bag ahead of her as a float, she dived into the sea and started to swim strongly from the shore.

Risk of embayment

The last thing she had seen was the yacht with her sails aback. John had hove to and was furling the sails, unable to approach a lee shore where he would be embayed with no hope of getting off again. Gallagher looked up. There was a puff of smoke from the counter; he had started the diesel. A bullet hit the water beside her. She swam faster.

John was making his approach fast. She could hear the engine beating, and he had the Yankee and the mizzen staysail set for more speed and stability. She ducked as another bullet spat water into her face, then swallowed and started

"Gallagher looked up. There was a puff of smoke from the counter; he had started the diesel. A bullet hit the water beside her. She swam faster."

coughing, turning in the water for air. She could see the man with the boots; he was bracing himself against a rock and taking aim. A bullet, this time from the yacht, and the man fell back with a curse. Liam was behind him; even at that distance she could see the blackening around his eyes and the hatred on his battered face. She swallowed more water. She could not swim any more, could only hang onto the bag.

There was another bullet and Liam spun around with blood pouring from his hand. *Morgan le Fay* was passing by, but Gallagher could not find her voice because of the water. Her head kept going under. She had no strength in her arms and, through an overwhelming weariness, she had a curiously detached sense of déjà vu, that she had become a spectator, watching impotently as the hull of the yacht slipped by out of reach. Then there was the thudding of the diesel, which she could feel more than hear as she tried to prevent her hands from slipping off the black plastic, and something that she knew had happened a long time ago was happening again.

Clung to the bag

She tried to dig her fingers into the bag but her hands wouldn't grip, her wrists were hurting, they were being squeezed. She came to the surface to find the side of the yacht's hull screening her from the men and John holding her by both wrists. The water was tugging at her legs and she realized they were moving fast, John pressing himself down onto the deck above her and letting *Morgan le Fay* motorsail herself clear.

When they had gained enough offing, he let her fall back into the water. She clung to the bag while he put the engine into neutral and hove to. The accommodation ladder appeared, then she saw him jump over the rail and swim to her. They returned to the ladder together and he helped her aboard. In the distance the men were making their way back along the rocks.

He helped her down through the companionway and removed her clothes, then he wrapped her in blankets and put her onto the lee berth. The coffee in Lottie's flask was no longer hot, but it was warm. He poured her a cup and placed it into her hands, putting her fingers around it for her. He checked the chart and estimated a course.

Back on deck, he set the mainsail and mizzen and shut off the diesel. He clamped the bezel of the grid compass on the new heading and streamed the logline and spinner, which he had brought aboard lest it foul the propeller. As the Barrels Light came abeam, he zeroed the log. His teeth were chattering. With the yacht now sailing on the reciprocal of the outward bound heading, they were making good headway to the east. The wind had veered slightly, putting them on a fine reach. He went below to drop the centerboard.

Gallagher's eyes were closed. He felt for a radial pulse, then took off his own clothes, toweled, and dressed. He emptied Lottie's soup from the flask into two bowls. Unlike the coffee, which he had opened on passage, the soup was piping hot. He nudged her.

FRITZ SEEGERS

Her fingers were still stiff so he fed her with a spoon. The effect of the hot soup was remarkable. Some color came to her face, and she started to look around her.

"Did I lose my bag?"

"No. It came aboard with you. You wouldn't let go of it."

"Thank you, and thanks for coming to rescue me. They were very . . . unpleasant people."

"You're entirely welcome. I'd better get back on deck. We can talk later."

"Who *was* that masked man?" Her voice was becoming sleepy.

John laughed and started to climb the companionway steps.

As he was closing the doors she smiled from her cocoon of blankets. "John, you've got a nice body."

He grinned back. "So have you." The doors closed behind him.

Chapter 25

John hooked his fingers under the lever and lifted. It unclipped surprisingly easily but the lid would not lift. The rubber seals had melted, solidified, and cemented the case closed. John drew the diver's knife and was about to pry at the lid when an inflatable dinghy came into view around a headland a mile away to the south, traveling fast. There were two men in it. John took in the situation at a glance. He shoved the case into a cockpit locker.

"Get the sails up!"

She hesitated.

"There's no time, they'll …"

"Get the sails up!"

He had already got the kedge aboard and was starting the auxiliary to turn *Morgan le Fay's* bows to the wind. Gallagher hauled on the halyards and got the mizzen staysail and two foresails set. The yacht heeled to the breeze and started to shoulder her way through the seas, but her speed was no match for the inflatable, which was closing fast. Then Gallagher saw what John was doing. To seaward of them was another bank of mist, and she could see that they would reach it before the inflatable reached them.

The mist closed around them while the other craft was still two cables astern. Immediately John shut off the auxiliary and put the helm over. As the yacht came through the wind, Gallagher reached out to free the foresheets, but John held her back. The yacht hove to and came to a virtual halt.

"Shouldn't we change course and keep going?"

He shook his head.

"Hove to we'll forereach to windward a little. We need to shift from our track and leave no wake."

The two had instinctively lowered their voices, not that the crew of the inflatable would have heard. The sound of the outboard came and went, crossing their track several times. Finally there was silence. John turned *Morgan le Fay* about, steering her downwind under reduced sail, slowly so as not to emerge from the mist. They heard the outboard start up again. It was a long way off, but it was coming straight toward them. It sounded much slower. John cursed softly.

Disappear without a trace

"They've got radar. A portable set, they must have just rigged it."

He appeared to consider the point.

"What can we do?"

"We get some more sail on her …" He ducked down into the cabin and switched on the echo sounder. "And we disappear without a trace."

They hoisted the mainsail and mizzen. Foam began to cream away from *Morgan le Fay's* lee rail as John stood like a statue at the wheel, staring down through the companionway doors, his eyes locked onto the echo sounder. The inflatable was getting closer by the minute. While the depth remained constant, so did their course — until suddenly the bottom dropped away.

John let go the lanyard tensioning the mizzen stay and spun the helm to turn hard to starboard. The yacht jibed all standing and started sailing fast straight toward the rocks. The sound of the inflatable indicated that their pursuers were trying to cut the corner. There was a loud bang and a roar of high revolutions.

John grinned. Gallagher frowned questioningly.

"They tried to cut across, but there's a reef just there. That was the shear pin on their propeller. I think they have

FRITZ SEEGERS

twin engines, but they were only running one just now — probably for fear of hitting a rock and losing both — so now I guess they'll start the other engine, get some sea room, and make another approach."

A moment later they heard the sound of an outboard making its way seaward. "By the time they get back to here, we'll be gone. Take the helm and hold her on course." He placed the kedge anchor on the edge of the counter, reached into the cockpit locker, and pulled out a life jacket and two fenders. He also untied a life buoy. Then he went below and brought up the gash bucket, which was full of food wrappers and other paper rubbish. He threw the lot overboard, then very quickly snatched the helm from Gallagher, pushing her aside . . . for what she had seen had rooted her to the spot. Barely 30 yards ahead, a wall of rock had appeared directly in their path.

Braced for impact

At the speed the yacht was sailing, there seemed to be no way to avoid collision, and for a few dreadful seconds she believed that this was what he had meant by disappearing without a trace, the simple way to make any vessel disappear. She grabbed the cockpit coaming with both hands and braced herself for the impact. She looked at John; he was laughing, his eyes sparkling with exhilaration. He spun the wheel to port until the yacht began to jibe, then quickly to starboard, then to port again, sailing precariously by the lee as the grey stone cliffs seemed to part before them, and they were tearing along a narrow passageway.

The passage ended and they jibed hard, *Morgan le Fay* rounding up and heaving to in a high-walled cove. John kicked the kedge overboard, threw fenders over the rail, and ran to drop the sails. Gallagher joined him, smothering the two headsails onto the foredeck as the yacht quietly nosed her way to the side of the cove, where John got a warp through an iron ring and snubbed her up with the kedge warp taut astern. They remained there listening to the sound of the outboard motor as the inflatable cruised up and down, searching for them. Then the throttle opened and the sound died away into the distance. John went below and put the kettle on to boil. He turned to Gallagher and waved an expansive hand.

"Welcome to Morgan's Cove."

Then his knees buckled and he collapsed onto the cabin sole.

Read more . . .

Read Geoffrey Toye's thriller, *Telegram from the Palace,* published by Starborn Books and available at <http://www.goodoldboat.com/books_&_gear/good_old_boat_bookshelf/>; click on GOB 2008 Reviewed Books. Or let *Good Old Boat* read it to you. Download the story as an MP3 file or order it on CD in two formats: MP3 or audio CD. Go to <http://www.AudioSeaStories.com> to order any of the audiobooks produced by *Good Old Boat* magazine. If you'd prefer to talk to a human, call 701-952-9433.

Tango: A Tanzer 31

They swear this is their "forever" boat

by Karen Larson

As complete novices, Tony and Marianne Ouwehand went along on a weekend sail on Lake Champlain some 25 years ago. They've been sailing ever since. "We were *hooked*!" Marianne says, with a strong emphasis on hooked. She is as delighted by the memory now as she was on that weekend so long ago.

The boat was a Hunter 29. "The weather was warm," Marianne recalls. "There were hundreds of boats everywhere. We rafted, along with some other sailboats, to a Beneteau First 42. We enjoyed partying, swimming off the back of the boat, perfect weather, good company . . . "

What's not to like about sailing with an introduction like that? "We lusted after sailboats," Marianne continues. "We went to boat shows . . . and then a couple of years later we moved to Thunder Bay."

Thunder Bay, Ontario, is a waterfront city with a passion for boating. The move there from Southern Ontario made the idea of boat ownership seem much more realistic. Their daughters were aged 7 and 10 at the time of this move. "The whole family took sailing lessons," Tony says, "and Marianne and I took Power Squadron courses."

For two summers they were able to use a friend's Grampian 23 with a rather unusual arrangement. Tony and Marianne paid the slip fees and expenses and were allowed to use the boat whenever the owner had no plans for it. Since he seldom had the time, that Grampian was much like a family boat for the Ouwehand foursome. Each summer they spent two weeks cruising the Lake Superior north shore, a pristine wilderness as near to heaven as it's possible to get on this earth.

The hook was set thoroughly as a result of these cruises. Unlike so many boatowners in Thunder Bay, who both race and cruise their boats, Tony says, "We were never interested in racing." They went along on some races with friends and learned a great deal while participating in these competitive events with the fun-loving and highly skilled Thunder Bay sailors . . . some of the best Jerry and I have seen anywhere. But, other than an intimidating trial once or twice, they did not join in the weekly events over the years with their own sailboat.

Tony and Heather, their older daughter, learned to dive, and Erin, their younger daughter, joined the Sea Cadets and raced in the nationals in Halifax one year, a clear indication of her skills. However, neither daughter sails these days; Erin and Heather are now adults, and both women have weddings planned in 2008. It is a busy year for the Ouwehand family.

A major complaint

After a couple of summers on the Grampian 23, Tony had one major complaint. "It was a head-banger boat," he observes. It had a pop-top to provide a bit of relief, but it was a small cruiser for a family with two growing girls.

"In 1988 we bought our first boat,"

Tony says, adding with a wink, "so we added it to the mortgage of the house." This boat, a Grampian 26, sold itself to the Ouwehand gang almost as soon as the "For Sale" sign appeared on the bow.

