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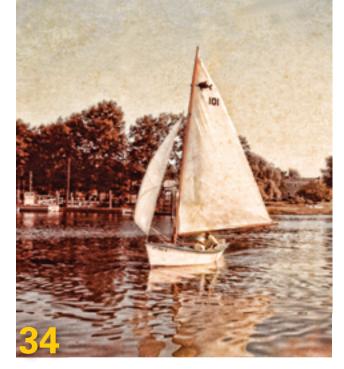
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About the cover ...

The legacy of Mary Jane Hayes lives on (see the editorial on page 5). This image, taken during a PHRF race near Scituate, Massachusetts, shows a close encounter between the sailboats *Cois Feraise* and *North River Bell*. Mary Jane was a sucker for red, white, and blue color themes. So are we.

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The view from here

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The goodness of sailors

How their good deeds color the view from here

by Karen Larson

E ver since the first copy of *Good Old Boat* magazine appeared in the summer of 1998, I have been

astounded by the goodness of sailors. Sailors are trustworthy and they keep their word. Merchants dealing with the general public get a lot of bad checks, but we've seen very few.

The trust works in both directions. We were very surprised when we had a call from a subscriber who wanted to support our new effort with a 10-year subscription. We didn't even have a price for such a thing! But once we'd made up a price (\$300), several dozen readers signed up for the long term.

Other sailors have offered great advice, particularly in the beginning as we were determining the direction for this magazine. We staff our booth at boat shows with volunteers who sell the concept of a "sailing magazine for the rest of us" with a passion that is genuine and effective.

In spite of these many kindnesses from sailors, I was nevertheless stunned when Warren Hayes gave us a very special gift. For more than 50 years, Warren was husband, captain, and soulmate to Mary Jane

66 I think of Mary Jane in visual metaphors. **99**

Hayes. Mary Jane, though a reluctant sailor, nevertheless loved the water and went boating cheerfully as long as she had a camera, a notebook, and Warren by her side. She became well known as a marine photographer and writer who focused on the beauty of the sea.

Our relationship with Mary Jane goes back to the very first issue with covers, center spreads, and articles about how to take nautical photos. When Mary Jane died in January 2010, one of the things Warren did to keep her memory alive was to donate the thousands of slides she had taken over the years to several of her favorite magazines. *Good Old Boat* became the custodian of about 4,500 slides. Sorted into slide-holder sheets of 20, they fill several three-ring binders that occupy an entire shelf.

I think of Mary Jane in visual metaphors. This is perhaps because she was such a visual person that even her writing (not just her camera) captured beautiful scenes. I think of her as deep golden afternoons, because that was her favorite time of day for taking photos. And I think of her in vibrant red, white, and blue. It seemed right to run one of her many true-blue red/white/ blue-themed photos on the July cover this year as a memorial to Mary Jane, a thank you to Warren, and a nod of appreciation to the many others over the years who have shown us the goodness of sailors.

Mail buoy

Electric auxiliary, Spike Perry,

Mechanical efficiency of the electric auxiliary

Since I have just moved from the Chesapeake Bay to the St. Louis area, the electric auxiliary conversion article by Joe Steinberger ("Electric Conversion," May 2011) really caught my eye.

I have an aging Atomic 4 in my Pearson 30 that I have been considering replacing, and now that I am a lake sailor the power storage limitations are not an issue for me. I am an engineer, and with this project on my mind I could not help but design my own ideal electric auxiliary.

I am always glad to hear of others who are considering this conversion. I liked 90 percent of what I read in the article and found that it agreed with what I plan to do.

Joe mentioned that he avoided using a gear reducer because of the cost, and a belt-and-pulley system because of "significant friction losses." I agree that gear reducers are expensive. However, the efficiency loss with timing (synchronous) belt systems is far from significant. When designing a timing-belt system, a very conservative estimate is 95 percent efficiency. Usually they are 96 to 98 percent efficient. Timing belts and pulleys are inexpensive and, in the power and torque range of an Atomic 4, can be had for a few hundred dollars.

Considering the cost, ease of installation, and efficiency, a timing-belt-and-pulley system is an ideal solution for utilizing the existing propeller shaft while matching the motor rpm to the propeller rpm. It also elevates the electric motor above any bilge water. One drawback, however, over a direct-drive system is that, because of the reduction ratio (about 2:1 in my system), the boat will have to be moving faster before regeneration will begin.

I did some research on how much power actually gets transmitted to the water from my Atomic 4 at cruising speed (1,500 to 2,000 rpm). It ends up at around 8 horsepower. I don't have any empirical data, but this is in the ballpark of my hull-speed calculations. My Atomic 4 is direct drive. When I decided to reduce the prop speed, I found I had more choices for electric motors that would allow me to turn the prop at its most efficient speed while also running the motor at its preferred speed.

Keep up the good work with the magazine.

-Nick Mercurio, Annapolis, Md.

Jerry Powlas replies

Your direct-drive Atomic 4 has much more capacity in forward gear than your boat needs. In most cases, owners use a maximum of about 1,500 rpm because that is all the power their hulls can benefit from. Some Atomic 4s were tied to reduction-type transmissions in much larger boats where the engine's full range of rpm and horsepower was needed, but these installations were fairly rare.

A Pearson 30 probably never needed more than about 10 to 15 horsepower. I calculated that my C&C 30 needs 14 horsepower to reach a speed of 1.35 x square root of the waterline length (one of several methods of determining hull speed). If you back down from 1.35 to 1.0, my guess is 10 horsepower is more than enough.

I know that is probably still higher than the electric motor you are contemplating. Lower power levels are successful because the speed/power curve is not linear.

Jerry Powlas, Technical Editor

Electric propulsion sources

Good Old Boat is a wonderful publication for those of us who love our older boats and know the value of fixing them up and keeping them sailing.

Joe Steinberger's article about re-powering his boat with electric propulsion is timely. A number of people are investing in new technology for their older boats because they know it's worth investing in the boat they know and like rather than selling and buying something new. I would just like to point out that there are a number of manufacturers of complete electric propulsion systems besides Electric Yacht and Re-E-Power.

Annapolis Hybrid Marine is the U.S. distributor for ASMO Marine, which has been in the electric propulsion business for over 15 years. ASMO Marine currently offers the Thoosa system for boats up to 45 feet and is developing larger systems for boats up to 60 feet that we will introduce at the Annapolis Sailboat Show in October.

Additionally, Elco has been building electric boats for decades! Mastervolt offers electric propulsion systems. Other companies are Advanced Marine Electric Propulsion, Electric Marine Propulsion, ReGen Nautics, Propulsion Marine, as well as a host of small DIY companies like Thunderstruck.

All of us are actually going "back to the future" of electric boating, which has been around since the 1880s. Between rising fuel prices and the call to cut pollution on our waterways, the electric alternative is finding favor once again. These you for such a great publication

Thank you for such a great publication.

-Sally Reuther, CEO Annapolis Hybrid Marine, Annapolis, Md.

Remote oil-filter kit

I'd like to learn the brand name and contact info for the remote oil-filter kit shown in Benjy Benjamin's Simple Solutions article ("Oil Change in a Jiffy," May 2011). I have an older model Yanmar in need of one. My local dealer (through Mack Boring) quoted me \$450 for a kit. In my searches, I have been unable to find one for a Yanmar, only for auto/truck applications.

Also, I was very concerned about the use of "copper pipe" (copper tubing?) for an oil-drain system. I think the vibration of a diesel engine might cause it to fracture in short order. On past engines, I have had oil-drain kits that used a rubber hose with a banjo fitting and a bolt to replace the drain plug. This system worked very well. Thank you for any light you can shed on the oil-filter kit.

-Bob Burton, Island Park, N.Y.

and honoring C&C's builders

Benjy's response

I bought the filter kit at <www.asap-supplies.com> — it's a great site, they have everything. (*Note: the company is located in Suffolk, England.* –*Eds.*)

I have had the copper pipe in place for years with no problems. It was supplied by my Yanmar dealer, so I figured they knew what they were doing!

-Benjy Benjamin, Marines de Cogolin, France

To Bob Perry fans worldwide

Bob and Jill Perry lost their son Spike to a sudden, very short illness on April 2. Spike Perry, who had just turned 30 in January, was a very talented sailor and a basically all around great guy. The world has lost a wonderful young man.

"Spike was one of those you didn't need to tell what to do," Bob says. "He had grown up sailing from day one and he always knew what to do."

Perry fans and friends from all over the world have come together and established a memorial fund to honor Spike at the Seattle Maritime Academy (part of Seattle Central Community College), where Spike was a student in the years 2003 and 2004. The fund will provide scholarship money in honor of Spike and the Perry family, helping deserving kids from the Perrys' hometown waters learn more about sailing, seamanship, and the region's rich maritime traditions. Donations to the fund can be made online at <https://sccd.ejoinme.org/ MyPages/DonationPage/tabid/108196/ Default.aspx>.

Please make sure to enter "Spike Perry" in the field labeled "This donation is in memory of:" This will allow the foundation to track contributions for his memorial.

The Seattle Central Community College Foundation is a 501(c)(3), non-profit organization and your donation should be tax deductible (check with your tax professional).

You can read more about the Seattle Maritime Academy at <www.seattlecentral. edu/maritime> and information about the Foundation can be found at <www.seattle central.edu/foundation/index.php>.

Bob has contributed so much to sailors over the years by sharing his skills and knowledge. Now we all have a chance to repay a small portion of his contribution by honoring Spike with a donation to the fund. I hope you will join us and make a contribution in Spike's memory.

-Kim Bottles, Blakely Harbor, Wash.

Builders of C&C Yachts honored

On the evening of April 2, at the Boulevard Club on Humber Bay in Toronto, the Builders of C&C Yachts were formally inducted into the "Legends of Ontario Sailing."

The individuals recognized for this honor were George Cuthbertson, the late George Cassian, Erich Bruckmann, the late George Hinterhoeller, Rob Ball, and Ian Morch. Rob Mazza, a past C&C Senior Designer, made the introductory remarks describing the accomplishments of C&C Yachts and the individuals being honored. George Cuthbertson addressed the gathering after the presentation, elaborating on the creation of C&C and, on behalf of all the inductees, thanking *Canadian Yachting* and the Ontario Sailing Association for this honor.

This is only the second time this award has been presented. The previous recipients were the skippers and crews of the yachts *Evergreen* and *Magistri* for their heroic performance in surviving the 1979 Fastnet Race. Rob was quick to point out that both these boats were C&C-designed Two Tonners built for Canada's Cup competition.

> Gabrielle Lotimer shot this photo of Killbear Point Light on a prominent point in Killbear Provincial Park. (Yes, the painter left out an "1.") Bruce Lotimer says this point forms one end of an imaginary boundary for sailors leaving Ontario's Parry Sound for the wonders of Georgian Bay.

Mail buoy

The entire "C&C Collection" of over 30 years of C&C drawings prepared under the supervision of George Cuthberson and Rob Ball is now in the archives of the Marine Museum of the Great Lakes in Kingston, Ontario. Once funds have been raised for the more than 3,000 drawings to be digitized, they will be made available for public access.

The Legends Award, sponsored by *Canadian Yachting* magazine, is presented annually at Ontario Sailing's Celebration of Sailing Fundraising Gala.

-Robert Mazza, Ramsey, N.J.

KiwiGrip price: bubble or boo boo?

You had a great article on KiwiGrip in the January 2011 issue of *Good Old Boat*. (Great mag, by the way. My wife got it for me as a Christmas gift a few years back, and I have since bought it as a gift for friends.)

I liked the Kiwigrip article so much I went right to their website <www.pachena.com> to investigate it. When I went to the product pricing info (which is actually not listed there, you have to go to the online-store page), the product is listed in some colors at \$130/gallon. Oddly, the same product in cream is listed at \$5,000/gallon. Assuming that this must be a typo, I emailed the company regarding the bizarre pricing. I was told that this was indeed accurate and in accordance with "supply and demand"! Are they *mad*? I told them for less than that I could drink a six-pack and watch a team



of professionals gelcoat my boat. To make matters more interesting, the cream color is available at the \$130 price from several other distributors. So it appears that they have some sort of scam or internal problem going on at Pachena. I would love to hear your response.