The boat was named *Unicorn* and had an airbrushed unicorn on each side at the bow. The two young girls had already claimed it as their favorite boat in the marina. When the sign was posted, any resistance would have been futile. It was meant to be.

Fortunately, this larger Grampian was just what they needed. "It had standing headroom in the V-berth area," Tony says. "Grampian had a way of building outstanding boats."

Tony has always been a hands-on guy. He went to work in the theater because he liked building sets and producing shows and eventually moved into management roles with the Thunder Bay Community Auditorium. Now retired, he can honestly say that management was not nearly as much fun as set-building. He's joined a church community with a large drama component, where he can offer his skills as a volunteer in the area that interested him to begin with.

Once they had purchased the *Unicorn*, Tony says, "That's when I got into doing maintenance on our boat." Let's just say that from the moment he got his hands on a boat of his own, this do-it-yourselfer became a good old boater. And cruising the Canadian shore of Lake Superior was the incentive for having a fully equipped and well-maintained boat. When the ports of call are few and far between, one has to be self-reliant and have a strong and well-appointed boat if one is going to take one's family out and bring the gang home again safely.

But gregarious Tony and Marianne did not only seek the most isolated wilderness coves and the most silent bays while cruising. They also buddy-boated with others from Thunder Bay — powerboaters *and* sailors — who had children of their own. A close clique of boating families was formed, and the stories from those years are legendary (and becoming ever more legendary with the telling over the years).

Boatless sailors

But time passes. Children become teenagers who have jobs and other activities far too important for sailing. Tony and Marianne were hiking more often than sailing. The *Unicorn* was nominally for sale. One day someone made a good offer and the next, Tony says with some bewilderment, "Suddenly we were without a boat."

They expected to save their money for a summer, with thoughts of buying a boat for the next season. "But," Marianne adds with a touch of irony, "that didn't happen." The best-laid plans, as they say.

"'We were not *really* looking,' Marianne protests with a smile, 'but there was this big cabin . . . and the galley with the flip-up counter . . . *That* sold the boat for me.'"

Naturally, they weren't *really* in the market for a sailboat (*not really*), but while they were visiting a cousin in Hamilton, Ontario, they planned to take a look at a Beneteau for sale there. (Idle curiosity, no doubt.) On the drive east, they stopped in Midland, Ontario, just to look around at the boats there . . . just to walk the docks. There was nothing more to it. *Really.* This "dock walking and just looking around" is a psychological malady that strikes most boatless sailors. Jerry and I have had the same symptoms. We are not alone. There is only one cure.

There in Midland, as anyone hearing this tale is likely to have guessed, was a Tanzer 31 named *Tango*. The Beneteau was unable to measure up, and the rest is as you might expect.

"We were not *really* looking," Marianne protests with a smile, "but there

On facing page, Tony and Marianne Ouwehand venture far and wide on Lake Superior and Lake Huron with *Tango*, their 1985 Tanzer 31. Editors Jerry and Karen caught up with them not far from their home port: Thunder Bay, Ontario. This page: Tony added a larger Bruce anchor and installed a windlass, above. Although they raised a family, had fulfilling careers, and have many other interests, sailing plays an important role in the lives of Tony and Marianne, below.

The Tanzer 31's cabin is roomy, above left, with seating for four to six at the fold-out dining table. *Tango* has a quarter berth to port with a cockpit locker and the galley on the opposite side. Note the swing-out instrument panel with the VHF radio, along with the GPS and radar screens, available to the helmsman, above right.

was this big cabin, really huge. And the galley with the flip-up counter . . . someone had done some good thinking there. *That* sold the boat for me." She continues: "Of course, Tony spent the next two or three hours crawling into everything."

Tony was less quickly convinced. "There were two drawbacks," he says. "The V-berth narrowed to a point at the bow that made it possible for only one-and-a-half persons to sleep there. And it was underpowered, with a 13-horse diesel."

Still, on the way home from Hamilton and after seeing the Beneteau, they made an offer on *Tango*, who got to keep her name after friends convinced Tony that "T is for Tanzer, Tony, and *Tango*." And furthermore, they pointed to a favorite ski run named "Tony's Tango." It was meant to be.

Third drawback

Tony and another Thunder Bay sailor, Gordon Cuthbertson, brought *Tango* home to Lake Superior from Midland, which is located on Georgian Bay, a massive body of water that is part of Lake Huron. They immediately discovered a third drawback that Tony hadn't noticed earlier. The sidedecks funneled any water that came aboard aft to the cockpit, where a flaw in the design of the coamings allowed it to cascade from the high side over onto the seats whenever the boat was heeled.

"We used it as an indicator that it was time to reef," Tony says with a grin. But getting soaked each time they were heeled was unpleasant. And that was the first of many modifications to *Tango*. Tony added drains on each sidedeck, with each crossing to and teeing into existing cockpit drain through-hulls on the opposite side of the boat, so the water could run off and out downhill.

Fine so far. But how does a guy deal with a V-berth he doesn't like? Answer:

"They immediately discovered a third drawback that Tony hadn't noticed earlier. The sidedecks funneled any water that came aboard aft to the cockpit . . . "

very creatively. Tony raised the V-berth bunk flat 5 inches, a brilliant plan that added length and width to the pointy part of their bunk, made room for a large holding tank beneath, and (once the hull liner side panels were replaced) greatly widened the space. There in the bow Tony also found a place below for two 6-volt batteries. While he was at it, he snugged two more, and a third as a starting battery, in the quarter berth.

At some point Tony and Marianne agreed that *Tango* would be their "forever" boat. "This is the boat for life, so let's do it," they decided, and they replaced the too-small 2GM with a 3GM Yanmar, giving them 27.5 horses where 13 had to do the job before. And Tony says, "I bought the biggest three-bladed prop I could buy and had it trimmed a bit to make it fit." That finished off the modifications necessitated by *Tango's* major drawbacks. But of course there is always more to do to a good old boat. How much more is entirely at the discretion of the good old boater and perhaps a factor of how much time is spent aboard.

While Tony has retired, Marianne has not yet closed the door on her job as a visiting nurse. Even when they were both working, Tony had as much as six weeks off during the summer, while Marianne had only two weeks. As a result, Tony has spent some time singlehanding over the years and led all lines aft to simplify things when sailing solo.

Power for cooling

Tango came with a hefty set of davits, and Tony attached solar panels to them. These provide enough power to keep the cabin lights and the refrigerator and freezer going, he says. The refrigerator/freezer combination is itself a classic demonstration of his ingenuity. The boat had an icebox as well as a refrigerated space with cold plates. Tony added heavy insulation to both compartments and ran two insulated tubes between the two, one high and one low. This created a thermo-siphon, which cooled the icebox with airflow from the freezer. To this, he added a

fan so they could increase the flow when necessary.

Tony installed a windlass and added a larger Bruce anchor. He replaced the autopilot and bought *Tango* a new headsail for the roller furler. He replaced the two-burner propane stove with a three-burner propane upgrade. He added a hot-water system. He had the bottom soda blasted and followed that up with a barrier coat. He designed and built a clever screen-and-Plexiglas hatch arrangement for use while cruising, added a swim ladder to the davits, installed a diesel heater, and much more.

He added a water filtration system so they can take drinking water right from their freshwater lake. Water going into their tanks first passes through a 5-micron filter. They add a capful of chlorine to the tank; water then passes through a .05-micron filter, and an additional charcoal filter at that stage removes the chlorine taste.

"The boat came with a deck-wash pump," Tony says, and he adds that he didn't really see the use for it until he was able to use that plumbing for his water modifications. He has the filtration teed into this system, along with a lakewater tap that they use for routine hand-washing and other non-drinking activities in the galley.

Indeed, the couple has created a boat that they can now use to cruise beyond Lake Superior to the other Great Lakes that lead the way to the Atlantic Ocean. *Tango* has already taken them to Lake Huron and back. One day within the next few years, Marianne will retire, the family weddings will be behind them, and who knows?

"'This is the boat for life, so let's do it,' they decided, and they replaced the too-small 2GM with a 3GM Yanmar, giving them 27.5 horses where 13 had to do the job before."

"We'd like to cruise the rest of the Great Lakes, through the St. Lawrence Seaway to the Maritimes," Tony says. "Maybe even the West Coast." They have no interest in an eventual circumnavigation. Tahiti does not beckon.

"I will admit I'm a coastal sailor. I like the idea of an anchorage every couple of days. I don't relish the idea of three weeks on the big sea. It simply doesn't appeal to me," Tony says. Marianne nods in agreement. For this, *Tango*, their Tanzer 31, is the perfect boat, and they have made their forever boat just the way they want her.

Karen Larson and her husband, Jerry Powlas, founded Good Old Boat *magazine in 1998. They sail a C&C 30 named* Mystic *on Lake Superior and are working on a project boat in their backyard. The second boat, a trailerable C&C Mega 30, will dramatically expand their cruising grounds.*

The wet locker is large enough to store all the coats and foul weather gear necessary for two people who cruise Lake Superior in all kinds of weather, at left. Because *Tango* is the Ouwehands' "forever" boat, Tony and Marianne have put a lot of work into making her exactly the way they think a cruising boat should be. Tony replaced the two-burner stove with a three-burner unit and upgraded the refrigerator and icebox, below left, with insulation and a clever thermosiphon. One of the primary selling points for Marianne was the flip-up counter in the Tanzer's galley, below right.

Tanzer 31

Hunter 31

Cal 31

Tanzer 31

A comparative review of a Cuthbertson classic

by Ted Brewer

I'm greatly indebted to my friend and mentor, George Cuthbertson, for giving me my start in the sailboat business more than 50 years ago. I spent three happy years working for George and his partner, the late Peter Davidson, and I learned a great deal about yachts and yacht design from both of them. George and I have remained friends through the years, so it is with great pleasure that I review this example of his work and compare it to two other fine designs.

With the Tanzer 31, Hunter 31, and Cal 31, we have three very nice fin-hull/spade-rudder boats, quite close to each other in many respects, but each with the designer's individual touch. Aesthetically, I find George's traditional sheerline to be the most attractive. However, I prefer the Cal 31 cabinhouse for its more upright, traditional, and less rakish (slippery?) appearance, compared to the others.

Undoubtedly, the most powerful of these three hulls will be the Hunter, due to its generous beam, heavier displacement, and good ballast ratio. This will let it stand up well to a breeze and — with its smaller sail area — it will not require reefing as soon as the others. On the other hand, it will probably not fare as well in light-to-moderate breezes, as it has the least sail area and will take more energy to move its heavier, beamier hull to windward in a choppy sea.

The Hunter does have the highest-aspect-ratio mainsail, which could help to windward. However, the skinny main may prove less effective off-wind, particularly with cruising sailors who are often reluctant to go to the trouble of setting a spinnaker. I admit to being one of those! I've set hundreds of spinnakers while racing but never even owned one for any of my own boats. I tend to agree with the man who said a spinnaker is not a seamanlike sail. Fortunately, today's modern gennakers and asymmetrical spinnakers are much friendlier and handier off-wind sails than the old 180-percent Cruising Club of America Rule monsters.

Good in zephyrs

The Tanzer 31 should do very well in the zephyrs with its good sail area and modest displacement, and the Cal 31 should be right up there with it. An around-the-buoys race in medium air would be a very close contest indeed. I would not place a bet as to which of these 31s would take the silver. They are three very well-matched yachts. The end result would depend almost entirely on the skipper, crew, and sails.

I must emphasize that I am discussing the deep-draft hulls. The shoal-draft versions of the Tanzer and Hunter might do well off-wind but will not perform to windward against their deep-draft sisters. Shoal draft is fine, even a necessity if you sail in shoal-water areas, but deep draft adds so much to windward performance and stability that it is the better choice for the average sailor. Unless you absolutely must have shoal draft for convenience in your general cruising area, select the deep-draft model. You will not regret it, particularly when beating to windward in a spanking breeze.

These three boats are also quite close when it comes to Comfort Ratio and Capsize Screening Factor. Designed primarily as coastal cruisers and club racers, none of the three is extreme in any way. When it comes to serious offshore sailing, I much prefer the strong double-lower shroud rig of the Cal 31 to the single-lower rigs of the others. Still, each of these three should prove capable of coastal voyages with reasonable bluewater work, given good basic construction, good condition, good gear, and an experienced skipper.

Ted Brewer's bio can be found on Page 24.

	Tanzer 31	Hunter 31	Cal 31
LOA	30' 7"	31' 0"	31' 6"
LWL	25' 0"	26' 3"	25' 8"
Beam	10' 6"	10' 11"	10' 0"
Draft	5' 3" or 4' 0"	5' 3" or 4' 6"	5' 0"
Displ.	8,300 lb	9,700 lb	9,170 lb
Ballast	3,400 lb	4,000 lb	3,600 lb
LOA/LWL	1.22	1.19	1.23
Beam/LWL	0.42	0.42	0.39
Displ./LWL	237	239	242
Bal./Displ.	0.41	0.41	0.39
Sail area	473 sq ft	458 sq ft	490 sq ft
SA/Displ.	18.46	16.11	17.89
Capsize no.	2.07	2.05	1.91
Comfort ratio	20.8	22.2	23.9
Years built	1985-86	1983-85	1979-84
Designer	George Cuthbertson	Cortland Steck	Bill Lapworth

Boats

Fatty Knees 9
2002. 9' sailing dinghy by Edey & Duff. Oars w/leather, all factory teak options including gunwale, floor, outboard pad, rudder w/ash tiller. Harken blocks, Anderson bailer, and custom storage cover. Very good cond. In St. Paul, Minn. $4,250 when new. Asking $2,650 OBO (trailer available).

Bryan Kufus
bryan@bkufus.com
612-685-0402, 651-429-7295

Aleutka 25
1984/89 production boat in fiberglass by Parker & Mendosa. Design by John Letcher. Twin-keel cutter. As seen in Maté's Best Boats to Build or Buy. Professionally finished. With custom trailer and 8-hp OB. $9,500.

Thomas Russell
rosy12@juno.com
585-355-3107

Laguna Windrose 22
1977 trailerable sailboat w/wing keel, sloop rigged, freshwater, 8-hp LS Merc. Hull and deck very good cond. New cushions in cabin. Main, jib, and rigging in good cond. Single-axle highway trailer good cond. Bow pulpit and lifelines, no electronics other than running lights and cabin lights. Tiller AP and hard 8' dink available. In Kankakee, Ill. $2,800.

Henry Ort
hobhjort@cs.com
815-953-9914

Formosa 41 ketch
1978. Beautiful sailboat in exc cond. Cruise veteran ready for more. Many upgrades including aluminum masts, rebuilt Perkins 4-108 ('05), radar, hydraulic steering, inflatable dinghy w/OB, new fridge ('07) and much more. USGS documented. On the Rio Dulce in Guatemala. $59,500. <http://www.tombuttsmontana.com/dragonlady.html>

Tom Butts
tombutts10@hotmail.com
406-431-9582

Tartan 30
Sparkman & Stephens design. Well equipped. Yanmar diesel w/ low hours, sleeps 4 to 5, tiller, gas stove/oven, new VHF, stereo CD, compass, etc. Comes with inflatable dinghy and 4-stroke OB. Lack of time prevents us from enjoying. In Orange Beach, Ala. $15,000.

Darin Canterbury
bayarmatureworks@aol.com
251-404-6003

Vancouver 25
1983 Taiwan-built pocket world cruiser w/beautiful lines. In good functional cond. 7,400 pounds, full keel, Yanmar 2GM, Bruce and CQR anchors on twin bow roller, tiller, good sails, Profurl, full standing headroom in cabin, enclosed head, pressure water, cabin heater, comfortable double berth plus 2 singles, 6 opening bronze ports, Autohelm, boom gallows. Recent standing rigging. Set up for single-handing. In Deale, Md. $18,000. <http://www.zzzdocs.com/Boats/Dolphin.aspx>

Giles Morris
Giles.Morris@gmail.com
703-470-3180

Alberg 37
1971. New engine, radar, AP, windvane, RF, refrig, hard dinghy w/OB. In Maine. Will deliver on East Coast. $49,000.

K. Scott Williams
crowsnest5@verizon.net
207-326-9498

Pacific Seacraft 27
Cruise Nova Scotia on the Ruthie T. This 27-foot, 1982 Pacific Seacraft Orion pocket cruiser is sturdy and reliable, replete w/ teak and equipped w/radar, GPS, heater and Force 10 propane oven, stovetop and grill. Sleeps 4. In Somes Sound on Mount Desert Island in Downeast Maine. Motivated seller: no reasonable offer refused. $45,000 OBO.

Bill Wright
info@jwboatco.com
207-244-7854

Hunter Legend 35.5
1990. Lavishly updated, lovingly maintained. Freshwater boat. Fully race/cruise equipped. 3-cabin layout, full galley w/oven and refrig, Raytheon electronics/AP. Yanmar 27-hp w/dripless stuffing box. Main, 3 genoas, spinnaker, pole, cruising chute w/sock. 6 winches. Dodger, Bimini, swim platform with H/C shower. In Wis. $59,900 OBO.

Chris Conklin
ccfr8er@yahoo.com
720-205-0556

Pearson 300
Well maintained 1969 personal yacht. Motorsailer completely equipped for coastal cruising. Ample storage, complete engine accessibility, raised dinette, mahogany interior. Barrier coated. In water at Scituate, Mass. Hauling out first week in October. $17,500.

Richard Perry
781-293-7254

Tartan 27
1975. Venerable Sparkman & Stephens design. Sail-away cond. We've upgraded to a larger vessel. Well-loved and maintained w/ numerous recent upgrades. Since '01, new North Sail main, RF, lifelines, gas tank, centerboard cable, ports, running and standing rigging, and more. Cruised extensively around Cape Cod. $11,000.

Sue Haley
withal@comcast.net
508-255-8569

Tripp Lentsch 29
1963. Hull #7. Rare Tripp-designed classic (see article Nov. '06). Built in fiberglass by DeVries Lentsch. Well maintained and upgraded. Awlgrip red hull. Awlgrip/polyurethane deck. 4 berths. D/S, radar, Autohelm, new VHF. ST winches, RF jib. All sails, including drifter and spinnaker w/pole. Holding tank, Atomic 4. Very able and attractive cruiser. In Conn. $20,500.

Ed Holahan
203-367-3598

Hunter 27
1978. Well maintained, ready to sail. On its own cradle in Lake City, Minn. 150 genoa on Harken RF, Yanmar diesel, Bimini, new depth sounder, VHF, refinished exterior woodwork, shoal keel, 6" foam in V-berth. Owners

moved to a larger good old boat. $11,200.

Steve Mack
smack@schadtracy.com
507-254-1339

Down East 32
1977 cutter-rigged, full-keel, comfortable/roomy, heavily constructed for coastal/offshore cruising. Ideal for those seeking simplicity and safety. Standing rigging and deadlights '02. Running rigging, sails, covers, electrical, plumbing, bowsprit, ground tackle, PV panel, 400-amp batteries, controllers '04-05. '92 Westerbeke 37-hp, less than 1,400 hrs. Composting head. FB main w/Dutchman. Tiller. Teak companionway hatch, mastlights, Harken winches '07. Exc sailing qualities. Specs/photos avail. Lake Champlain, Vt. $35,000. <http://www.downeastyachts.org/history/downeaster32/index.html>

Duane Nealon
homewright@taconic.net
518-658-9629

Pacific Seacraft Flicka 20
1981 teak and bronze beauty. 8-hp OB, mooring, dinghy, bottom painted. Two-boat owner. In Long Island, NY. $18,500.

Kenneth Deering
ltkd@aol.com
516-628-3122

Morgan 38
1980 Morgan 382. Extraordinary Ted Brewer-designed, fast offshore cruising yacht. Easy to handle, well-built, tough, sails well, balances well. Draws 5', long fin keel. Heavy-weather capable with wide decks and high bulwarks, safe and comfortable in all sea conditions. Handsome, classic, traditional lines w/modern underbody. Well-equipped, lightly used, Perkins 4-108 diesel only 1,200 hours, lightning grounding system, heavy-duty vinylester bottom. On the Chesapeake. $54,000. <http://www.rockportinstitute.com/evenstar.html>

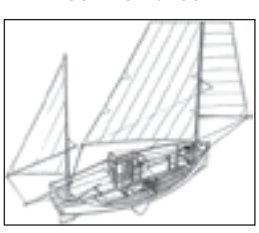
Nick Lore
pathfinder@rockportinstitute.com
301-340-6600

18-foot catboat
By owner/builder 18-foot catboat, launched '99. Fenwick Williams design. Full keel, cedar/oak. 8'6" beam, 3,800-lb displ. Includes 6-hp Yamaha ('02), Venture trailer ('05), and many extras. Exc cond. Stored indoors off-season. Pictured in WoodenBoat #125, page 100. In Grand Manan, New Brunswick, Canada. $18,500.

Tom Wetzel
annandtom@fundybaynetworks.ca
506-662-3879

Sea Bird yawl 26
A classic designed 1901 by Tom Day, editor of Rudder magazine, and C.D. Mower, naval architect. Built 1970 by Harry Farmer, former owner Yankee Point Marina. Fiberglass over wood. Full keel, 4' draft, 8-hp Yanmar diesel, RF genoa, marine head, small galley, sleeps two, good cond. Myer Creek, off Rappahannock River, Lancaster County, Va. $9,500.

Wiley Wright
bwright@kaballero.com
804-462-7100



Bolger Cat yawl 25
1995 Red Zinger, from Bolger's Boats. 25' shoal draft cat yawl built of epoxy impregnated marine plywood. Great sailing boat. Topsides professionally painted recently, side decks reinforced to take 2-speed winches and a dog house. 6 opening ports added. Heavy duty trailer, 9.9hp, 4-cycle Yamaha high thrust, electric-start engine. $7,000 OBO. Castine, Maine.