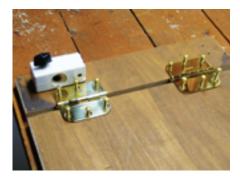
-Dr. A. R. Scopelliti, Long Branch, N.J. Around the beginning of April, we went to the Pachena website and also found that several of the colors were offered at \$5,000/gallon. Perhaps an April Fools' Day joke? They have since updated their website with the following: "We're sorry to report that we've misjudged demand for KiwiGrip and have run out of stock of this product. Sadly, the next shipment is not expected until mid-May. Please check with our distributors on our boatyards and links page. Price each: \$130.00 Temporarily out of stock." We're guessing they ran out!

-Editors

Pictures confusing

George Lawrence shows an attractive way to create a lowcost cockpit table ("A Cockpit Table Built from Scratch,"

March 2011). The pictures, however, are misleading. On page 44, the hinges are on the back face together with the brackets, a questionable solution as the top would swing the wrong way. On page 45, the



hinges end up on the front face, allowing for proper lifting and lowering. You might want to caution your readers before anyone mounts the hinges on the wrong face. –Henry Joseph, Toronto, Ontario

George agrees

Our eagle-eyed reader is correct. The middle picture on page 44 shows the "relative" position of the rail clamp. The picture on page 45 shows the table with the clamp



installed. But there is no big story here. I felt it necessary to show the clamp since it is a hard-to-find item.

There is a follow-up thought, though. It turns out that the Goodwill table was not made with waterproof glue. When the table was lowered and covered with the Sunbrella wheel and pedestal cover at the end of the day, the bottom inch or so was uncovered. It got wet enough, often enough, that I began to see some of the glue in that area dissolving out. Part of my spring commissioning will be to remove the table, sand it down, and put on a coat of varnish to make a water barrier. I like the oiled look better, but the table needs the protection. I hope to experiment with the whey-based, water-based varnish out of Vermont.

-George Lawrence, Annapolis, Md.

Check out News from the Bow

We'd like to introduce your readers to our monthly online boating newsletter, *News from the Bow*, <www.newsfromthe bow.com>. During the past two years, *News from the Bow* readers have enjoyed a regular mixture of boating news, product reviews, seamanship updates, original nautical poetry and photography, and much more. *News from the Bow* is available at no cost and has a growing readership in 15 countries and nearly every state. Kindly pass along our invitation to your readers to visit and enjoy *News from the Bow*. We expect they won't be disappointed.

-Shana and Stu Hochron, Editors, Jersey City, N.J.



Joe Fernandez sent us this photo of the lady of his life, *Sequoia*, a 1976 Cape Dory Typhoon, hull number 1173. Joe sails on Lake LBJ, Texas. Send your sailboat photos to jstearns@goodoldboat.com and we'll post them on our website. If we publish yours here, we'll send you a Good Old Boat T-shirt or cap.

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



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Feature boat

A Fuji 32 shines on

Sunshine, a Fuji 32 sailed by Jo Lyon and Dee Schumacher, looks very tidy and shipshape as she awaits orders for her next cruise.

hen Joan "Jo" Lyon started to consider what she would do for pleasure when she finished working on her Ph.D., she looked at two possibilities: sailing or flying. after all, she had always loved the water. As the 81-year-old retired professor of kinesiology (the science of human movement) at California State University, Long Beach, talks about her first experiences with the sailing life, a smile lights up her face.

"When I was seven, my mother became ill and ended up in the hospital. My aunt and uncle lived aboard a wooden sailboat in Los Angeles Harbor, and they took care of me. I spent

10 days walking the docks and playing around boats. I was 'showered off' each afternoon with the hose," she says. Then she laughs. "I remember waking up in the mornings and hitting my head above my bunk — every day!"

Those memories never left her. Today, Jo still enjoys the adventure of cruising off the Southern California coast. She and Dee Schumacher, who is 65, have sailed their beloved Fuji 32, *Sunshine*, for the past 14 years together.

These two women are simply amazing. They sail regularly and have no plans to quit anytime soon. Most of their sailing is local: trips to Two Harbors at Catalina Island and cruises to the Santa Cruz Islands, San Diego, and many of the harbors on the coast along the way, such as Dana Point and Oceanside Harbors. Their dog, Jetty, goes along too. Last summer, they spent more than 35 days sailing *Sunshine*. "Jo and I spend almost the entire summer on *Sunshine*, either sailing to different coastal harbors

<image>

or on our mooring at the Isthmus (Two Harbors). We also spend time just tinkering, napping, reading, or just lazing around onboard."

Drawn to the Fuji 32

Before finding her dream boat, Jo had owned four boats: a Folkboat, a King's Cruiser, a Mariner 32 ketch, and an Islander 28. Because of the variety of these makes and designs, by the time she was in the market for her fifth sailboat, Jo says she knew exactly what she wanted. She was looking for a boat with good lines ... one that was pretty, well-built, and a bluewater cruiser.

Jo was attracted to the Fuji because, "I liked wooden and full-keel boats. I found the Islander 28 to be too tender and I missed the control of a full keel."

After talking to experienced sailing friends about what kind of boat to get, followed by a whole lot of searching, Jo finally found *Sunshine* in Ventura. She became the second owner of the 1977 Fuji 32 in 1980, and Alamitos Bay has been *Sunshine*'s home port ever since.

She is a bluewater cruiser, 35 feet long overall (including the bowsprit), and a sloop, which Jo discovered was great for singlehanding. She's powered by a 3-cylinder Pisces 27-hp diesel designed for marine use by Isuzu. The boat sails well and best of all, Jo says, *Sunshine* fits her.

"Sunshine is a good boat to singlehand," Jo explains, "because the wormgear steering and hull configuration allow her to track well. I knew she was the one for me. I thought of changing her to a cutter but never did. I enjoyed her so much as a sloop, I just never got around to it." *Sunshine* is truly Jo's pride and joy.

Dee got into sailing through Jo. While raising three children, Dee's previous experience with boats and water sports was mainly with ski boats, runabouts, and a few rental sailboats. "Jo taught me everything I know about sailing," Dee says. "She embraced sailing wholeheartedly — and was a quick study, " Jo adds. "Dee does a lot of the mechanics on *Sunshine* now. She keeps her operating in shipshape condition."

Careful upkeep

Whether you're aboard *Sunshine* or looking at her from the dock, it's evident that this boat is well cared for. She is in Bristol condition and gleams and dances in her slip, as if eager to go.

Designed by John G. Alden, the Fuji 32 was built by Fuji Yachts in Yokosuka, Japan, a city known for shipbuilding since the 1600s. "Most of the Fujis were built as ketches. There were a few sloops though," Jo says. She points out that a conversion to a cutter would be easy. "There's a tang on the mast that could be used for a staysail stay," she says.

Both women are proud of Sunshine's beautiful design, materials, and style. "She's given us many years of pleasure with surely more to come," Jo says. They beam when they talk about Sunshine receiving many compliments from fellow sailors.

Jo bought *Sunshine* with the expectation of doing some long-distance cruising, so the first change she made was to convert the compressed-natural-gas stove to propane. A shipwright friend built a beautiful teak box, which contains the propane tanks and sits on the stern. "It serves as a wonderful backrest for the helmsman," Jo explains while sitting behind the wheel in the well-designed cockpit.

Next, she added a canvas dodger and a stainless-steel binnacle guard. "Then I gave my autopilot a lobotomy," Jo says, and explains that she kept the strong Benmar power unit, needed to handle the worm-gear steering, and added new electronic brains to guide the system. The navigation instruments swing out into the companionway when the boat is under way so the person at the helm can read them effortlessly.

Homey interior

Sunshine's cabin is spacious, tidy, and efficient. The abundant teak, brass oil lamps, a nautical clock, and round porthole over the galley sink add character to this inviting retreat. The fold-down table in the saloon is securely hooked against the forward bulkhead when not in use.

To keep clothing contained and out of the way, Jo and Dee fitted custom-made zippered canvas pouches to the shelves in the forward berth. Matching canvas flaps secure and hide the contents of the open storage shelves above the settees in the main cabin. Additional lockers with latching doors, for items such as canned goods, are located behind the settees. For privacy, the head can be closed off from the main saloon or from the forward cabin by closing the door at either entrance.

Enhancements for sailing

Although technically classified as "senior citizens," these active women have no intention of giving up sailing in the near future. Instead, they have been making improvements to *Sunshine* to make her easier to sail.

"In 2005, we had an electric windlass installed and converted to 300 feet of ¼-inch triple-B chain connected to a 35-pound

Most of the Fuji 32s built were ketch rigged. Jo likes *Sunshine*'s sloop rig, at top, because it's easier for one person to handle. While Dee works the halyard, sailmaker Carol Hasse feeds the new mainsail onto the new sail track on the freshly painted mast, center. Jetty, the ship's dog, goes wherever Dee and Jo go, at right.







Feature boat





To keep personal effects and all that necessary boat stuff secure and out of sight, Jo and Dee had custom canvas enclosures made for shelves in the saloon, at left, and the forward cabin, above. Brass kerosene lamps add a salty touch to the saloon, below, which is decorated to be nautical and homey.

CQR anchor at the bow," Dee says. Their stern anchor is a 13-pound hightensile Danforth with 50 feet of chain and 250 feet of nylon rode.

Once that was accomplished, Jo and Dee thought new sails would be their next major investment. Clearly it was time. "We still had the original mainsail!" Dee says.

"Then reality set in when I checked my records and found I had replaced the old standing rigging 19 years ago," Jo adds. "One thing led to another and we bit the bullet — it was time for new rigging *and* new sails."

One boat project bred another. While Jo and Dee were replacing the running rigging, they decided this would also be the perfect time to spruce up the mast, so they had it painted with linear polyurethane. At last *Sunshine* was ready for new sails.

"We had done some research while looking for new sails," Dee says, "and had been told by a friend that we should check out Carol Hasse's Port Townsend Sails because this loft is known for quality and detail... and we were told they focused on cruising sails."

When they traveled to Port Townsend, Washington, to visit Carol's sail loft, they got to see how the Hasse & Company crew made sails. "They pay attention to every intricate detail and incorporate old-time craftsmanship and new technology," Jo says. She and Dee were impressed with the sail quality and construction and agreed to have the loft build *Sunshine*'s new sails.

Once Jo and Dee decided to get new sails, they made many additional improvements to *Sunshine*, several of them as a result of suggestions Carol made from her perspective as their sailmaker. First, they replaced their Barient 21 winches with self-tailing Andersen 42s. The self-tailing winches made adjusting the sheets a breeze. Next, they changed their mainsheet arrangement so it had a 5:1 purchase where previously it had a 4:1 purchase. They chose stainless-steel blocks by Garhauer and say adjusting the mainsheet is now almost effortless.

One of the biggest recommendations Carol made was to install the Tides Marine Strong Track System to make raising and lowering the mainsail easier. Finally, Jo and Dee added new lazy-jacks.

Best of two worlds

Jo and Dee have the best of two sailing worlds. Aboard *Sunshine*, they sail the coastal waters of Southern California. When they want a taste of distant shores, they sail on boats owned by cruising friends. Jo spent two weeks sailing off the east coast of Australia on a Peterson 44 with Bev and Cliff Jackson. Next, she flew to Panama and met Marty and Dan Campbell to sail along the west coast prior to going through the first lock of the Canal. From there, she flew to Miami and cruised to Key West and back with friend Sue Wilson.

When not sailing on *Sunshine* or aboard friends' boats, Jo and Dee have taken bareboat charters to the exotic harbors of Tonga, Belize, and the British Virgin Islands. "Jo is always the skipper on these charters except for Belize, where she was purely 'deck fluff'," says Dee with a smile. Whether sailing on their beloved Fuji 32, jumping aboard fellow sailors' boats, or taking bareboat charters — even adding in



the occasional trip on a cruise ship in faraway ports of call — this dynamic duo enjoys life on the water to the fullest. It was no surprise, therefore, to learn that Jo and Dee are also active landlubbers. They enjoy RV camping with their Little Old Ladies on Wheels Club, skiing, and long-distance bicycling tours in Europe. They are truly an inspiration to all those determined to enjoy life to the fullest, both on and off the water. \varDelta

Susan Lynn Kingsbury's articles have been published in several magazines including Good Old Boat, Cruising World, and Latitudes and Attitudes. After residing in Southern California most of her life, she recently relocated with her family to the Puget Sound area of the Pacific Northwest.

How the Fuji 32 fares

Against fellow cruisers with clipper bows

by Ted Brewer

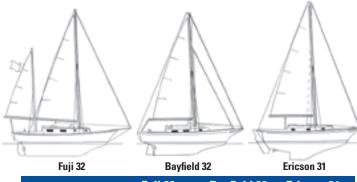
his is an unusual group as clipper-bowed small boats have been fairly rare in mass production. Aesthetically, I can see the problem, as a proper clipper bow is not simple to design. L. Francis Herreshoff, who was perhaps the master, laid down some design rules for clipper bows but none of these yachts obey them. The bald-clipper bow of the Fuji 32 appears to have too little reverse and really needs some nice trailboards to set it off. The Ericson 31 is a little better, but her funky "trailboards" lack traditional appearance and she needs a bowsprit to really carry it off. I found one photo of an Ericson 31 Independence with a double-headsail rig and a short sprit and she did look quite handsome. The Bayfield's exaggerated clipper bow seems badly overdone and quite out of proportion. She would look much better with a shorter overhang combined with a short sprit to obtain the desired foretriangle length. But, as I said, a clipper bow is not easy to design, and I still look back at some of my own and wince a bit. For good examples, go on the Internet and check out the Cherubini 44 and 48 and the Luders Clipper series.

Well, on to more important things such as performance. I think we can honestly say that none of the three yachts here will set any records for speed or weatherliness, but in a race between the three, the silver cup would undoubtedly go to the Ericson 31. Her deeper the drawings, so I believe they are using the area of the two headsails rather than just the 100 percent foretriangle. I also read that some of the boats were built with 7-foot-higher masts, and others with 4-foot-higher masts, to improve their sluggish light-weather performance. That would be useful in many areas of our lakes and coasts due to the 32's large wetted area and small rig. I do like the double-headsail rig of the Bayfield and would recommend it to both the others for offshore use and even for the Great Lakes. A small staysail and a reefed main can take you through some heavy weather with confidence.

The capsize figures show that all three fit under the 2.0 that is considered the maximum number for offshore cruising. The Bayfield is just slightly under due to her much lighter displacement. Because of their shoal draft, I might be tempted to add a bit more ballast to the Fuji and Bayfield if an ocean voyage was in the plans. However, a ketch-rigged Bayfield 32 has crossed the pond to take part in a singlehanded transatlantic race and I have no doubt the other two could handle blue water as well, given proper equipment and seamanship. Indeed, the Fuji's CSF number of 1.67 is unusually good for a small yacht. Apart from bluewater voyages, their shoal-draft hulls make both the Fuji and Bayfield good

draft, cutaway lateral plane, and taller rig would give her quite an edge around the buoys. The Fuji 32, with the highest displacement, the greatest wetted area, and a ketch rig with the lowest sail area/displacement ratio, will certainly be the slowest of the group in light to medium air. She will only come into her own offshore in a brisk breeze. There, with a good mizzen staysail and a following sea, she might well be the steadiest and most pleasant of the three for a couple to handle. Certainly her long shoal keel, like the Bayfield's, will keep her tracking steadily. Those two could be trimmed to sail themselves for long periods ... always a nice feature in a small yacht.

I have seen a few reports that show the Bayfield as having 525 square feet of sail. That is not what scales out on



Fuji 32	Dayllelu 52		ELICSON ST
	Fuji 32	Bayfield 32	Ericson 31
LOA	31' 6"	32'0"	30' 11"
LWL	24' 9"	23' 3"	23' 11"
Beam	9' 10"	10' 6"	10' 5"
Draft	3' 8"	3' 9"	4' 11"
Disp.	13,115 lb	9,600 lb	11,400 lb
Ballast	4,635 lb	4,000 lb	4,500 lb
LOA/LWL	1.27	1.38	1.29
Beam/LWL	0.397	0.452	0.436
Disp./LWL	386	341	372
Bal./Disp.	0.35	0.42	0.39
Sail area	471 sq ft	433 sq ft	497 sq ft
SA/Disp.	13.6	15.3	15.7
Capsize no.	1.67	1.98	1.85
Comfort ratio	35.8	24.8	29.6
Years built	1976-82	1974–86	1976-81
Designer	John G. Alden	Ted Gozzard	Bruce King

choices for quietly cruising our coastal waters and exploring the many snug coves along our shores.

There is no way that one will be truly comfortable on a small yacht in truly heavy seas. Still, the comfort ratio of the husky Fuji is unusually high for a boat her size, so she will certainly handle heavy weather better than the others ... but it is a matter of degree. The lighter, beamier Bayfield will be considerably corkier and the Ericson somewhere between the two. Each of these three cruising yachts has its own particular advantages and the choice will be up to the individual skippers, depending on where they want to sail, how they want their boats to perform, and in what degree of comfort.

Ted Brewer is a contributing editor with Good Old Boat and a well-practiced and respected authority on the art of yacht design.

Sailboats 101

Mechanical Advantage 101

More power to you!

by Don Launer

The forces we have to contend with when sailing a boat are greater than we can handle with our unaided physical strength. To cope with them, we make use of a physical principle known as mechanical advantage. This is the factor by which a mechanism multiplies the force applied to it.

Mechanical advantage is often necessary when managing centerboards and swing keels and when adjusting traveler cars, boom vangs, halyards, and sheets.

The great mathematician and engineer Archimedes, who was born in 287 BC, first demonstrated and quantified the principle of mechanical advantage by using a multiple-part block and tackle to move a heavy ship to the water for launching.

Calculating MA

The theoretical mechanical advantage (MA) of any system can be found by comparing the distance the effort moves (the hand pulling the mainsheet, for example) to the distance the load moves (the boom).

• MA = distance the effort moves/distance the load moves

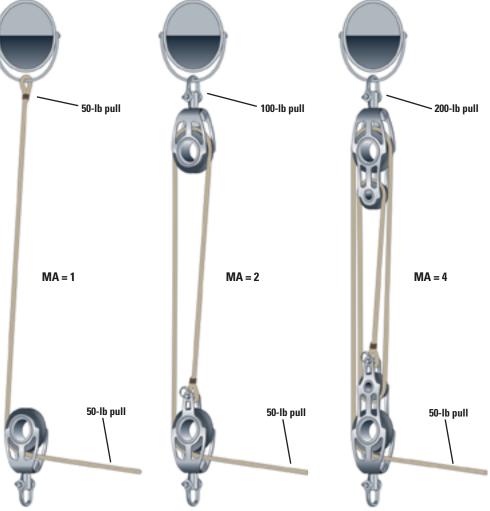
The mechanical advantage can also be found by comparing the force applied to the load to the force applied by the effort.

• MA = force applied to the load/force applied by the effort

For a system in which the mechanical advantage is 4, the ratio would be written:

• MA = 4:1

This theoretical, or ideal mechanical advantage (often abbreviated as IMA), neglects friction and other factors, such as the weight of the blocks when using a block and tackle. To overcome friction and weight, more force is needed than would be required for the ideal mechanical



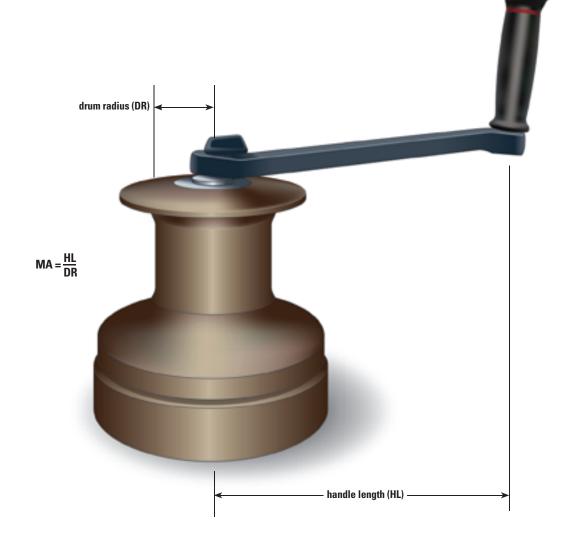
advantage. This extra force must be accounted for to determine the true or actual mechanical advantage (AMA).

MA through a block and tackle

The old Gloucester fishing schooners had no winches on board (except for the windlass) and the huge forces on the sails were controlled with multiple-part block-and-tackle arrangements. A block and tackle provides an easy way to create mechanical advantage and nearly every small to medium-sized sailboat still uses one to control the boom.

As stated above, to produce an increase in force using a simple machine, the applied force must move through a proportionately greater distance. This principle leads to the main disadvantage of the multiple-part block and tackle, which is the long length of line involved and the problem of stowing that line.

On my 32-foot schooner, the block and tackle for the mainsheet has an MA of 4. Although the end of the boom, to which



the mainsheet is attached, only travels a distance of 15 feet when the mainsail is swung out on a run, the sheet itself is about 60 feet long. When the boom is amidships, we have to contend with about 50 feet of extra line in the cockpit. To solve this problem, I installed a belaying pin rack on the boom-gallows stanchion. It's not for belaying, but rather to serve as a handy spot to store the coiled-up mainsheet.

Just as the sailors on the Gloucester fishing schooners did, I use block-and-tackle systems on the main boom, the fores'l boom, the gaff halyards, and the boom on our club-footed jib.

MA through a winch

A small winch enables us to exert great force on a line. It does this by means of a long winch handle turning a small-diameter winch drum while a ratchet mechanism prevents the drum from reversing direction when the force on the handle is released. Larger winches gain even greater mechanical advantage through internal reduction gears. Some operate at multiple gear ratios (or speeds), which are usually engaged by changing the direction of rotation of the handle.

The average sailor can exert about a 30- or 40-pound horizontal pull on a line. On larger boats this is just not enough — sheet forces in the thousands of pounds are common on large cruising or racing yachts. By means of leverage (a long winch handle turning a small-radius drum) and reduction gears (the number of revolutions of the handle that turn the drum through one revolution), high mechanical advantage or "power ratios" can be developed.

This power ratio is simple to calculate: it's the handle-todrum ratio multiplied by the gear ratio.

If you have a 10-inch handle and a 5-inch-diameter drum, then the handle-to-drum ratio is 10/2.5 (2.5 being the radius of the drum), and the mechanical advantage is 4.

If, in addition, the winch has a 5:1 gear ratio, the handleto-drum MA multiplied by the gear ratio (5) gives a power ratio of $4 \ge 5$, or 20:1.

Winches are given numbers that approximate this power ratio, so a #8 winch has a mechanical advantage of 8:1. This 8:1 figure is, of course, a theoretical figure — the ideal mechanical advantage — since friction between the internal winch parts will reduce this ideal number somewhat. With small winches that have no internal gearing, the power ratio, or ideal mechanical advantage, is simply the handle-to-drum ratio.

Don Launer, a Good Old Boat contributing editor, built his two-masted schooner, Delphinus, from a bare hull and has held a USCG captain's license for more than 34 years. He has written several books, including Navigation Through the Ages and The Galley: How Things Work.





Dufour Safari 27 *An example of innovative French style*

rench naval architect Michel Dufour began designing yachts in the 1960s. Perhaps his best-known design is the elegant Arpège (1966), a 30-footer that performed well offshore and offered chic accommodations below. The 27-foot Safari (1969) followed, along with the Dufour 41 (1970) and the Dufour 35 (1971). In 1973, the Dufour yard built more than 600 boats, making it one of the largest production boatbuilders in the world. There followed a lull in exports to the U.S., but by the late 1990s Dufour Yachts had acquired the Dynamique and the well-known Gib'Sea brands and had resumed exports to this country. In addition to innovations in design, the Dufour approach included the extensive use of structural inner liners or pans that

cover the sides of the hull and also form the cabin sole and furniture.

I remember the Dufour 27 from my sailing days in the United Kingdom during the 1970s and '80s. Compared with tried and proven British designs — such as the venerable Westerlys, Macwesters, and Kingfishers — the Dufour 27 seemed to offer a departure from the commonplace and suggested the future of yacht design. There was something about the boat that earned a second glance.

Design

The Dufour 27 has a raised flush deck — well, almost. Some have termed it "semi-flush." A benefit of this configuration is relatively wide sidedecks. The almost-flat sheerline is enhanced

by Richard Smith

by a heavy aluminum extrusion that covers the hull-to-deck joint. Freeboard is unusually high, which results in a healthy reserve buoyancy but makes windage a concern.