Silas Yates
greendolphinsby@roadrunner.com
207-326-0663

Pearson 33
1970 cruiser/racer. Hull #143. Well maintained, exc cond. Turnkey boat. Shoal draft 4' (6.9' CB down). Reconditioned deck, teak woodwork, bottom, electrical, Cutlass ('07). New '06: standing rigging, Schaefer RF. Easy single-handing w/AP, cockpit controls. Sails: main, 130 genoa ('06), 150 genoa, spinnaker, jib. Solid 24-hp Yanmar diesel. Photos on web. In Mystic, Conn. Boat details: Google blog search: pearson33sailboat. <http://www.ablboats.com/details.asp?ListingID=80154>. $17,500 OBO. <http://picasaweb.google.com/huizingaharry>

Harry Huizinga
harrysail@yahoo.com
520-241-1043

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New flashlight options

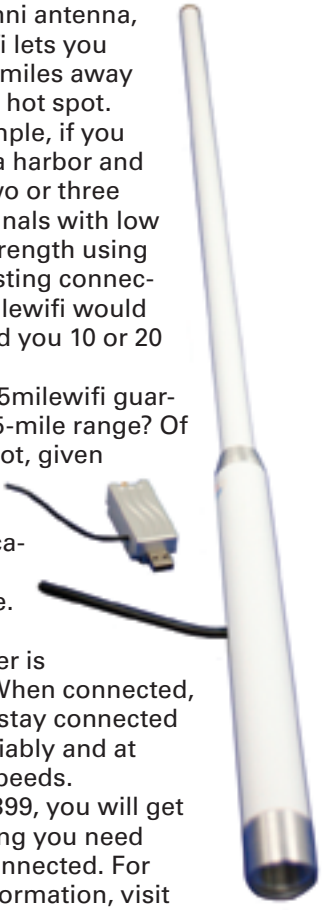
Duracell will soon introduce its new Daylite LED Flashlight. This flashlight is amazing. It comes in three versions, each using a different battery: AAA, AA, or CR 123 lithium. All produce light that very closely matches daylight in color.

In addition, you can adjust the beam from spot to flood, with no dark spots or reflector rings. All of the flashlights are water- and shock-resistant and carry the Duracell lifetime guarantee.

These products are priced between $24.99 (AAA and AA) and $34.99 (CR 123 lithium). For more information, visit the company's website <http://www.duracell.com>. The flashlights should be available this fall at major drugstores and hardware stores.

Easier Wi-Fi connection

5milewifi offers a simple but powerful booster solution that allows cruisers to connect to Wi-Fi from their boats without lugging the ship's laptop to an Internet café. By using a built-in 1000-mW bidirectional amplifier with an internal Wi-Fi card and a 9-dbi omni antenna, 5milewifi lets you connect miles away from the hot spot. For example, if you were in a harbor and found two or three Wi-Fi signals with low signal strength using your existing connection, 5milewifi would likely find you 10 or 20 signals.



Does 5milewifi guarantee a 5-mile range? Of course not, given that no two Wi-Fi locations are the same. What it does offer is power. When connected, you will stay connected more reliably and at higher speeds.

For $399, you will get everything you need to get connected. For more information, visit <http://www.5milewifi.com>, call 410-268-8216, or send an email to sales@5milewifi.com.

Correction

Our apologies for a misprint that occurred in last issue's Product Launchings, page 67. The correct phone number for Rhino Hide, manufacturer of XFR (eXtreme Fast Repair) waterproof adhesive/rebuild material, is 866-347-4466.

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.

Riding out a marital storm

A good old boat saves a good old marriage

by Robert Yagelski

PHOTOS BY ADAM YAGELSKI

The decision to buy a sailboat happened suddenly, in the midst of a marital storm. For years, Cheryl and I had talked of owning a sailboat, but with no sailing experience, two growing sons, and demanding careers, a sailboat could never be more than a daydream. Now, in our late 40s and approaching our 25th wedding anniversary, we unexpectedly found ourselves trying to realize that old dream.

It had been a rough year, our most challenging as a couple, and it didn't always look like we'd weather the storm. Sometime in early spring, still a bit unsteady but resolute after a hard winter that at times promised to be our last together, we decided to plan a second honeymoon to celebrate our approaching silver anniversary. It was a risk. We weren't sure we'd make it to the fall, when we hoped to take our trip.

As I prepared to book our flights, an email from a relative mentioned a sailboat for sale. I looked at the boat in the attached photos and something clicked. I knew nothing about this sailboat, but somehow the idea of it seemed just right. I showed the photos to Cheryl and soon we scrapped our vacation plans. For the money we would spend on a second honeymoon, we could own a sailboat. What better way to celebrate our 25 years together: a new boat, a new hobby, and maybe a renewed journey together?

We spent the next three months learning as much as we could about sailing, sailboats, and the used-boat market. We felt like newlyweds again, eager to hoist our sails

> **"For the money we would spend on a second honeymoon, we could own a sailboat. What better way to celebrate our 25 years together . . . ?"**

in favorable winds. Seldom had we shared such a clear sense of purpose in recent years, and I began to feel that confidence we once had together, a confidence we would eventually learn to feel in the cockpit as the boat heels in a fresh breeze.

I began studying an old copy of John Rousmaniere's *The Annapolis Book of Seamanship* that Cheryl had bought me one Christmas long ago, and we visited sailing websites and read ads for used boats. We signed up for sailing lessons. On weekends we inspected boats for sale and on Sunday evenings discussed the pros and cons of the promising ones we'd seen. Meanwhile, we continued to tack through the headwinds of our aging marriage, struggling at times to keep our course. But the goal of finding the right sailboat somehow helped us steer out of trouble. When we finally bought a sailboat in late spring, it felt like many new beginnings at once.

Sailing every chance

Two months later, our 1983 O'Day 23 was swinging at her mooring on Lake George in upstate New York, and we were sailing every chance we got. We quickly learned that there was much more to that old boat than the smooth lines and cozy cabin that first attracted us to her. She required constant attention, from tedious cleaning, waxing, and polishing to finding leaks and re-bedding deck hardware. But we were also learning that we enjoyed maintaining our boat almost as much as we loved sailing together.

We had days when the breeze was just right and the boat glided effortlessly over sparkling water. And we had those days that every novice sailor knows: sloppy tacks, a balky tiller, and uncertain communication between helmsman and crew. But we were actually in familiar waters: we had been sailing together through the changing weather of a long-term marriage. And we were still learning to set a course through uncertain conditions.

As our first sailing season wound down, our attention turned to our sailboat's name. We loved the boat, but we weren't so much in love with her name, *Pandemonium*. Bob, her original owner, told us the story of the boat's name. He had bought her when his two daughters were toddlers. With no sailing experience, Bob and his family had had their share of misadventures on their new boat. When they finally decided to name her, someone suggested *Pandemonium*, which seemed to describe their time on the boat perfectly.

Bob and Cheryl Yagelski, facing page, getting ready to re-christen *Mistral*, below, on Lake George, New York.

As a new sailor myself, I appreciated the name. But it wasn't right for us. Cheryl and I had had enough pandemonium in recent years.

We learned from experienced sailors about the superstitions associated with changing a boat's name and about complicated renaming rituals. So we took the prospect of renaming seriously. Still, we wanted to give our boat a name that would capture our sense of her steady character and her role in our continuing voyage together. As we launched her for our second season, we still hadn't found the right name. Sometimes, on one of those perfect days, when the sailing was smooth and the boat felt like part of us, we'd add a name to our list. Often, exhausted after a day on the water, we discussed the names on the list, inspired by the day's challenges and our growing appreciation for our sailboat.

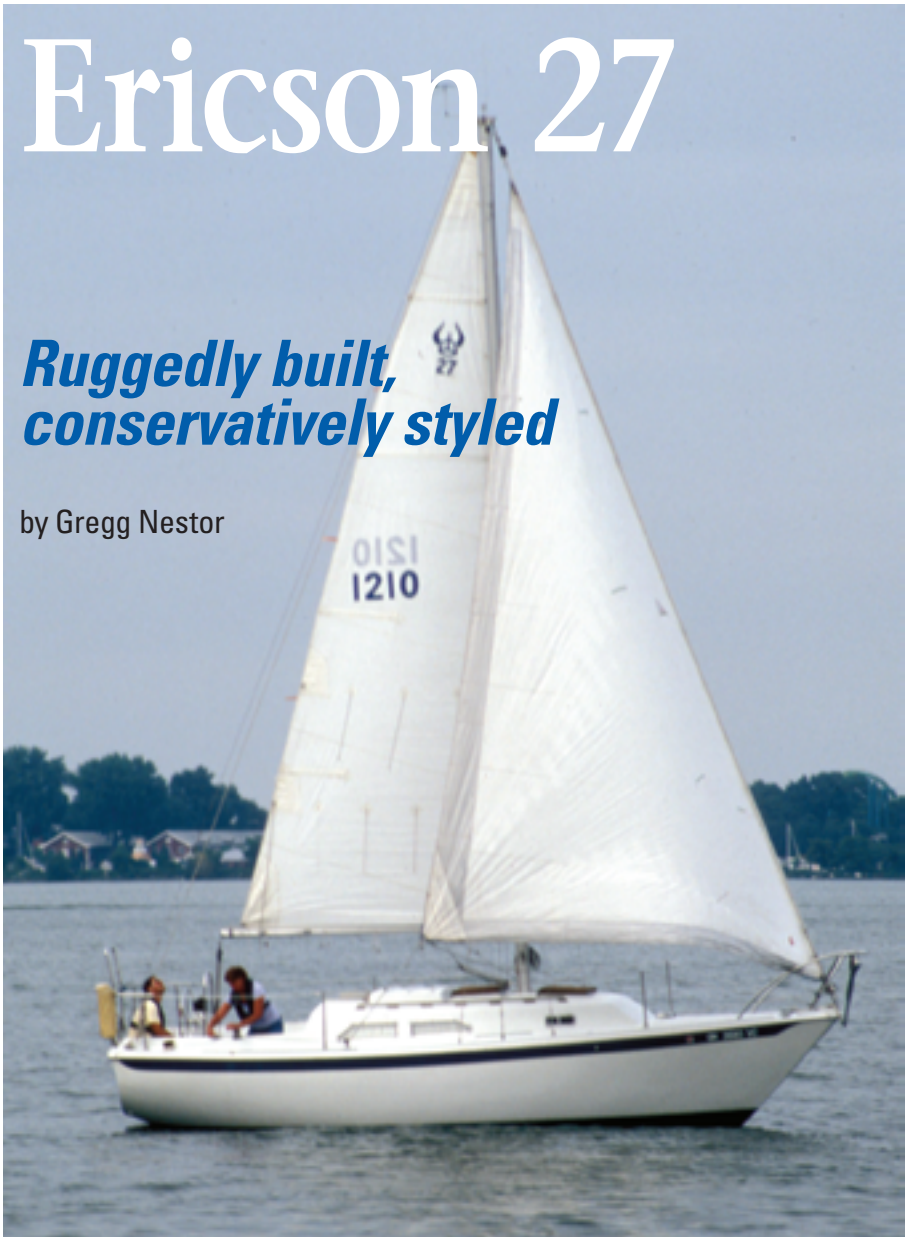
We're in no rush, though. We've learned through hard experience that when the time is right, we'll know. But if we were to name our sailboat after our marriage, we might call her *Resilient.*

Bob and Cheryl ***Yagelski*** *re-christened their boat* Mistral *on the day these photos were taken. A mistral is a wind that annually blows from the Alps into the Mediterranean Sea, which makes it a kind of mountain breeze. That name appealed to them because they sail in the mountain breezes that blow from the Adirondack Mountains onto Lake George in upstate New York. And "Mistral Wind" is a song that was a favorite of theirs when they dated in college. "It took us two years, but we finally found a name we think is just right for the boat," Bob reports.*

Ericson 27

Ruggedly built, conservatively styled

by Gregg Nestor



Designed by Bruce King and introduced in 1971, the Ericson 27 still looks good today. *Anemos*, shown here, is a 1978 model owned by Jim and Teresa Schwiefert of Sandusky, Ohio.