The companionway hatch slides into a raised deckhouse that continues just beyond the mast. From some angles the hull looks as if the builders forgot the portlights. A closer inspection reveals that there are indeed portlights port and starboard... in the topsides. All this angling and tiering eases the appearance of the vertical bulk of the topsides.

The Dufour 27 has a raked and slightly concave stem and a reverse transom. The rudder is fitted to a deep and narrow skeg. The 1-ton iron keel is a swept-back parallelogram that's narrow in thickness at the top and widens toward the base. It was offered in both a 5-foot 2-inch depth and a deeper version that drew 6 feet — unusual for a boat with a 20-foot 4-inch LWL. Like many boats built for sailing along European coastlines, where extreme tides mean deep water becomes thin very quickly, provision is made for the use of adjustable "sheer legs" that can extend from either side of the hull amidships to allow the boat to lie more or less upright when taking the ground.

Construction

Production of the Dufour 27 began in 1974. Our review boat, *Papillon*, owned by John Hojaboom, is #314, launched in 1975. The hull is hand laminated with alternating layers of woven roving and mat. The deck is fiberglass cored with either balsa or polyurethane foam. Solid wood blocks are substituted where necessary to back up the generally robust deck hardware. Stainless-steel backing plates are used in mounting the genoa tracks and mainsheet traveler.

The large rubrail that covers the joint between hull and deck moldings was offered in teak or extruded and anodized aluminum. *Papillon*'s is aluminum and John had it removed recently for inspection. Aside from the bonding sealant, little could be seen of how the hull and deck were fastened together. A visual inspection inside the boat revealed the whole assembly to be covered by fiberglass and all seemed tight and secure. There has been no distortion or leakage at the joint.

The 2,000-pound bulb keel is secured to the hull by 12 ¹/₂-inch stainless-steel bolts and covered with fiberglass. Some owners report slight periodic leakage at the joint; a survey should reveal any serious damage.

The berth foundations and other furniture are incorporated in the fiberglass interior pan molding. Another molding forms the overhead, cabin sides, and supports for handrails and light fixtures, making it impossible to tab the bulkheads to the underside of the deck.

Generally, the Dufour 27 appears to be well built, although 35 years of hard use can take its toll. For instance, John intends to stiffen (i.e., rebuild) the weakened hatch covers in the cockpit that show the strain of years of people jumping onto them from the raised deck. *Papillon*'s plastic deck hatches and portlights are crazed and should be replaced.

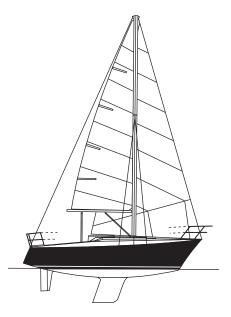


Deck details illustrate how Dufour applied production engineering ideas to boatbuilding.

Apart from these two examples of wear, her hull seems to be in fine shape.

On deck

Papillon's deck is clean and workmanlike. There is no dodger. John prefers working with halyards at the mast to eliminate the hazards of stepping on lines led back to the cockpit. He also eschews roller-furling gear, preferring to bend on and change headsails and



Dufour Safari 27

Designer: Michel Dufour LOA: 27 feet 3 inches LWL: 20 feet 4 inches Beam: 9 feet 2 inches Draft: 5 feet 2 inches (standard) Displacement: 5,300 pounds Ballast: 2,000 pounds Sail area: 310 square feet Disp./LWL ratio: 281 SA/Disp. ratio: 16.3 maintain a familiarity with the foredeck. The molded-in non-skid is about average for grip. As a member of the Edmonds, Washington, Corinthian Yacht Club, John does a combination of racing and cruising and singlehands frequently.

For trimming sails, *Papillon* has two Lewmar 25 sheet winches and a small Enkes winch for the spinnaker. Another Enkes works the outhaul. All are single speed.

An anchor locker at the bow provides stowage for a 25-pound CQR, 20 feet of chain, and 150 feet of ½-inch nylon rode. A handy notch

in the forward end of the hatch makes it possible to pay out the anchor tackle with the hatch closed. This provides good footing for the crew during the process. The 24-inch-high lifeline stanchions are seated in molded sockets and, together with their lifelines, are easily removable.

Four or five people can sit in close company in the cockpit, and the benches are long enough for two 6-footers to stretch out for a nap. Seats are a comfortable height above the sole and backs are high enough and angled just about right. The distance between benches provides good foot support for the helmsman when hard on the wind and heeling. A narrow bridge deck raises the companionway sill, stiffens the deck structure, and serves as a mounting base for the mainsheet traveler.

Cockpit storage is outstanding, about as big as I've seen in a boat of this length. The starboard under-seat storage is huge, with room for a well-packed inflatable boat. The port-side locker gives away some space to a hanging locker belowdecks but still provides good stowage as well as access to the 13-gallon fuel tank. The deep lazarette abaft the tiller allows inspection of the rudder stock, deck fill, fuel line, manual and electric bilge pumps, and cockpitdrain through-hulls. It also provides stowage for a Danforth anchor.

The rig

The Dufour 27 is a masthead sloop. Standing rigging consists of a forestay and backstay, upper shrouds, plus forward and aft lower shrouds. There is a tensionadjustment wheel on the backstay.

When it came time for new sails, John had a new mainsail cut with a slightly more pronounced roach in order to get a little more area. He also added full-length

17

Review boat



battens. The slight shift in the center of effort hasn't affected the boat's balance. Sailing with a 150 percent genoa and spinnaker, John reports all-around improved performance. It's true: new sails make a huge difference in performance.

Belowdecks

Although it's neatly contained and saves space, I found the companionway ladder on the Dufour 27 too vertical and the treads a bit too narrow for an easy drop onto the cabin sole. John says it just takes some getting used to.

The small galley is located to starboard of the ladder where there is about 6 feet 2 inches of headroom under the companionway slide. John replaced the original alcohol stove with a two-burner propane unit. This is located within the inner pan molding that also forms the icebox and an integral sink served by a foot pump. A door below the sink provides access to galley storage. The icebox is large, about 7 cubic feet, and unusual in design. Ice is dropped into a special hatch at the back, separate from the icebox itself. A nice French touch is the two deep built-in wells at the back for keeping white wine chilled.

Moving forward, headroom drops to just under 6 feet in the saloon. The starboard settee berth lies forward of the galley. Its foot is located under a hanging closet in the forward cabin. There's a slot above this opening for chart storage. Lifting the mattress reveals storage that includes two more wells, a good place for a couple of bottles of Bordeaux.

Opposite, on the port side of the saloon, a settee berth extends between



The galley, at left, is a single fiberglass module with the sink and a recess for a gimbaled 2-burner stovetop molded in. The icebox is located under the stove area; side-opening boxes lose cold air much faster than topopening boxes. The Dufour 27 has a surprising number of storage compartments for its size, including this handy locker aft of the port settee, above. An opening between the companionway steps, at right, allows a fire extinguisher to be discharged into the engine compartment without letting in a lot of oxygen.

the companionway and head bulkheads. This berth converts to a double when the table is stowed against the bulkhead. When lowered, the table has a leaf that opens to serve four or five comfortably. A large translucent hatch lights the saloon and provides ventilation. Starting and house batteries are located under the port berth.

The settee backs are high and comfortable with the topside portlights affording good views out from the sitting position. Overhead handrails run along the length of the saloon. The sole is teak-and-holly-veneered plywood with hatches to access the bilge.

The head compartment is very tight. The Dufour 27 was originally delivered with a manual marine head but *Papillon* has been refitted with a portable toilet. There's a small swing-out sink. Opposite to starboard, a hanging locker provides the kind of minimal storage to be expected in a 27-footer.

In the forward cabin, headroom is about 5 feet 9 inches and the berths are about 6 feet long. A 24-gallon freshwater tank is located below the berths alongside considerable bulk storage. A small deck hatch lets in light and air through a translucent insert.

The general ambience of the Dufour 27 belowdecks is somewhere between a traditional interior and something a little different. The absence of conventionally located portlights in



cabin sides might bother some people, but the design made sense to me and I appreciated having eye-level views from a sitting position. This feature, a novelty in the '70s, has become a common and accepted arrangement. The translucent overhead hatches provide plenty of light in the interior, which has a good balance between teak paneling, the teak-andholly sole, and areas of white gelcoat.

In addition to the under-berth stowage, there are fiddled shelves for books and miscellaneous gear in the saloon and forward cabin.

The engine

Papillon was originally powered by a 10-hp Volvo Penta single-cylinder diesel. This was replaced by an 18-hp 3-cylinder Volvo Penta. At the same time, John replaced the 2-bladed folding prop with a 2-bladed fixed prop. To access the engine compartment it's necessary to remove the companionway steps and then the panel in line with the main bulkhead. The crankcase-oil dipstick and filler are right in front along with the water pump and other engine accessories, like the primary fuel filter, that require regular attention. Access to the oil filter is via the starboard cockpit locker.

In the event of an engine-room fire, a small and cleverly located door under the first companionway step allows a fire extinguisher to be directed at the engine while letting in a minimal amount of oxygen. A fire extinguisher is conveniently placed below the second step.

John is pleased with the performance of the new 3-cylinder engine and fixed 2-bladed prop in handling adverse currents found in the many passages winding through his summer cruising grounds.

Under way

John backed out of the slip smartly, then I took us out of the marina while he attended to the fenders, mooring lines, and sails. The engine was quiet and the tiller steering precise. Just outside the breakwater, John hoisted the sails and we were off in about 10 to 12 knots of wind and smooth seas. We managed the wakes of ferries and large powerboats with little fuss.

Dufour 27 owners differ in how they assess the boat's speed under sail. John confessed that, compared with that of other boats of her size, Papillon's performance is often disappointing. Be that as it may, I found her sprightly, with good acceleration. She came about smartly with little loss of speed. She was extremely well balanced and light on the helm even in the gusts, with no sign of weather helm. Once we were farther into Puget Sound, we encountered a light chop, but the boat was steady on the helm, holding her course well and taking large wakes in her stride. John reports he's taken water over the rail only on the more dire occasions when high winds were combined with freighter wakes.

Close-hauled, *Papillon* pointed very close to the wind without slowing down — a product, perhaps, of that deep fin keel and those fine new sails. She steered herself; too much movement of the tiller merely slowed her. With sheets eased, she stood up and purred right along.

Without a dodger, visibility was excellent, although in the congestion of that Saturday morning's Salmon Derby, ferry traffic, and power cruisers making upwards of 20 knots, I would have appreciated a window of sorts near the foot of the deck-sweeping genoa.

Conclusion

After 35 years, this good old boat is almost as good as ever. Her dockside appearance is still as remarkable as when she was new; the Dufour 27 is clearly not a 21st-century boat but still unusual enough to get a second glance. Owners can be proud of this boat and the resolute appearance that continues to confound those with preconceived ideas about where sheerlines, cabin sides, and portlights should be.



Portions of the hull liners that make up the cabin sole foundation, berth foundations, and hull sides are visible in the forward part of the boat, above. Dufour used extensive and quite intricate internal liners, as a detail of the saloon overhead shows, below right. *Papillon* was repowered with a 3-cylinder Volvo Penta diesel, below left, and access to it is quite good.





Cruising for more than a week may be difficult for less hardy crews but she will respond well to carefully organized provisioning. Her cockpit stowage is well above average and stowage below is adequate for a well-disciplined crew. The promise of speed suggested by her lines may not be entirely realized, but her well-balanced good behavior under way, deep keel, and snug sail plan will be appreciated at times when others are looking to tuck in another reef.

A search of the Internet shows Dufour 27s listed from \$7,900 to \$9,500 depending on condition. Donna Paden has posted extensive information about her Dufour 27, *Petite Cherie*, on her website <http://web.mac. com/donnapaden/Dufour_27> and I am indebted to her for the assistance she gave me as I was preparing this review. *A*

Richard Smith, a contributing editor with Good Old Boat, is an architect. He specializes in designing and building very small houses and has built, restored, and maintained a wide variety of boats. These days, he and his wife, Beth, sail their Ericson Cruising 31, Kuma, on the reaches of Puget Sound.

Voice of experience



When boats leave the safety of the drawing board

by Ted Brewer

n my more than 50 years designing yachts, I've had my share of problems with owners and with boatbuilders, including raw amateurs, custom builders, semi-custom yards, and production firms. My experiences seem to bear out the truth in Murphy's Law: "What can go wrong, will!"