Ericson Yachts began life in Costa Mesa, California. There, in the early 1960s, Ray Handy, along with several others, was building a Carl Alberg design from molds discarded by Pearson Yachts. In 1964, a pair of San Francisco Bay sailors, brothers Don and Gene Kohlmann, joined Handy's group and, as its guiding force, formed Ericson Yachts.

Naval architect Bruce King of Newport Beach, California, was soon commissioned to design the company's boats. Early on, this involved modifying a W.B. Crealock-designed 26-footer and a rework of the Alberg 35. After a few years, Ericson was producing original designs that ranged from 23 to 46 feet. For the most part, these were fairly heavily built family cruisers that often performed reasonably well in handicap racing.

In 1971, a holding company called the CML Group purchased Ericson and maintained its grip on the company for 13 years. Gene Kohlmann regained control in 1984, when CML offered Ericson stock to the public. The two brothers continued operating the company until 1990, when the business entered into Chapter 11 of the federal bankruptcy code. Pacific Seacraft then bought some of the molds, hired Gene as a vice president, and began producing Ericsons in 1991. Unfortunately, the older Ericson designs saw limited sales at Pacific Seacraft, and by mid-1999 production of the Ericson line was discontinued.

Design

Bruce King designed the bulk of the Ericson line, including the Ericson 27. Introduced in 1971, the Ericson 27 remained in production for nine years, accounting for 1,302 units. In many ways, the Ericson 27 is a fine representative of the Ericson line of the 1970s.

A review of the numbers shows that the Ericson 27 is conservative in every respect. Its sail area/displacement ratio is 14.1, and its displacement/length ratio is 363. These figures suggest a boat that is a somewhat sluggish performer. This is confirmed by the Ericson 27's Performance Handicap Racing Fleet (PHRF) rating of 225 to 230 seconds per mile in fleets around the country. In comparison, a Pearson 26 rates 210 to 219, a Catalina 27 inboard rates 204, and a C&C 27 rates 200 to 210.

The boat's design was typical of the 1970s, yet it is still attractive today. The Ericson 27 has a flat sheer; the wide sheer stripe was a stylistic element also used by other builders. The moderate overhangs are the result of its fairly sharp entry and straight counter transom. For its length, the boat has a relatively high freeboard; however, the cambered coachroof minimizes the visual impact of this "awkwardness." Also, the lines of the coachroof blend pleasingly into the stemhead, adding to the overall harmony of the design.

In mid-1974 the Ericson 27 received a makeover. This included a redesigned deck as well as an upgraded interior. Regardless of the year of manufacture, the Ericson 27 was fitted with a rig of moderate height, a shallow-draft fin keel, and a spade rudder.

Construction

Construction of the Ericson 27 is typical for its era. The hull and deck are hand-laid fiberglass and polyester resin composites. The hull is solid, while the

deck, cockpit, and coach house are a sandwich composed of two layers of fiberglass with an end-grain balsa core. This gives these parts additional stiffness and also creates good insulation against sound and engine heat. The mounting bases for the primary winches are also of sandwich construction; however, marine-grade plywood is used in place of balsa as the core. Like most production boat builders, Ericson Yachts used a molded headliner and fiberglass pan that determine the placement of cabin features such as berths.

The hull-to-deck joint is an outward flange that's chemically bonded, mechanically fastened, and then covered with a protective two-piece rubrail.

The swept-back fin keel draws 3 feet 11 inches and incorporates 2,900 pounds of encapsulated lead ballast. A spade rudder is mounted on a 2⅜-inch-diameter stainless-steel shaft that rotates on bronze bearings with grease fittings. Its one-piece construction is made of a high-density polyurethane foam core covered with fiberglass.

When compared to other production builders, Ericson Yachts enjoyed a reputation for good quality and finish.

"When compared to other production builders, Ericson Yachts enjoyed a reputation for good quality and finish."

Deck features

Except for a pair of outboard cleats and a small deck pipe leading to a chain locker in the forepeak, the Ericson 27's foredeck is clear of obstructions. Normally this would yield a large work platform on which to make sail changes and deploy/retrieve anchors. Not so. The boat's relatively sharp entry results in a narrow foredeck.

The sidedecks are a comfortable 14 inches wide and are bordered by a toerail and single lifelines that terminate at stainless-steel pulpits. Aggressive non-skid, outboard chainplates, and a pair of cabintop teak handrails measuring over 6½ feet aid in fore-and-aft maneuverability.

Forward on the cabin trunk is a pair of small portlights. Only the starboard one, serving the head, opens. The other is fixed, as are the four larger portlights farther aft. On top there are a sea hood and, depending upon the year of production, one or two opening hatches (one situated forward and possibly a second one aft of the mast).

Early Ericson 27s featured a straight cockpit with tiller steering, an outboard engine for auxiliary propulsion, and a single overhead hatch. Around 1974, the entire boat was upgraded and the deck mold redesigned. This included a new T-shaped cockpit with wheel steering, an inboard engine, and a second overhead hatch.

Anemos, the review boat, is a 1978 model and it benefits from Ericson's mid-production upgrade. Its T-shaped cockpit is physically split by an athwartship fiberglass bridge that conceals the attachment point for the emergency tiller and on which the traveler is mounted. The forward portion of the cockpit is without a bridge deck and easily accommodates four adults. Beneath the port cockpit seat is a deep sail locker that also houses the aluminum fuel tank. Aft of the 28-inch wheel and binnacle with engine controls is the helmsman's station, beneath which is access to the lazarette. Low and to port is the engine control panel, while aft and to starboard is the manual bilge pump. Directly behind the helm is the chainplate for the backstay and, farther aft, the centerline swim ladder.

Ericson 27

Designer: Bruce King
LOA: 26 feet 9 inches
LWL: 20 feet 6 inches
Beam: 9 feet 0 inches
Draft: 3 feet 11 inches
Ballast: 2,900 pounds
Displacement: 7,000 pounds
Sail area: 323 square feet
Displ./LWL ratio: 363
SA/Displ. ratio: 14.1

Belowdecks

Like the foredeck above it, the Ericson 27's V-berth is very narrow. Outboard are stowage cubbies and beneath is a pair of lockers. The forward locker is for gear, while the aft one houses the potable water and holding tanks. There are no access ports serving this compartment; a simple oval opening in the forward bulkhead offers the only access. Even though the forward hatch straddles this bulkhead, above the V-berth and the head, the cabin is quite dark and lacks good ventilation.

Following aft and to port of the V-berth is a hanging locker with a bureau top. To starboard is a generously sized head compartment. It contains a stainless-steel sink with manual cold water and a fore-and-aft facing toilet. This configuration makes using the facilities a lot more comfortable than athwartship toilets, especially when the boat is heeled. The opening portlight and part of the forward hatch provide ventilation and natural illumination. A solid two-panel door provides privacy. In an attempt to encourage air movement, both the forward bulkhead and the door to the head terminate a few inches from the overhead.

The saloon features the traditional opposing settee/berth arrangement with bulkhead-mounted drop-leaf

table. There are fiddled bookshelves outboard, with stowage beneath and behind all settees/berths. Both the house and starting batteries are located beneath the starboard settee. The port settee is 6 feet long, while the starboard settee and the quarter berth each measure 6 feet 3 inches. Five fixed portlights and an overhead hatch provide light and air. Wooden grabrails run the length of the saloon.

The L-shaped galley is to port and includes a single stainless-steel sink with manual cold water (foot pump), a two-burner alcohol cooktop with cutting board cover, and an icebox that drains to the bilge. For stowage of provisions and galleyware, there are several drawers, a shelf, a built-in dish rack, and a locker with sliding doors.

Depending upon the year of production, the Ericson 27's interior is either mahogany or teak veneer on marine-grade plywood. The mahogany will most likely be oiled; the teak, varnished. Regardless of species, both finishes are above average. Headroom is 6 feet 1 inch, and the sole is non-skid fiberglass with mahogany or teak access panels.

The rig

The Ericson 27 is a masthead sloop with deck-stepped mast that has an air draft of 36 feet 4 inches (38 feet 2 inches, if fitted with the tall rig). Belowdecks, there is a solid wood compression post. Rigging is a pair of cap shrouds, incorporating a single pair of spreaders, fore and aft lower shrouds, a headstay, and a backstay. On earlier boats that featured tillers, a split backstay was installed; however, after the 1974 redesign, Ericson switched to a single backstay. All halyards are sheaved externally and may either be stainless steel with braided Dacron tails (early models) or all-rope braided Dacron (post-1974). A pair of single-speed Barlow #16s or equivalent halyard winches is mounted on the mast. *Anemos* is fitted with a pair of Lewmar #8s.

A mainsail and a 120-percent lapper were standard. Optional sails included a working jib in addition to 150-percent and 170-percent genoas. The mainsail came with a single set of reef points and jiffy reefing. On earlier boats, the main was sheeted mid-boom to a traveler mounted over the companionway. This configuration was later abandoned for a cockpit-mounted traveler and end-boom sheeting, which is much more desirable.

Depending upon the size of the headsail, its sheets can be led aft through fairleads on one of two sets of tracks. Sheets of small sails

The starboard quarter berth, above left, makes a good sea berth — nice and tight! *Anemos* is equipped with a Yanmar diesel engine, above center; access is better than on many boats. The V-berth is quite narrow forward, and the only access to the tiny forepeak is through a hole in the bulkhead, above right. On facing page: The toilet is positioned fore and aft in the head compartment, an uncommon arrangement.

follow aft to short sidedeck-mounted tracks, while those of larger genoas are led to much longer toerail-mounted tracks. The sheets terminate at coaming-mounted primary winches and cleats. On *Anemos*, the primaries are the single-speed Lewmar #8s.

Under way

As evidenced under way by its heavy displacement-to-length ratio and its short rig, the Ericson is much more of a cruiser than a racer. In an attempt to enhance its performance, a tall rig was developed. Unfortunately, this extra 2 feet made no significant improvement and negatively impacted the boat's stability. Only a very few boats were delivered with the taller mast. When the breeze freshens, the boat tends to develop significant weather helm. Those boats with wheel steering are much more enjoyable to steer than those equipped with tillers.

While originally designed for an outboard motor, more than 80 percent were delivered with inboard engines. Over its nine years of production, Ericson used a variety of engines and manufacturers. These included the venerable Atomic 4 gas engine and Westerbeke, Volvo, and Yanmar diesels. *Anemos's* auxiliary is a Yanmar YSM8. This is a single-cylinder, 8-hp, raw-water-cooled diesel engine. Access to the engine for routine maintenance is very good. When under power, the combination of the boat's off-center prop shaft and angled rudder shaft requires the helmsman to pay constant attention.

"...the combination of the boat's off-center prop shaft and angled rudder shaft requires the helmsman to pay constant attention."

Things to check out

Regardless of the year of production, the Ericson 27 is a well-built boat. As such, when searching the used boat market, problems encountered tend to be cosmetic rather than structural. Common complaints include inadequate icebox insulation, leaking portlights, a single backstay that interferes with the helmsman, and gate valves on through-hulls.

With more than 1,300 hulls delivered, there's always a selection of used boats available. Boats that have benefited from the 1974 redesign are more desirable. They have wheel steering, an upgraded interior, and a reconfigured deck that includes a second hatch for improved ventilation, plus a more efficient cockpit. Of course, routine maintenance and periodic upgrades also impact desirability and price.

Conclusion

The Ericson 27 is a ruggedly built and conservatively styled cruising boat. Its moderate size and reasonable amenities make it a good candidate for a cruising couple to consider. It's not a speedster and it does have its drawbacks, but if properly maintained and outfitted, it will hold its value. Prices for earlier models range from $7,500 to $12,000, while post-1974 boats are priced at $8,000 to $15,000.

Gregg Nestor's bio is on Page 15.

Water tank sight-level gauge

Know how much water you have — at a glance

by Phillip Reid

Having a way to see the level of your water tank begins in the bowels of the boat. Phillip inserted a T-connector into the hose running from his water tank. The clear vinyl tube that runs from the tank through a nearby bulkhead indicates how much water's in the tank.

Water tanks are located in the nether regions of the boat and are covered by bunks, liner pans, access hatches, and all the stuff that goes on top of those. Good quality tanks are thick-walled so it's difficult, even with a flashlight, to tell how full they are. While it's a pain to tear the boat half apart just to look at the water tank, it's important to know how much water is inside.

Like many minimally fitted-out production boats, *Miss Bohicket*, our Pearson 28, had no monitoring system for the 22-gallon water tank under the V-berth. I considered commercially available tank monitors. The price range for these seems to be anywhere from $200 to more than $1,000 for a multi-tank monitoring system.

Inspirations

I didn't want to spend the money if I didn't have to. I remembered that Jerry Powlas had devised a low-tech water-tube-type gauge for his holding tank ("Swamp Sounder," March 2002 issue), and I started thinking in that direction. Jerry's device is a manometer, a tool that uses the displacement of liquid in a column to measure pressure. This solution allowed him to determine the level of a liquid that must be kept completely contained. My second inspiration was a belowdecks tour of an Amel Super Maramu 53, one of the French-built ketches constructed for long-distance voyaging. Amels have every kind of system you can possibly think of; one of those is a liquid-level gauge in the galley that measures the boat's immense water capacity at a glance.

Now that I had clear vinyl tubing and cheap nylon plumbing fittings on the brain, I sat down to figure out how to make the concept work on *Miss Bohicket*. The installation and location of my tank helped. It's a rectangular tank that is mounted level. The back of the tank is about 15 inches from the bulkhead that divides the forward cabin from the head. The outlet hose runs straight out the back of the tank and through this bulkhead. If I inserted a T-connector into this hose, then ran a small-diameter clear vinyl tube off that connector, through the bulkhead, and up the other side of the bulkhead inside the head, it would be easy to see how full the tank was by opening the head door. And I wouldn't have to do any boat or tank surgery other than drilling the hole in the bulkhead for the tube.

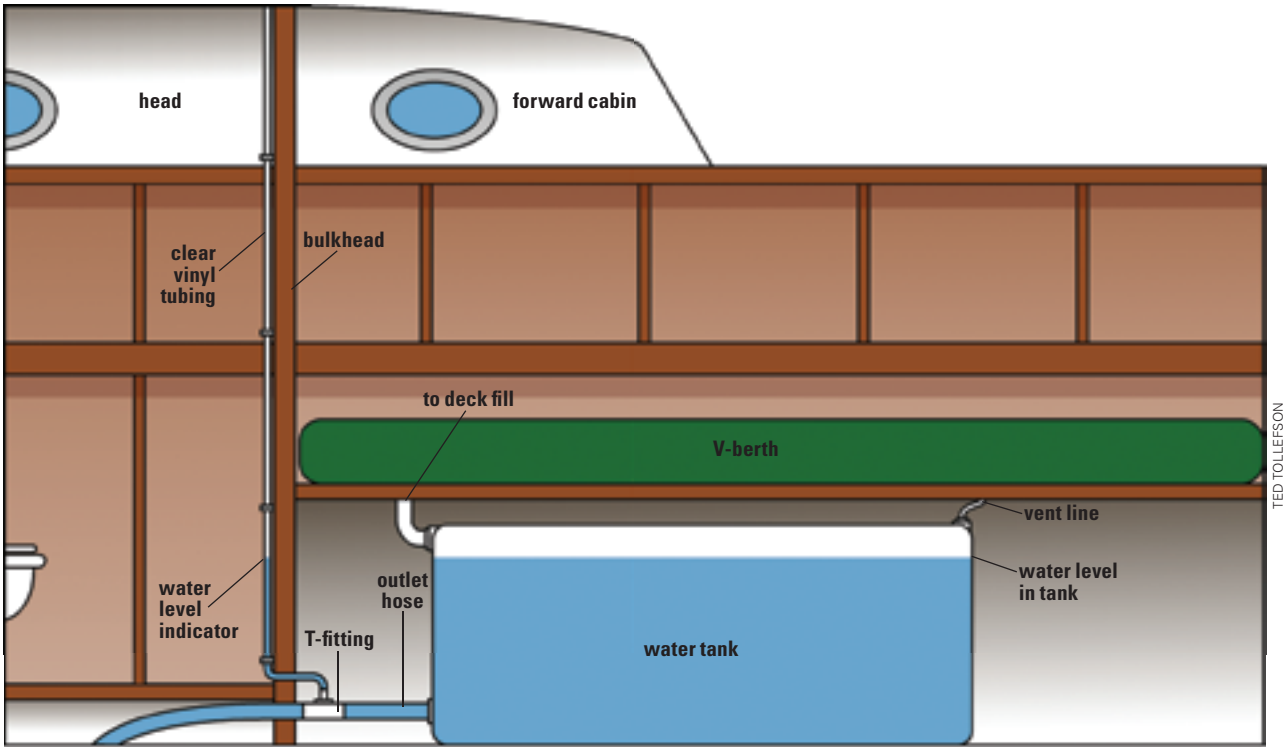
Buying plumbing fittings

Buying plumbing fittings can be seriously frustrating. Here's what I've learned. First, if possible, take actual samples of all of the fittings and hoses that you need to connect with you to the store so you can fit the pieces together before buying them. One brand's ½-inch barb is another's 9/16 or 5/8. If you can't take the components with you, measure everything with calipers — twice. Count the number of hose clamps you'll need — then count them again. Finally, if you want to save a lot of time and aggravation, go to a hardware or plumbing store with knowledgeable staff and get someone to help you. If you tell the clerk what you need to accomplish, he will be able to slap the parts together for you in less than a minute in most cases — and get you out of there.

> **"Basically, you've got to establish the correlation between the level in the tube and the level in the tank."**

If you need to step down from a larger hose to a smaller one — in my case, from ½-inch water hose to ¼-inch clear vinyl tubing — you can save a lot of hose-clamping by using threaded fittings. My assembly was a ½-inch female pipe thread (FPT) nylon T, with screw-on hose barbs at each end (½-inch barb x ½-inch male iron pipe [MIP] thread connectors) and a ¼-inch barb x ½-inch MIP connector in the middle for the tubing. The threads were sealed with one wrap of Teflon tape and the assembly became one compact piece.

All I had to do was cut the outlet hose (after draining the tank, of course), put on the hose clamps, insert the T-assembly, clamp it, drill the hole in the bulkhead (at a downward angle to reduce the bend in the tubing), run the tubing through the hole, clamp it to the ¼-inch barb, secure the tubing to the head bulkhead with nylon eye straps, and fill the tank. Total parts cost was $11.21.



TED TOLLEFSON

My knowledgeable and experienced friend Jack James ("*Ariadne's* Adventures," November 2006 issue) consulted with me briefly on this project, and I'm glad he did. He advised me to run the tubing all the way up the head bulkhead before looping it over, to guard against water squirting out the top when filling the tank. When I first re-filled the completely empty tank, there was a lot of air in it and in the outlet hose, and a little water made its way most of the way up the hose. One good suck on the open end of the tube, and the water column was solid.

Calibrating your gauge

With all tubing gauges, whether manometer (pressure-measuring) or simple liquid-level gauge, calibration is usually trickier than installation. Basically, you've got to establish the correlation between the level in the tube and the level in the tank. With my level rectangular tank, this was straightforward; there's a direct relationship between tube level and tank level. Once I'd found the full mark, I could just halve the distance between full and empty. That mark would indicate a half-full tank and so on.

This won't work on an oddly shaped tank or a tank that isn't level. On these tanks, you'll have to establish the graduations by measuring. Get a 5-gallon bucket and a gallon jug. Pour a gallon of water into the bucket and mark the level on the inside wall. Repeat until you get to the 5-gallon mark. If you overfill the water tank, you'll get a false indication based on the level in the vent tube. Here's how you calibrate that: Fill your tank completely full and take a few strokes on the freshwater galley pump. Note the level in the tube; if it falls markedly, keep pumping and checking until the level in the tube stabilizes (put a piece of tape on the bulkhead next to the tube temporarily as a level reference). When you can take, say, 10 strokes on the pump and the level doesn't fall appreciably, the tank is full.

Mark the tubing with a narrow wrap of electrical tape. (Lines made with a marker will wear off.) Now drain the tank into the bucket in 5-gallon stages until it's empty, marking the tube as you go in whatever increments you choose. Use a wooden plug, Vise-Grips, or a clamp to stop the flow from the hose when you need to.

Installation considerations

Finally, there are some installation considerations to ponder before committing to this project. If your tank is

Phillip's water tank is located under the V-berth, at right. This location makes it hard to access a level or gauge mounted on or near the tank. The concept behind his solution is shown in the diagram above.

mounted so low that you can't see a sight tube that's level with the side of the tank, this method won't work. In this case, you'll need to go with a manometer (see Jerry's article). If the tank is located far outboard, such that its level will be greatly affected by heel, the sight tube may not be anywhere close to accurate when the boat's heeled. That may not be a problem, but be aware of it.

If it isn't practical to run the tubing up at least as high as the termination of the tank's vent line, you might want to consider terminating the sight tube inside the tank itself. A friend's Cape Dory 40 has this type of sight tube on the water tanks. As with any sight-level gauge setup, the side of the tank needs to be either visible or immediately adjacent to a visible location. This version is just a scaled-down version of that used on huge cylindrical industrial tanks.

The sight tube comes out the bottom of the tank, goes straight up the side, and then goes back into the tank at the top of the side. The level in the tank is the level in the tube. If the tank sits up against a bulkhead or a liner, you could run this type of tube through a couple of holes in that bulkhead or liner. This might require a couple of elbow fittings and will require putting fittings into the tank itself.

However you construct it, a sight-tube gauge is low-cost, minimal labor, draws no power, and requires no wiring. Better yet, once it's calibrated and you know how to read it, it should serve you forever — with no maintenance.