The biggest problem with amateur builders, and even the odd professional, is their refusal to do a proper job of lofting the hull lines. Lofting is simply the process of redrawing the designer's hull lines full size. When it is skimped, small errors can creep in and take away from the completed vessel by creating unfair sheerlines and other distortions. These are rarely serious enough to affect performance or safety, but they can adversely affect the appearance and trim ... and they certainly do ruin the designer's day!

Bad lofting can be even worse than skimping on the process. I recall one wooden 32-foot yawl built in the 1960s where the professional builder fouled up royally through careless, or perhaps incomplete, lofting. The finished yacht wound up with distinct hollows in her forward sections where the designed lines showed a slight convexity. I thought I'd made an error in taking off the offsets from the lines drawing until we made templates from the offset table. When these were applied to the hull, it was apparent that it was the builder's error, and a rather serious one that could affect both performance and trim to

some degree. Unfortunately, there was no recompense available as the one-man shop had little financial backing.

The unexpected

Sometimes things go wrong that cannot be blamed on anyone. I recall the time in the early 1960s when I was working for Bill Luders. He was designing a new 5.5-Metre sloop. These 32-foot open racing machines had to measure in within millimeters or they could not legally compete in the class. I faired the hull lines and made up the offset table. We had two of the yachts built in Canada by the same yard, one for a U.S. citizen and the second for an Italian owner. Imagine my shock when the first boat arrived at the Luders yard after a 600-mile road trip and was pronounced too narrow by the official measurer. I raced up to the drafting room, hauled out the lines drawing, and almost fainted with relief when I placed the scale on it, read off the beam, and found it was correct as drawn: the legal 6-foot 3-inch minimum.

My next move was to jump into my little 1.5-liter Riley and burn up the New York State Thruway on a trip to the builder's shop to recheck the full-size lofting. It also proved to be the legal

minimum, so the lofting was not at fault. N We finally decided that the lightly built

We finally decided that the lightly built boats were shipped before the glue in the plank seams had fully hardened. As a result, the long overhanging ends sagged from bouncing down the highway on the delivery trip and this, in turn, caused the midship section to change shape and lose about an inch of beam. I should add that the 5.5s displaced a maximum of 4,520 pounds and commonly had 3,500 pounds of lead ballast, so the 1,000pound hulls had to be very lightly built to be seriously competitive.

Bill Luders came up with the idea that saved the day: at the measuring point on each side, we drove in a nail but left it protruding far enough to give the required 6-foot 3-inch beam. Then a fair shape was built up to the nailhead using epoxy and microballoons. It worked! The boat was finally measured in and *Bingo II* turned out to be one of the top 5.5s in the fleet, and went on to win the US 5.5 championship that year and a bronze medal in the 1964 Olympics!

Amateur "improvements"

One problem that can occur with amateur builders is that they sometimes want to modify the plans to suit their own ideas. A recent example of this was the elderly gentleman building a 20-foot plywood sloop. He wanted to add a clipper bow and bowsprit for appearance. That was bad enough, but he then went on to say that he also intended to fit a foot-high solid wooden bulwark along the deck edge for safety and raise the cabin height considerably for better headroom. I patiently explained to him that the bulwarks and higher cabin would add weight up high and this would seriously affect the stability and safety of such a small boat. I can only hope I was persuasive enough that he gave up his rather dangerous ideas.

Even professionals are not immune to making undesirable changes at an owner's request, unfortunately. To please his client, one builder of a 33-foot wooden cutter ignored the plans, which showed the chainplates inside the rail, and fitted outside

66 She had been scuttled off the Maine coast while being chased by a USCG cutter. **99**

chainplates instead. To make it worse, he fitted old-fashioned channels so that the chainplates stood out far enough from the hull for the turnbuckles to clear the toerail. This increased the sheeting angle several degrees, definitely impairing the yacht's weatherliness and also making an ugly interruption in her handsome sheerline. I was truly annoyed that the change was made without giving me a chance to voice my opinion or suggest alternatives. More recently, on a large midships-cockpit yacht, the owner decided he wanted more headroom in the aftercabin than

the designed 6 feet 4 inches. So, without consulting me, he and the builder came up with something that looked like a cheesebox on a raft. It provided lots of headroom but it certainly did not parallel the lines of the original aft cabin or fit in with the yacht's sweeping sheerline. I felt a bit sick when I first saw it.

An ignominious fate

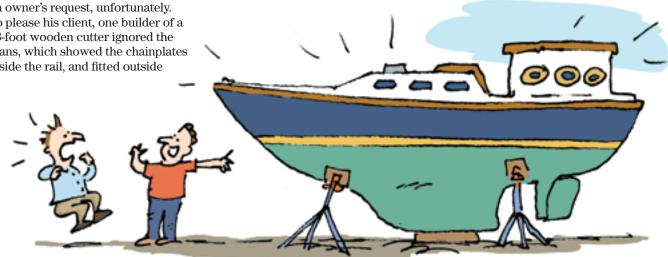
Of course, sometimes things happen that sicken everyone — the designer, the original owner, and the builder as well. The 62-foot ketch Traveller III was built under her owner's watchful eye in 1971, in Hong Kong. The hull was beautifully crafted of teak, ipol, and

bronze to standards so high that the Lloyd's surveyor said of her, "The only man who should be allowed to buy this vessel is one who would appreciate a Duesenberg."

Traveller III was placed in the luxury charter trade by her owner and his wife, cruising from Florida to the Bahamas. Then, in 1976, they decided to retire and sold the yacht to a "syndicate." Later that year, I oversaw her very complete refit in Camden, Maine. I thought no more about her until 1978, when I received a phone call from the United States Coast Guard asking if I was the designer of Traveller III. The caller informed me that she had been scuttled off the Maine coast while being chased by a USCG cutter. The next day, a USCG officer came to see me and I gladly provided a set of her plans. Eventually, divers were able to retrieve enough bales of marijuana as evidence to put the crew away for several years. Fortunately, the yacht's rigged model still sails in my office on a rippled, green-glass sea, and I often look at it and think of better days.

Builders' embellishments

It is a fact that production builders also change the designer's plans to suit their own ideas or, more often, to save a buck.



When the Luders 33 was designed in the mid-1960s, we drew in a low and handsome trunk cabin. The builder already had a 35-footer in production, and rather than make a deck mold for the trunk cabin as designed, simply altered the deck mold of the 35 to fit. This cabin had a slightly raised "doghouse" aft, which definitely took away from the classic lines that Bill Luders had created. Bill was not pleased, to say the least, and neither was his assistant — me!

On the first large production yacht I did on my own hook, a 42-footer. I drew in what is often called the "Brewer bite," a cutaway ahead of the rudder to reduce wetted surface and improve the maneuverability of the fullkeel hull. The builder eliminated this and drew the keel full length, much to my chagrin. Worse, he did not buy new mast tubes to match the specifications I had calculated for the yacht. Instead, he used tubes he already owned, a mainmast suitable for a 45-foot sloop and a mizzen that was the mainmast for his 37-foot sloop. These oversized tubes added considerable weight aloft and certainly did nothing to improve performance, but they were hell for stout!

Even worse was a rather classically styled 47-foot fin-keel ketch I designed for a private owner. The client contacted a production builder who agreed to build his boat as the first of a series and pay royalties, provided my client paid for the tooling. What a mistake! Things started off fine, but then the builder talked my client into an all-electric, 110-volt yacht with electric stove, 110 VAC refrigeration, freezer, ice maker, trash compactor, and whathave-you. To power this, he installed a heavy 10-kW diesel genset under the cockpit and fitted a heavy bronze watertight hatch in the cockpit sole for access. Naturally, the yacht had to have a teak deck, watermaker, and all modern conveniences. By the time she was launched, she was 6,000 pounds overweight and floated badly down by the stern.

I was horrified, and later, on my advice, the 10-kW genset was replaced by a 5-kW genset, the bronze

66 By the time she was launched, she was 6,000 pounds overweight and floated badly down by the stern. 99

hatch was replaced by aluminum, and the heavy trash compactor was removed. That helped, but she was never the boat I designed. That builder later went bust, the owner made a deal with Islander Yachts to build the boats, and the molds were shipped west. Amazingly, Buster Hammond, Islander's manager, built the yachts without all the foofaraw, so they floated at the designed displacement and performed the way they were designed to perform.

Compensation woes

Possibly the greatest lament designers have with production builders is their reluctance to pay the agreed royalties when they build the boats. They don't seem to mind paying the first few, but after that they tend to decide that the designer has been paid enough, even if they eventually build 200 boats! Indeed, only two or three of the dozen and a half production boatbuilders I worked for were completely honest when it came to paying the royalties they had agreed to pay when they badly wanted the new design. Of course, the designer always has recourse to an attorney, provided he can afford the fees, the court costs, the travel expense, and the wasted time. I never could.

Some of the builders simply went broke, of course. One even wound up in a Philippine jail. Others were such lousy managers that their companies eventually folded (like the one who so horribly overloaded that 47), and more than one builder was just an out-andout cheating thief.

Despite all the problems, I've had a very good 50 years in yacht design. I've met and made friends with a lot of great men: designers such as Bill Luders, George Cuthbertson, Olin Stephens, Jim McCurdy, Bob Perry, Gary Mull, Charlie Morgan, Alan Payne, and many others. Once you add in my old partner Bob Wallstrom, my many fine clients, and the superb sailors that I've had the pleasure to be shipmates with, it has been a truly wonderful career.

Ted Brewer's bio is on page 13.



Managing seasickness

Ways to cope with motion unease

by Vern Hobbs

all it *mal de mer*, Neptune's revenge, or the breakwater flu ... chances are, if you venture very far offshore, you will become acquainted with the most unwelcome of on-board guests: seasickness. This malady spares few sailors and usually amounts to nothing worse than passing discomfort, but because seasickness may become life-threatening in some cases, it should be understood, planned for, and taken seriously.

Despite what some might say, seasickness is not "all in your head." Medically speaking, it is an acute condition, meaning it isn't permanent or long-term. It's the result of a sensory conflict caused by exposure to passive motion. If this sounds uncomfortably familiar, you're not alone. Clinical studies reveal that 25 percent of those people exposed to moderate passivemotion situations experience motion sickness. NASA admits that 75 percent of its astronauts are afflicted. In short, although tolerance levels differ among individuals, most everyone is susceptible. While total immunity may be out of reach, effective prevention and treatment is not.

Preventive measures

The surest way to prevent seasickness is to determine your level of tolerance to motion and to set appropriate limits. If 4-foot seas make you nauseous, keeping to protected waters the first few days or limiting early passages to those that can be completed in 24 hours may prove wise. Establishing a limit of 3-foot seas whenever possible for offshore sailing might be a good idea, but bear in mind that individual tolerances improve with exposure; you may soon overcome that 3-foot limit.

Since mental and physical activity lessen the likelihood of seasickness, steering the boat, coiling lines, performing simple on-deck maintenance chores, or just engaging in conversation often stave off Many popular home remedies for motion sickness might already be stored in the galley.

motion-induced nausea. Physical posture, location on the boat, and visual orientation also significantly affect a person's reaction to motion. Sitting upright or standing near midships, where relative motion is less exaggerated, frequently brings relief. Focusing on the horizon may alleviate the sensory conflict

that produces seasickness. Conversely, close-focused tasks such as reading, using binoculars, or prolonged periods belowdecks may invite the onset of seasickness and worsen its symptoms.

Nutrition and hydration are key factors in the prevention of seasickness. Some things are obvious. A greasy jalapeno-and-sausage omelet probably isn't the best breakfast choice ahead of a day of heavy-weather sailing, but neither is abstention. A strong, wellnourished body withstands the rigors of motion far better than a weak and hungry one. Choose easily digested, energy-packed foods, such as boiled eggs or oatmeal, for that pre-sail breakfast. Menu planning for a cruise should follow the same logic: hearty but relatively bland fare for passages, saving the exotic, spicy dishes for quiet anchorages.