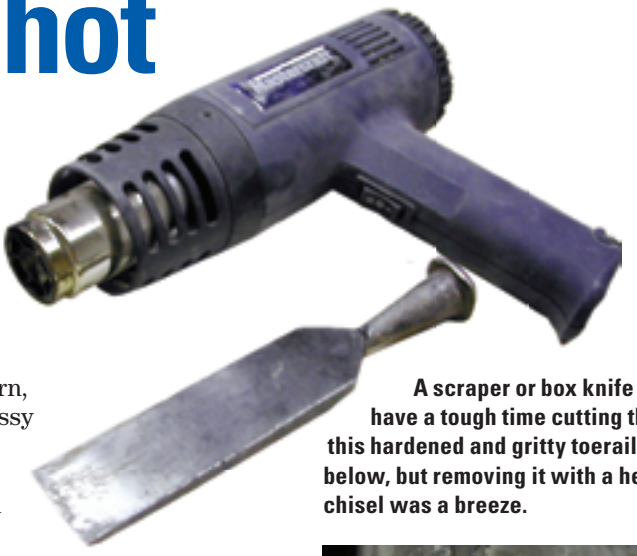
Phillip Reid, and his wife, Andie, sail a 1977 Pearson 28, Miss Bohicket, *out of Wilmington, North Carolina. They finished a five-year refit in 2005.*

Phillip's sight-level gauge is easy to check and practically invisible when the door to the V-berth is closed. It disappears entirely when the door is locked in the open position.

Some like it hot

Sealants and adhesives give way to heated chisel

by Stephen Thompson



A scraper or box knife would have a tough time cutting through this hardened and gritty toerail adhesive, below, but removing it with a heated chisel was a breeze.

Have you ever had problems removing parts installed with polysulfide, polyurethane, silicone, or other marine sealants or adhesives? I've hacked, torn, pulled, and cut many parts off my 33-foot Hallberg-Rassy that previous owners had "fixed" or installed. After removing the toerails on the *Vera May*, a lot of what I thought was troublesome sealant/adhesive remained on the hull-to-deck joint. I tried to remove it with a scraper and then by cutting it with a box knife, but it was too hard, sticky, and dirty. An old wood chisel worked better but required a lot of force, and this was not a good location to lose your balance.

It occurred to me to try heating the sealant with my heat gun, but at times I got things too hot and the chisel would dig into the gelcoat or fiberglass. However, as I continued on, I soon learned that if I heated the chisel, the steel held the heat where it was most needed and sliced easily through the sticky material. There was also less chance of damaging the fiberglass or gelcoat. With a little heat, a job that I thought was going to take days turned into only a few hours.

I was having so much fun enjoying this new technique that I started looking for other jobs that I could try it on. I removed the silicone on the side of the hull where someone had tried to seal the old rubrail. The silicone just peeled off the gelcoat effortlessly without leaving any marks! This trick even works for cutting or smoothing out epoxy, although that requires a little more heat in the chisel. My old wood chisel is now a new tool dedicated to removing these "nasty substances" when they're no longer welcome aboard.

Stephen Thompson is a mechanical engineer who sailed inland lakes as a boy and built a small sailing vessel from scratch when he turned 50. He's restoring his 1970 Hallberg-Rassy Mistral 33, Vera May, *in an Edmonton, Alberta, Canada, warehouse, and looks forward to exploring Vancouver Island with her.*

Call me Broomhilda!

Making a clean sweep of the dirtbuster business

by Judee Stalmack

The broom that morphs into a mop and more is shown here in its many highly useful disguises: from left, absorbent tool, crevice cleaner, window washer, broom, mop, brush.

My favorite weapon for attacking dirt on our boat deck is a broom.

We have one of those expensive, expanding boat-brush systems, but for daily maintenance I recommend an inexpensive broom with angled plastic bristles.

First, there are times when the deck only needs a dry sweep to rid it of a layer of dust, leaves, or the "dandruff" from a rusty anchor.

Second, the broom can be used as a quick-and-easy deck brush. Dip the bristles in soap and water, add a little pressure to flatten them on the deck, and start scrubbing. Whenever my husband and I work together to do the whole boat, he uses the official boat-brush system for washing the hull, and at the same time, I tackle the deck with my broom. I like it better for that because the broom easily cleans behind and around the stanchions and cleats where our big, fat deck brush has trouble. It also slips nicely under the lines.

Third, my broom can morph into a mop. I keep a heavy-duty rubber band wound on the neck of the broom. To change the broom into a mop, I fold a large-sized Absorber (a manmade chamois) around the bristles and pull the ends up through the rubber band, securing them as tightly as I can. A towel could be used as the mop head instead, but I like the Absorber because when it absorbs as much water as it can, I can wring it out easily, and when it's wrung "dry," it's as absorbent as it was at the start. The Absorber is gentle on the hatch covers and the dodger's plastic windows, and it leaves them streak-free. Best of all, I never have to store a dirty, smelly mop. I rinse the cloth in a solution of vinegar and water, then immediately stow it away (damp) in its plastic container. Every so often, I throw the Absorber in with the week's laundry.

My broom-brush-mop stores easily in our lazarette. And best of all, it was dirt cheap.

Judee Stalmack, and her husband, Tom, retired from Detroit Edison in 1997. Their only permanent address is tomjudee@aol.com. If they aren't cruising the Atlantic coast aboard the Cheshire Cat, *a Nonsuch 30, they're exploring the interior of the U.S., Canada, and Mexico in their motorhome,* Ratherby Sailing. *Judee writes freelance articles for boat and RV magazines.*

Replacing halyards

One last job for the old one

by Gregg Nestor

Through the course of normal use, halyards gradually wear as they routinely pass over the sheaves at the top of the mast, around turning blocks, and through deck organizers. Obviously, these are all potential wear points. Therefore, in order to prevent a rigging failure, periodic inspection of your halyard is necessary to monitor this wear and to schedule the line's eventual replacement.

With the mast unstepped, halyard replacement is easy and straightforward. This is especially true if the halyard is reeved externally to the mast. However, things get a bit more involved when the mast is standing or when the halyard is reeved internally.

To avoid losing the line up or inside of the mast when replacing a halyard, an "end-to-end direct joint" has worked well for me. I've successfully used this technique under a variety of conditions, including when the mast is up, when the mast is down, and with both external and internal halyards. I've even used it to send up messenger lines. This is how I do it:

Using approximately 12 inches of whipping twine (or dental floss), make a loop by passing the twine through the eye of a needle and tie the two ends together with a stopper knot. I use a double overhand knot.

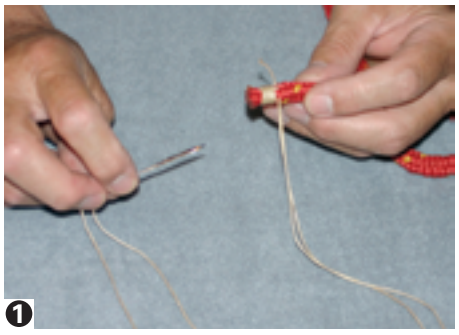
Starting about ½ inch from the end of the old halyard, push the needle through and pull the twine until stopped by the knot (1).

Place the new halyard end-to-end with the old one. Once it's in this position, stitch the new halyard to the old one (2).

To ensure that the joined halyards will run smoothly through the sheaves, turn the end-to-end joint 90 degrees and repeat the stitching process (3). Once the second connection has been made, tie another stopper knot and cut off the needle and excess twine (4).

The new halyard can now be pulled through as a replacement for the one being retired — without fear of losing a line. Simply hoist the new halyard into place by pulling on the old halyard. After the switch has been made, you just cut and remove the twine joining the two halyards.

Gregg Nestor's bio can be found on Page 15.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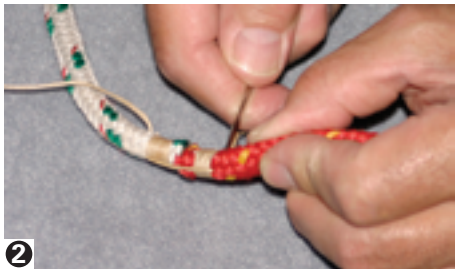
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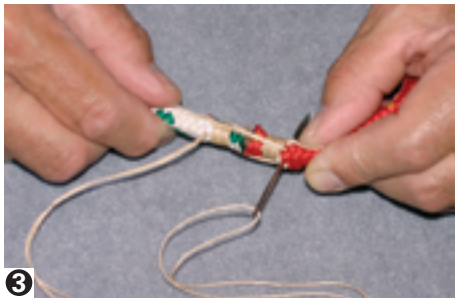
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Towel tie-downs

How to halt the flight of wet bath towels

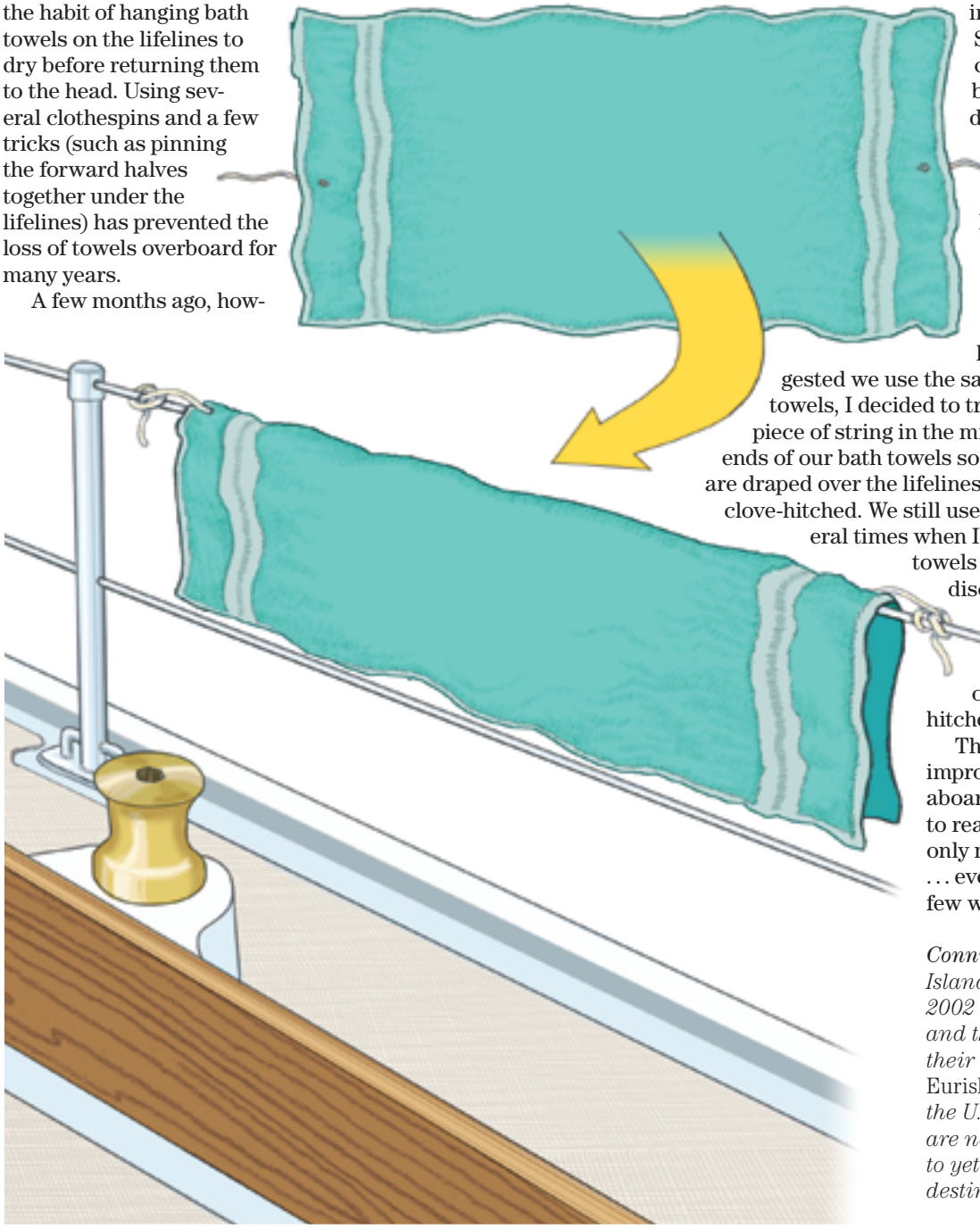
by Connie McBride

As experience has taught many of us, a head is not the best environment for a wet towel. Because we live aboard, our family of five is in the habit of hanging bath towels on the lifelines to dry before returning them to the head. Using several clothespins and a few tricks (such as pinning the forward halves together under the lifelines) has prevented the loss of towels overboard for many years.