Fluid intake is also vitally important as a preventive measure and as treatment if seasickness does occur. Pre-hydration is a common practice



among athletes preparing for competition. Ensure your body is thoroughly hydrated prior to leaving the dock to fortify it against the onset of motion sickness. Then continue to drink adequate quantities of water once under way. Non-acidic fruit juices and mild teas offer variety with the added bonus of vitamins and nutrients, but they are not a substitute for water. Consume

Resources

Websites

www.scuba-doc.com www.biobands.com www.fishinkona.com www.drugs.com www.mayoclinic.com www.ncbi.nlm.nih.gov/pubmedhealth

Books

Take Care of Yourself by Donald M. Vickery, M.D., and James F. Fries, M.D. The Care and Feeding of Sailing Crew by Lin and Larry Pardey

Safe sailing

these liquids in addition to, not in lieu of, good old H_2O . Avoid caffeine and alcohol. Both substances tend to deplete and dehydrate the body. What's more, the latter may serve to block the secretion of another essential element, common sense.

Physical well-being affects tolerance to motion. Minor maladies, such as a cold or simple fatigue, may invite the onset of seasickness in conditions that would otherwise appear benign. Consider the crew's general state of health before beginning a passage. Lin and Larry Pardey's excellent book, *The Care and Feeding of Sailing Crew*, offers sound advice about health maintenance and nutrition for cruisers.

Home remedies

Ginger has long been used to treat seasickness; its effectiveness is not mere folklore. Ginger is a carminative herb, proven to increase bile secretion and stimulate digestion. A double-blind study demonstrated that one gram of ginger, taken 12 hours prior to exposure to passive motion, is effective in reducing nausea. Ginger is readily available at most grocery stores in root or powder form and is also found in processed food products such as ginger cookies and ginger ale. This spice doesn't have to be consumed raw to have an effect on seasickness. It is not

altered by cooking, so processed food products such as ginger cookies, ginger ale, and even ginger candies, such as Preggie Pops, Queasy Pops, and Queasy Drops, will produce the same soothing effect as the raw herb while adding a few carbohydrate-based calories. Another source of ginger is ginger teas. These are available in a wide variety on most grocery-store shelves and in profusion in any health-food store.

Saltine crackers will sometimes ease the symptoms of seasickness, especially



in its early stage. Saltines are easily digested and induce secretion of natural sugars that help calm the stomach. These crackers are also useful for treating prolonged seasickness, as they provide a digestible medium for replacing salt, an essential mineral needed to replenish depleted electrolytes.

Honey and cinnamon, taken together or separately, are remedies many seasoned mariners swear by. Cinnamon produces gastric benefits similar to those of ginger but is found by many to have a more pleasing flavor. Honey provides an impressive degree of nutritional value, is soothing to the stomach, and can often be held down even in severe cases of seasickness.

Non-prescription remedies

A recent visit to a local pharmacy revealed seven non-prescription drugs advertised as preventing or treating seasickness. Many of these products were variations promising enhanced effectiveness through "extra strength" or offered in a "non-drowsy formula." There were also a number of products intended specifically for children. All formulas, however, contained one of four FDA-approved active ingredients. A fifth is not yet available in the U.S.

- 1. Dimenhydrinate, under the brand name Dramamine, may be the best-known and most widely used over-the-counter motion sickness treatment in the U.S.
- 2. Diphenhydramine, another common product, is marketed under the trade names Benadryl, Banophen, and Hydramine.
- 3. Meclizine is contained in Antivert, and the popular medication Bonine.
- 4. Cyclisine is the active ingredient in Marezine.
- 5. Cinnarizine, sold under the brand names Stugeron and Stunarone, has become an increasingly popular non-prescription treatment within the global cruising community. However, this product lacks FDA approval and is not available in the U.S. or Canada.

Independent studies have found that all these products effectively relieve or prevent motion sickness in approximately 50 percent of the people tested. The labels on these products warn of a host of possible side effects (drowsiness being the most common), some of them quite severe if the product is not used properly. Caution and perhaps the counsel of a physician is advisable, especially when contemplating frequent or prolonged use of these medications.

Wrist bands, sold under brand names such as Sea Band or Bio Bands, have recently found wide acceptance in the prevention of seasickness. Employing the ancient principle of acupressure, the bands work by applying a light, steady pressure to the Nei Kuan, or P-6 pulse points located in the wrist. A more advanced version delivers a mild electrical shock to the same points. Many sailors report that acupressure bands are effective, adding that the bands produce no side effects and have the further advantage of being reusable.

Prescription remedies

If common preventive measures and non-prescription medications fail to prevent or effectively reduce the symptoms of seasickness, a physician may prescribe more powerful drugs. Cruising sailor Fred Bagley, M.D., points out that many doctors lack extensive experience treating motion sickness. He wisely counsels, "Educated patients who make their problems clear to their doctors are very important."

Your doctor may prescribe Scopolamine, often administered via the popular Transderm-Scop patch or sold in tablet form under the name Scopace. Following its initial release, Scopolamine was recalled amid fears it contributed to birth defects. It was later reintroduced in a modified form and has a reputation for effective and consistent results. NASA considers Scopolamine the most effective motionsickness medicine, reporting 75 percent effectiveness in clinical testing. However, some users have reported visual distortion while on the patch. Scopolamine should *not* be used if you have glaucoma, and it is not presently available for children.

Phenergan, compazine, ephedrine, promethazine, and emetrol are also sometimes prescribed to control seasickness and may even be available outside the U.S. without a prescription. However, these are powerful drugs that

66 With the passage of time, the symptoms of seasickness will usually lessen, become sporadic, and subside. 99

may produce significant side effects. Don't experiment; consult a doctor before taking new and unfamiliar medications.

First aid

With the passage of time, the symptoms of seasickness will usually lessen, become sporadic, and subside. Seasickness that persists unabated beyond 24 hours and involves frequent vomiting, however, will result in dehydration and must be treated as a medical emergency.

Divert to a safe port, if possible. Continue to employ the preventive techniques discussed and administer any appropriate remedies and medications available, while being mindful of known allergies and cautionary labeling. Encourage the afflicted crewmember to sip water. Provide saltine crackers, honey, applesauce, and salty broths in small amounts but at frequent intervals. Consult all available first-aid or medical publications. Consistently monitor the person's condition. Should it worsen, consider transmitting a distress

Ginger cookies

Fred and Jennifer Bagley make sure they have ginger cookies on hand before each passage. They figure a cookie or two each day may just keep seasickness at bay. Even if this recipe doesn't cure *mal de mer*, these cookies are mouthwatering good. *–Editors*

Directions

In a large bowl, combine ³/₄ cup shortening,1 cup sugar, ¹/₄ cup molasses, and one egg.

In another container, combine 2 cups flour, 2 teaspoons baking soda, 1 teaspoon cinnamon, 1 teaspoon ginger, and ½ teaspoon ground cloves.

Blend flour mixture into the sugar batch. Chill the mixture for an hour or so. message requesting medical assistance or possibly evacuation.

Conclusion

As your sailing horizons broaden, seasickness, pardon the pun, is bound to come up. When it does, don't ignore it or treat it as a joke, but don't consider it to be a cruise-ending calamity. Employ the preventive measures and remedies outlined, remembering that what works for one person may not work for another. Keep experimenting, within the bounds of safety, until you discover which methods work best for you and members of your crew. Address seasickness as you would any other disruptive event - equipment breakdowns or unexpected bad weather — with knowledge, teamwork, and sound judgment. \varDelta

Vern Hobbs and his wife, Sally, sail a Bristol 35 from their home port of Cape Canaveral, Florida. Check out Vern's new novel, Flying Fish, as well as his maritime art at www.flying-fishcreative.com.



To bake, take a small spoonful, roll the batter in your hands into a round ball, dip it in sugar, and place on cookie sheet.

Cook in moderate oven (approximately 350 F). Cookies will have a cracked surface. Take them out after 10 to 12 minutes, depending on whether you want them crispy (cook a bit longer) or chewy (remove from the oven a bit sooner).

San Juan 24

A well-built, IOR-inspired racer/cruiser

by Gregg Nestor

s with many boat companies, the Clark Boat Co., maker of San Juan sailboats, evolved from humble beginnings. It all began with Robert Clark's passion for sailing. In 1960, he convinced his wife and family to move from their home in Toledo, Ohio, where he worked in the automotive industry, to the Seattle, Washington, area. Soon after relocating, Bob set up shop in the town of Kent, where he began building fiberglass boats. The first boat built under the Clark Boat Co. name was a Lightning, and the company's product line soon included OK and Optimist dinghies, Thistles, International 14s, 505s, and Stars.

The company's first "big boat" was the San Juan 21, a trailerable keel/centerboarder introduced in 1970. It was designed by Bob's son, Don, a degreed engineer who had also studied naval architecture. It was an immediate hit and eventually more than 2,600 were sold.

Capitalizing on the success of the San Juan 21, the Clarks set out to build a larger boat, and contracted Canadian Bruce Kirby, who had drawn considerable attention for designing the Laser, to design a keelboat that would be competitive under the International Offshore Rule (IOR). The result was the San Juan 24, which achieved great success racing as a Quarter Tonner and was the most-measured IOR boat in the world by far, with hundreds having IOR certificates. More than 1,000 San Juan 24s were built during its production run from 1972 through 1981. In the years that followed, the company produced performanceoriented pocket cruisers ranging in size from 21 to 34 feet. Unfortunately, after growing rapidly in the 1970s, the sailboat market lost momentum in the 1980s. After building 6,000 San Juans and 2,000 dinghies, the company was sold in the spring of 1984 to the newly formed San Juan Manufacturing.

12669

After a couple of years, that company went bankrupt, and the molds and rights were subsequently divided between a group on the West Coast and another on the East Coast. The eastern group produced a few boats in the Tanzer factory in Edenton, North Carolina, and both groups ceased operations in 1988.

Brad Hite searches for a

zephyr on Lake Eri<u>e on his 1977</u>

San Juan 24, *Crew's Control*.

Crew's Control, our review boat, is a 1977 San Juan 24 owned by Brad Hite, who sails on Lake Erie out of Sandusky, Ohio. He's constantly working on the boat and has made several upgrades. He has added shorepower and LED lighting, installed Garhauer blocks and a custom vang, replaced the fixed portlight lenses (while also buffing out the aluminum frames and adding weep holes), installed roller furling and lazy-jacks, and refinished all the interior wood and exterior brightwork.

Design and construction

When the IOR became popular in the late 1960s and early 1970s, the Clarks were set to get in on the action. Don wanted the boat to be trailerable, like the San Juan 21, so he told Bruce Kirby that he would have to design it with a maximum beam of no more than 8 feet and draft no greater than 4 feet. While Bruce felt that these restrictions would limit the boat's potential performance, history proved that they had a marginal effect on the boat's popularity, much of which was due to its shoal draft and trailerability.

Bruce, who had designed a few dinghies but had not yet had a keelboat design launched, kept the San Juan

66 The Clarks employed a vacuum process to eliminate voids when bonding the liner into the hull. **99**

24's dimensions within those Don had set and designed a boat that would measure in for an IOR rating of 18. The result was a relatively beamy, moderate-displacement boat with a narrow entry, a pinched stern, and a tiny transom — it displayed all the design elements associated with the IOR in that period. To make up for the limited draft, he specified a heavy lead keel to gain the needed stability. Throughout its production, the San Juan 24 underwent a series of minor design changes. Early models, sometimes referred to as the Mark I version, had a flat transom with a track for an outboard-motor mount. The later Mark II had a molded wedge on the transom that allowed a scissors-type motor mount. About midway in the boat's production, the rudder was made deeper to provide more control





The mainsheet traveler on the San Juan 24 is fitted forward of the companionway hatch, above left. The hatch slide is not protected by a sea hood. The tiny transom, above right, dates the boat as an early IOR design. Large lockers are fitted under the aft and port seats in the spacious cockpit, below left. The foredeck is quite uncluttered, at right.





Review boat

when the boat was under spinnaker downwind. Among other changes, the forward fiberglass hatch was replaced with smoked acrylic and the round-tube spreaders were dropped in favor of tapered airfoilshaped spreaders.

The Clarks took great pride in the construction of their boats. The hull of the San Juan 24 is hand laid with fiberglass mat, woven roving, and cloth. Sandwich construction stiffens flat surfaces such as the deck, which is cored with balsa.

Unique for the time, the Clarks employed a vacuum process to eliminate voids when bonding the liner into the hull. After applying a resin-based putty to one part, they set the liner in the hull and applied a vacuum to the assembly until the resin had cured.

The hull and deck were glued together with epoxy, after which the aluminum toerail was bolted in place. This combination of chemical bonding and mechanical fastening resulted in an extremely strong and watertight hull-to-deck joint.

Deck features

The foredeck of the San Juan 24 is obstacle free, allowing the crew to move about easily when making sail changes, anchoring, or docking. The forward portion of the cabintop slopes toward the stemhead fitting and the forward hatch is located on this sloped area. On each side of the cabin trunk are two fixed portlights, a small oval one forward and a much larger one aft.

The self-draining cockpit can comfortably seat a crew of four. It has a deep footwell that's narrow enough for good bracing and reasonably high coamings that provide adequate back support. A cavernous locker to port and a bona fide lazarette give the skipper and crew ready access to all the boat's safety equipment and other gear required on deck.

The companionway opening is rather large and the sliding hatch lacks a sea hood. Should the cockpit get pooped, there's no bridge deck to keep water out of the cabin. In foul weather or rough seas, it would be prudent to keep the lower hatchboard in place.

Along with a black-anodized aluminum toerail, a stainless-steel bow pulpit and single lifelines secure the



The absence of a full main bulkhead opens up the interior to light and good ventilation.



San Juan 24

Designer: Bruce Kirby Builder: Clark Boat Co. LOA: 24 feet 2 inches LWL: 19 feet 0 inches Beam: 8 feet 0 inches Draft: 4 feet 0 inches Displ: 3,300 pounds Ballast: 1,600 pounds Sail area: 231 square feet Mast: 28 feet 11 inches Disp./LWL ratio: 215 Sail area/disp. ratio: 16.7 deck perimeter. The relatively narrow cabintop makes for functionally wide sidedecks. Molded-in nonskid is incorporated into all horizontal surfaces. These features, combined with the cabintop handrails, make for easy and reasonably safe movement from cockpit to foredeck.

Brightwork and its corresponding maintenance is kept to a minimum. Early San Juan 24s had a laminated tiller and teak handrails, companionway trim, and hatchboards. The teak handrails were replaced on later models with anodized aluminum.

Accommodations

A large chain locker occupies the San Juan 24's narrow bow and the V-berth, immediately aft of it, has reasonable foot room at its forward end. Beneath the berth is a storage area and a place for a portable toilet. The forward hatch and a pair of portlights deliver plenty of light and ventilation into this forward cabin and a partial bulkhead to port and a curtain provide privacy.

The saloon is designed in what naval architect Bob Perry calls the "California layout," with the galley running longitudinally down the starboard side of the main cabin and a dinette opposite. The advantage of this configuration is a big galley; the disadvantage is that all the crew are crammed into a small dinette for meals and relaxing. Nevertheless, it's a very popular layout.

The very basic galley consists of a molded-in sink with hand pump, a countertop, and associated lockers, shelves, and cubbies. The dinette seats four, and the laminate-topped table can be lowered and the cushions rearranged to convert it to a double berth. Outboard and above the dinette is a series of stowage cubbies. The large smoked portlights provide light and eliminate the need for curtains.

A single quarter berth, with bin stowage beneath, is aft of the galley. Additional stowage spaces are provided beneath the cockpit sole and under the fixed companionway step.

The partial forward bulkhead and the white liner give the San Juan 24's interior a bright and airy openness. Headroom is 5 feet 2 inches. With the exception of the teak-veneered bulkhead, almost all interior surfaces are low-maintenance fiberglass. The only non-fiberglass



The dinette, on the port side of the saloon, at left above, converts to a double berth. Oval storage compartments above it have a shippy look while saving construction weight. The compact galley, at right above, is an example of how the Clark Boat Co. employed advanced manufacturing techniques. Aft of the galley is a quarter berth, below. A portable toilet is kept behind the companionway step.

surface is in the V-berth cabin, where the hull is lined with a foam-backed fabric.

The rig

The San Juan 24 is rigged as a masthead sloop with a deck-stepped mast, single spreaders, internal halyards, and jiffy reefing. Standard hardware includes Barlow #16 primaries and a #14 halyard winch. Harken blocks are used throughout. Full-length headsail tracks are situated well inboard for close sheeting. The mainsail is sheeted mid-boom to a traveler that spans the cabintop.

Under way

The San Juan 24 has a repution for sailing very well in light air and also in winds above 20 knots. It is very closewinded and handles well upwind. Dead downwind under spinnaker, however, it exhibits the erratic behavior typical of many IOR designs of the period and often attributed to narrow sections in the aft underbody.

For comparison, in fleets around the U.S., the San Juan 24's PHRF rating is between 216 and 222 seconds per mile, virtually the same as the Catalina 25 and a little faster than the C&C 24. The J/24, however, rates 171, which shows you the extent to which boats have become lighter, shallower, and faster over the years.



For auxiliary power, a 6-hp outboard is sufficient to propel the San Juan 24 during periods of calm and for maneuvering in tight quarters.

Things to check out

While well built, the San Juan 24 isn't perfect. The newest are 30 years old, so expect some deficiencies due to age and, possibly, to poor maintenance.

Balsa-cored decks are always a potential source of problems. If deck fittings have not been periodically rebedded, water will have seeped into the core. This rots the balsa and leads to delamination of the fiberglass skins. Sound out the deck, especially around all the fittings, including the mast step. Also spend some time sounding out the cockpit sole. Softness underfoot or a cracking sound suggests that the sole's core is rotten. Inspect the entire length of the compression post, which can crack under the stress imposed by the rig. In particular, examine the base of the post where rot can set in if water has collected there when the boat has been left unattended.

Carefully check out the chainplates and the wooden bulkheads to which they are attached. Discolored wood indicates water ingress, which could result in weakening of a bulkhead and corrosion in a chainplate.

Conclusion

The San Juan 24 is a great little trailerable pocket cruiser that has been extremely popular for many years. Owners keep in touch through an active owners association at <http://groups.yahoo. com/group/SJ-24>. For a couple or a family with small children, it's suitable for long weekends on protected waters. For those interested in performance, the San Juan 24 is a particularly strong competitor. A check of the used-boat market shows a price range of \$3,000 to \$10,000, with age, condition, and equipment being the determining factors.

Gregg Nestor, a contributing editor with Good Old Boat, has had a lifelong interest in all things aquatic. He and his wife, Joyce, are currently refitting, upgrading, and sailing a 1994 Caliber 35.

Boat noodling

Obsessive design disorder became a career

by Dave Gerr

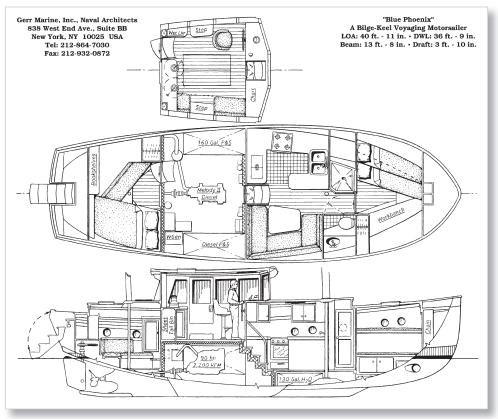
ho can say when the first hint of the madness appeared? Was it on my first sail on a Lightning at age 12? I hadn't been aboard for more than 15 minutes when I was working out how to make a camp cruiser out of her. Perhaps it was when I was reading Jack London's The Sea Wolf? Pacing back and forth between chapters, I meticulously calculated how to re-rig Ghost so she could be easily singlehanded. Or maybe it was triggered by Jules Verne's Twenty Thousand Leagues under the Sea? If ever there was a vessel in need of redesign, it was certainly the Nautilus. I bet I could still dig up some of my sketches.

You get the idea. I can't see a boat — any boat — without feeling the urge to know how she works, how she was built, how she behaves, and then, naturally, to improve her. Hours, days, weeks of study, sketches, calculations, more sketches — if I reshaped the entry, adjusted the rudder form and location, and switched to a ketch rig ...

This is boat noodling. A compulsion and obsession, it borders on madness. It's a happy and benign madness, to be sure, but try to explain that to someone not so afflicted.

Since you're reading *Good Old Boat*, the chances are you, too, are a compulsive boat noodler. How many boats have you looked at, dreamed of owning, schemed to improve, labored to repair? How many articles, boat books, and plans have you pored over? How many sheets of checklists and sketches are lying about your house, on the seats of your car, or on your office computer?

The fact is, I get as much satisfaction out of noodling boats as I do sailing them. Indeed, the noodling may be more than half the fun — if "fun" be the word. There are very few things



This interior arrangement is the result of hours of noodling, with the eraser as much as with the pen.

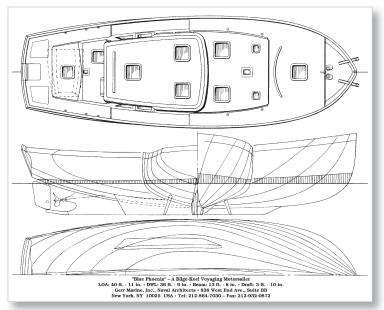
that equal the deep gratification of the hours, weeks, months, even years of noodling, followed by putting your plans into effect and then seeing them come successfully to life. And that's not even taking into account the rewards of enlightening less well-versed friends on the pros and cons of such things as high-aspect keels, cored-composite construction, proper roll period for comfort, and so on. There's that further satisfaction in simply understanding and then discussing all these wonderful things about boats.

Most people noodle boats for a pastime. Some few of us — the most misguided — noodle boats for a living. We call ourselves naval architects or boat designers. My college friends (who call themselves doctors or lawyers or financial managers) make, oh, a fair bundle more than I'm likely to as a boat designer, but I wouldn't trade with them for a minute. (I told you it was a madness.) Heck, I get *paid* to noodle boats, and it's pretty much all I do.

Noodles begin with doodles

Professional designer or weekend sailor, it all starts with ideas. There's a beautiful boat ... one you'd love to own. You'd need to make her a bit longer (or shorter), maybe modify the keel design, then balance that with a modification to the rig, and — of course — the arrangement needs some adjustment. Two weeks and three pads of paper later you have a new design. Truly the one ... until the next time — or in my case the next client.

A good example is *Blue Phoenix* (Gerr Marine design no. 106). I started



with sketches of the arrangement plan and profile, then estimated displacement and went on to preliminary calculations of the hydrostatics and sail area. From there, it was off to a more detailed preliminary lines drawing, then still more detailed arrangement sketches checked against the joiner sections. (You simply must check everything in all three views: plan, profile, and joiner sections to be sure it will really fit into the odd shape of a boat.) Next came sketching and re-sketching the sail plan. It's not easy getting the right amount of sail area (plenty, for *Blue Phoenix*) to match the righting moment of the hull and place it in the fore-and-aft location where it will give the proper balance to the helm.

Next up for consideration is the machinery: engine, tanks, exhaust run, and more — back to the sketches again. There has to be room for a properly sized propeller and access to the engine. The tank capacities need to be worked out and the tanks located so they won't negatively affect boat trim from full to empty — back to adjust details of the arrangement and the pilothouse.

Blue Phoenix is to have less than 4-foot draft with bilge keels to take the ground upright and level anytime and in safety. Those bilge keels have to be located correctly for helm balance.

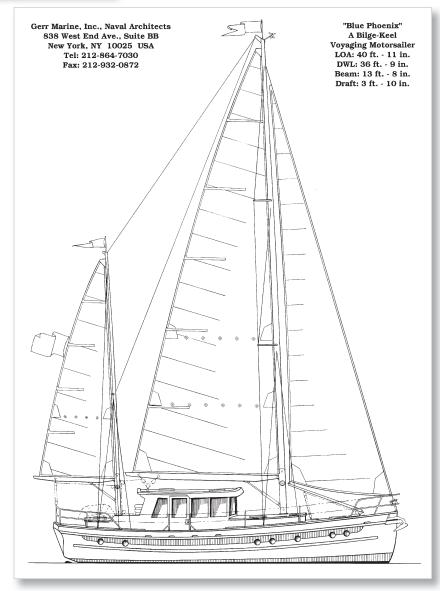
One of *Blue Phoenix*'s intended cruising grounds is the Baltic. It can get cold and nasty, hence the motorsailer with enclosed wheelhouse. Hmm, have to work out a way to trim the sheets from inside the wheelhouse.

What about access to the water from on deck? Can I fit a folding transom ladder? A few sketches later and *Blue Phoenix* can have better than that: true fold-down transom With the interior sketched out, it's time to define the shapes of the hull and the deck structures, at left, while keeping in mind the desired appearance of the finished design, below. That takes more pleasant hours of noodling.

steps integrated into the stern in the lazarette. When they're folded up, you'll never know they're there. Add a counterbalance weight and the operation is effortless, one handed.