A few months ago, however, our luck ran out. Whether due to unusual tidal and wind conditions or inattentiveness, one of our sons lost three towels overboard in as many weeks. Something had to change. Because we bucket-wash laundry, we are familiar with the best ways to keep clothes on lifelines — using any tie, zip, buckle, or snap available, in addition to clothespins.

So when my husband, Dave, suggested we use the same method with the towels, I decided to try it. I sewed a 3-inch piece of string in the middle of both short ends of our bath towels so that — when they are draped over the lifelines — each end can be clove-hitched. We still use clothespins, but several times when I have gone to remove towels from the line, I've discovered that all the clothespins were gone and the towel was held on solely by the clove-hitched strings.

This is just another improvement to life aboard that took us years to realize we needed and only minutes to implement . . . even though it was a few weeks too late.



FRITZ SEEGERS

Connie McBride left Kent Island, Maryland, in June 2002 with her husband and three sons. Aboard their 34-foot Creekmore, Eurisko, *they cruised the U.S. East Coast and are now sailing onward to yet-to-be-determined destinations.*

Wheels and keels

Nobody, but nobody, enjoys messing about in cars

by Karen Larson

Why is it that we treat our sailboats like, well, like sailboats? We give them names. We think of them as having personalities and souls. We refer to them as feminine, calling them "she." They're often considered to be members of the family. We tend to hold on to our sailboats for a long time, selling and trading up infrequently. We can't bear to part with them. They beckon to us from the marina or boatyard when we are at work or otherwise occupied away from the water's edge. We miss them when we're gone.

Many sailors will say they love their boats. They compare their relationships with their boats to the relationships they have with their partners (usually wives, but this isn't a sexist thing; it's just that there are more male sailors than female ones). They fondly remember when they first met and other significant, shared, first experiences. Sailors will invest hours in the care and maintenance of their pride and joys. Part of that effort is to keep our vessels seaworthy, to be sure, but there's an aspect to "messing about in boats" that applies. Like Ratty, we just like being on them and near them.

It's not like that with cars. Jerry and I recently had a rude awakening when our Pontiac Bonneville — that should have gone for another 100,000 miles — threw a rod and drove its last mile. It was not worth investing in a new engine. I was saddened because the exterior and interior were still in great shape, but I didn't feel as if we were losing a member of our family. As I prepared myself mentally for the purchase of a replacement, it occurred to me that a car — unlike a sailboat — is an inanimate object.

No vinyl graphics

Jerry and I give our cars informal names and I imagine others may do this also. But not one of us buys vinyl name graphics for the back bumpers. (I wish people *would* do that; it would make driving on the highway a whole lot more interesting!) We don't think of our cars as having personalities. Every vehicle I have ever owned has been referred to as "it," although Jerry refers to his huge Dodge truck as a female. He insists on this for reasons that escape me. It's a three-quarter-ton truck, for goodness' sake!

While Jerry and I hang onto vehicles until the wheels fall off or a rod is thrown, most people tend to keep cars for only a few years. Then they sell them, buy replacement vehicles, and don't look back. There's no bonding between owner and vehicle that I can detect. And if a car's in the shop or not available for some reason, most of us miss it only due to the inconvenience of not having it. We don't miss our automobiles with the heartfelt longing that we have for our sailboats.

> "... shipshape is a term that has no equivalent when it comes to automobiles."

We take our cars for granted and are frustrated when something mechanical fails. While we generally make sure that our cars receive regular maintenance at our hands or the hands of others, we don't toil over them as we do for our boats, just for the sake of keeping them shipshape. In fact, that word is indicative of the difference between our attitudes about boats and cars: shipshape is a term that has no equivalent when it comes to automobiles.

In the end we bought a new (used) car and we're pleased. It was a move up from the Bonneville. Once the hassle and paper chase ended, it has been a change for the better. One of the things that we'll do often with this car is drive to our boat ... because we miss *Mystic* when we have to be away from her.

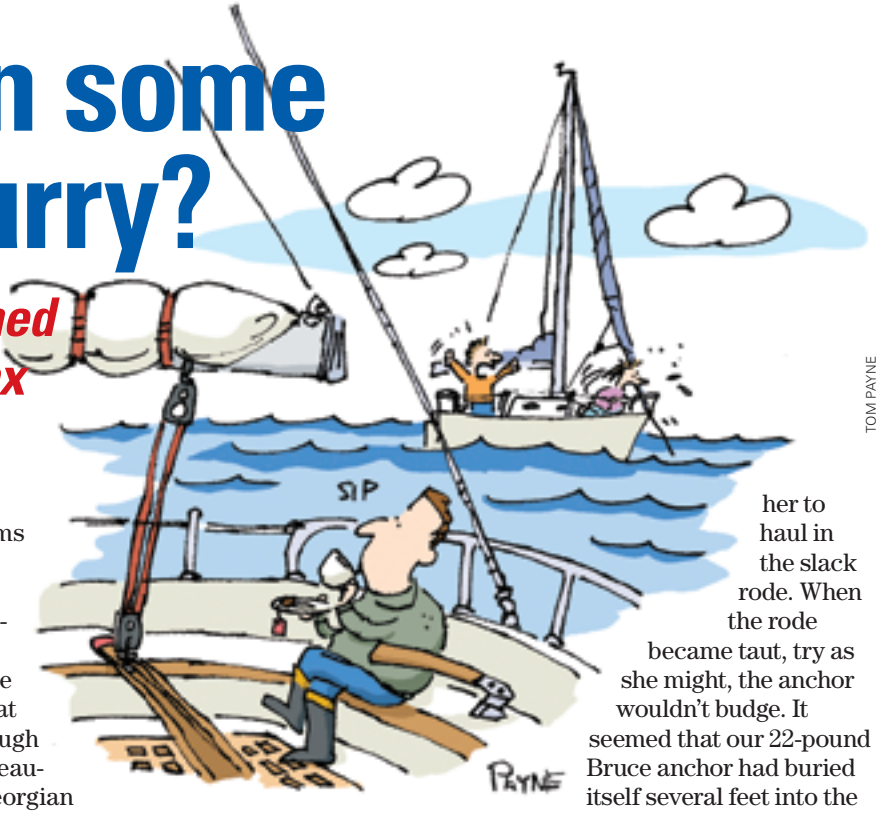
TOM WELLS

Karen aboard *Higher Porpoise* on Mark Twain Lake in northeastern Missouri in May 2008. The Mark Twain Lake Sailing Association marks its 20-year anniversary this year. Watch for an article about *Higher Porpoise*, a 1979 Tartan 37, and her sailors, Tom and Sandy Wells, in an upcoming issue of *Good Old Boat*.

Are you in some kind of hurry?

How one cruiser learned to slow down and relax

by Bill Van Allen



TOM PAYNE

Skills gained through hands-on accomplishments can help demystify problems and bolster our self-confidence to tackle more demanding challenges. But the wisdom of others offers a whole new perspective on a lifestyle choice.

It was an attention-grabbing experience for me to be awakened at first light by what sounded like a freight train speeding through our 1981 Bayfield 32, lying at anchor off Beausoleil Island, in Lake Huron's Southern Georgian Bay. The V-berth, which had been motionless when we went to sleep, was now rocking back and forth like an out-of-control department store rocking horse.

My first mate, Emily, was already awake and anxiously sitting in the main cabin. She confirmed my suspicions when I disbelievingly asked, "Is that the wind?" I was accustomed to hearing the wind howl through our rigging but I'd never heard it roar like it did that morning. We had to raise our voices within the cabin just to hear each other over the din outside. A near-gale-force wind had unexpectedly piped up, wreaking absolute havoc in our anchorage. It didn't occur to me at the time to turn on our masthead instruments to check the wind speed, but it must have been well in excess of 30 knots.

> "... whenever he buried his anchor, he simply shortened the rode ... and went back to the cockpit for a cup of tea."

An inspection on deck revealed that our anchor rode wasn't chafing, but I let out a generous amount of additional rode as extra insurance. Fortunately, our anchor held, while many sailboats and powerboats around us, especially those that had been rafted together, dragged theirs. Within 20 minutes or so, the wind had subsided and calm was restored.

I thought little more of the high winds until the next day, when it was time to return to our marina and Emily offered to weigh the anchor manually. I motored forward to allow her to haul in the slack rode. When the rode became taut, try as she might, the anchor wouldn't budge. It seemed that our 22-pound Bruce anchor had buried itself several feet into the mud during the high winds of the previous morning.

Breaking free

A previous back injury prevented me from being too much help — even together we weren't able to break the anchor free. I cleated the anchor chain and unsuccessfully tried to motor forward and use the power of our diesel engine to break the anchor free. After struggling for half an hour and with mounting frustration, I finally managed to break the anchor free using this method.

Weeks later, I was speaking to a long-time cruising couple we had met, and I brought up the incident of burying our anchor. The skipper replied that whenever he buried his anchor, he simply shortened the rode as much as possible and went back to the cockpit for a cup of tea.

By shortening the rode, he explained, the combined effect of wave action, the wake action of passing boats, and transferring the weight of the crew aft would cause the anchor to effortlessly work itself free. He then looked at me with that wisdom born of experience and slyly asked, "Were you in some kind of a hurry? You were on a *sailboat*, after all."

His message wasn't lost on me: if we were always meant to hurry through life, what were we doing on a sailboat in the first place? The reason we had selected a sailboat was to enjoy peace and quiet, with loss of speed being a welcome compromise.

Now, whenever things seem to go wrong or I fall into old habits of rushing through life, I try to remember that sage advice and ask myself, "Are you in some kind of hurry? You're on a *sailboat*, you know."

Bill Van Allen and wife, Emily, sail their 1981 Bayfield 32, Ocypete, *out of Penetanguishene, Ontario, on Lake Huron's Southern Georgian Bay.*

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