At last, it's time to redraw everything in final form. It's been weeks of noodling, but *Blue Phoenix*'s drawings have come to life. \varDelta

Dave Gerr is Director of the Westlawn Institute of Marine Technology and chief designer of Gerr Marine, Inc. He's the author of Propeller Handbook, The Elements of Boat Strength, The Nature of Boats, and Boat Mechanical Systems Handbook, all published by International Marine/McGraw-Hill.



Rigging mattters



A strong word for the single-spreader rig

Contrary to Internet rumors, it is not weak

ecently, in online sailing forums, I have seen self-proclaimed pundits advise sailors new to yachting that single-spreader rigs are not as strong as double-spreader rigs. This is utter nonsense, and since most good old boats have single-spreader rigs, it's time to set out the simple truth: a properly designed singlespreader rig is every bit as strong as a double-spreader rig and even has some advantages in reliability.

Several methods are used to determine spar requirements, based either on wind speed or the boat's stability. I have

by Ted Brewer

used both but I usually preferred the long-established Sparkman & Stephens system, which takes the righting moment (stability) at a 30-degree heel angle as the basis for the calculations. The compression load on the mast is then determined by the righting moment and the distance from the centerline of the hull to the chainplates.

Once the mast load is calculated, the next factor is the length of the unsupported mast panel from the deck to the

lower spreaders. The distance will be greater for a single-spreader mast than for a double-spreader rig, of course. Given equal mast loads, the formula will require that the single-spreader mast tube have a higher athwartships moment of inertia (Note: In layman's terms, a beefier cross section. -Eds.) than a double-spreader mast. Naturally, that is what the designer will specify and will consider when selecting the mast tube.

The calculation for the fore-and-aft requirement is based on the total distance from deck to masthead, modified for a 7/8 rig. I do like to see a bluewater cruiser fitted with a staysail stay and running backstays. But, even without runners,

the higher athwartships moment of the single-spreader mast tube usually ensures that the selected tube will have a high fore-and-aft moment as well.

In essence, the single-spreader rig will be given a spar that is wider athwartships, longer fore and aft, and heavier than a similar double-spreader mast. So overall, the single-spreader rig will be equally capable of handling the expected athwartships mast loads and will often be stronger than required fore and aft.

Single-spreader advantages

In addition, the advantages of the single-spreader rig to the cruising sailor are several:

- The single-spreader rig is easier to tune than a double-spreader rig.
- The single-spreader mast with double lower shrouds has six rigging terminals per side. The double-spreader mast has eight, unless there is a

66 I would not choose a cruising sailboat based on whether it has a single- or double-spreader rig. **99**

it has a single- or double-spreader rig. There are too many other factors that affect a vessel's offshore

connection at the lower spreader tip, in which case it will have nine. Many mast failures are actually the result of a rigging terminal failure so the fewer terminals to fail, the better.

• The heavier spar of the singlespreader rig increases inertia to motion in light air and beam seas and can slow the roll.

Of course, there are advantages to the double-spreader rig on a racing or performance yacht. Given the same angle of the shroud to the mast, the distance from the centerline to the chainplates will be reduced. That allows the chainplates to be moved well inboard and the headsails to be sheeted more closely for improved weatherliness. Still, on a long, bluewater voyage, the overall advantage is often very slight indeed. In any case, I would not make a choice of a cruising sailboat based on whether capabilities and all must be considered.

The main purpose of this short rant is to emphasize that you should not believe everything you see on the Web, especially in sailing forums. Many of the writers have considerable sailing experience and can offer good advice. Others may be opinionated but relatively inexperienced, as well as uneducated in the engineering and design of sailboats. Unless you know the experience, qualifications, and design expertise of the writers, take their opinions on rigs — and all other aspects of design, handling, and cruising — with a very large grain of salt. ⊿

Ted Brewer's bio is on page 13.

As the photographs show, single-spreader rigs have stood the test of time alongside their double-spreader kin on a great variety of good old boats.



Cruising memories

We rescued *Hee Haw* from death at the hands of a boatyard employee armed with a can of gasoline and a match. She was a 16-foot open sailing dory, but to a 7-year-old boy, she was the sovereign of the seas.

It was the spring of 1968, and my father was looking for a small family daysailer for the Connecticut shore of Long Island Sound. At a local marine store, he was offered several fiberglass boats, but in those days, hard as it is to believe now, there was still considerable prejudice against fiberglass sailboats. They were heavy, ugly, and people wondered if, on a hot afternoon, the fiberglass would return to the state of goo from whence it had come.

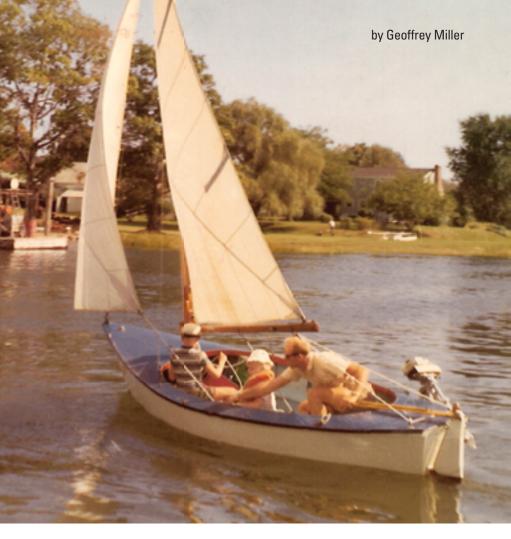
Then, in a back corner of the boatyard, an old deteriorating Grand Banks dory caught Dad's eye. I watched curiously as he probed her with his pocketknife. He explained that there was some rot in the centerboard trunk, but the keel and frames were sound and the plywood planking was OK. She was a sad mess to look at. The paint was peeling and her mast, rudder, tiller, and rusty metal centerboard lay on the ground beside her. The salesman said this boat was beyond repair and they were going to burn it to salvage the bronze fastenings. However, she had a beautiful suit of cotton sails: a mainsail and two jibs. No one knew her history or why a derelict would have a suit of almost-new sails. Dad bought the sails for \$100 and the salesman, thinking Dad was nuts, threw in the dory.

The next morning, we went to get her with a rented boat trailer and the help of a neighbor who, when he saw the boat, also looked at my father as if he were nuts. But I never doubted my father's sanity. We had our very own boat.

As they loaded her onto the trailer, Dad told me to go find the sail battens. I had no idea what sail battens were. He explained and off I went, picking up every stick of wood in the yard that fit his hasty description. Unaware that we only needed three, I returned with an armful of wooden slats and tossed them into the trunk of the car. We now had a set of sail battens and enough paint stirrers to last us 10 years. Then we took our new yacht home.

From trash to treasure

Reviving a derelict dory sparked a young boy's passion



The apprentice boatbuilder

Throughout the following months, we spent our weekends working on *Hee Haw*. I was learning about boat carpentry and having a great time. When we went to a local lumberyard that sold marine-grade lumber, I couldn't understand why Dad would sort through an entire stack of boards, pick out one or two, and then restack what he didn't want. The wood on the top of the pile looked OK to me. But he taught me how to properly select lumber, especially for structural marine carpentry. The skills I learned while working on that boat, even little things like rubbing wood screws on a bar of bath soap to make them easier to drive, still serve me well today.

We replaced the centerboard trunk and everything else that was even slightly doubtful. I learned that "the best part of perfect is that sometimes it's 'good enough." I lived by this philosophy as an aircraft mechanic and a flight engineer throughout my 24-year Air Force career.

The dory's hull was open, without decks, so we added decks that surrounded an elliptical cockpit. We sanded the entire boat nearly to bare wood and repainted it. We fastened an oak motor mount to the starboard quarter because a dory's tombstone transom is too narrow for both an engine and the rudder. The steel centerboard was slightly bent and wouldn't pivot without jamming in the trunk, so we hastily set it up as a daggerboard. We refinished the mast and fitted it with a tabernacle to make it easier to raise and lower.

I enjoyed shopping for equipment for the "new" boat. I thought all that shiny new marine hardware was fascinating. Now, at nearly 50, I still find shiny new marine hardware fascinating. We bought most of our equipment at a nearby surplus store that had all kinds of neat stuff. Standing in the middle of the store was an old throttle stanchion that must have come off a battleship. It had the lever marked with "full ahead," "full astern," and so on. I wondered why we couldn't use this in our boat.

Launching day

Sometime in mid-August, *Hee Haw* was ready to go. We rented the trailer again and loaded her the evening before the launching. The only thing she needed was floorboards. Dad quickly made some out of scrap wood and slapped some paint on them. They were just slats nailed together to lie on the floor timbers, but they would do for what little remained of the New England sailing season.

It was a beautiful day in August 1968 when we brought *Hee Haw* to the launching ramp on the Housatonic River.

Although it was more than 40 years ago, I remember that day as if it were last week.

Dad and I towed the boat behind the Chevelle while Mom and my 6-year-old sister, Robin, followed in the Corvair. Dad set up the mast and rigging once Mom returned from a nearby chandlery with some crucial parts — possibly replacements for clevis pins that had jumped overboard.

When the rig was ready, *Hee Haw* was launched at long last and anchored a few yards from shore. Dad scooped me up in his



Hee Haw, facing page, was a joint effort between, Geoff, his sister, Robin, and their father, at left, and the first of several garage projects. **Geoff learns** the finer points of sail trim, below.

arms and, wading out to the boat, put me aboard. As he was climbing aboard himself, he remembered something he needed to get from the car. Wading back to the launching ramp, he saw a look of horror cross my mother's face. He had left the boat, thinking I was safely stowed for the moment, but I had jumped into the 4-foot water to follow him back to shore. The fact that I could neither swim nor keep my head above water hadn't occurred to me. He turned around, put me back into the boat, put a life jacket on me, and told me in no uncertain terms to "stay put."

The maiden sail

Mom left with Robin to return the trailer while Dad and I departed on our maiden voyage. We only had to start the outboard and haul up the anchor. The outboard was a brand-new Sears Roebuck 3-hp motor. Dad had run it that morning to make sure it was ready. It started right up on the barrel, but now it was on the boat. He pulled the starter rope maybe a dozen times but it wouldn't start. Although I didn't know it at the time, there was ironic humor in this because the name *Hee Haw* was taken from a boat my great-grandfather had in the early 1900s. It had

> a very stubborn one-lung engine that would start with great difficulty, sputter for a few seconds, and then quit, making an "eee-aaw" sound as it stopped.

Anyway, in my memory it seems as if my father pulled on that starter rope for hours. Eventually it started and away we went down the Housatonic River toward Long Island Sound. And so began my very first boat ride on what was truly the quintessential good old boat.

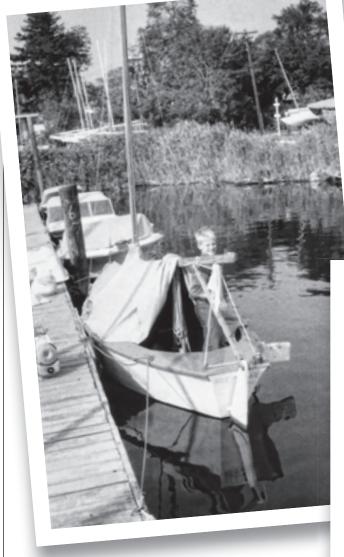


Cruising memories

As we headed down the river, Dad let me steer as he got the sails ready. I remember him telling me to just move the tiller the opposite way I wanted to go. Now that I was a fully qualified helmsman, I was ready to sail. A little farther down the river we hoisted the sails, shut down the motor, and approached Long Island Sound under sail. As we entered the Sound, I could see land far away on the horizon.

My mother had often spoken of her childhood home in Germany, and had explained that Germany was a country far away on the other side of the ocean. When I saw what appeared to be a faraway land on the horizon, I was sure it was Germany. I asked Dad if someday we could sail to Germany and see where Mommy came from. He laughed and explained that the faraway land I was seeing was Long Island, about 12 miles away. I was disappointed.

We turned east toward Milford and sailed around Charles Island to the beach where Mom and Robin were



Geoff's family kept *Hee Haw* in Milford Harbor, Connecticut, where they had sheltered waters and easy access to Long Island Sound.

waiting for us after they returned the trailer. Then the four of us set sail back toward the river.

It was early evening as we sailed into the mouth of the Housatonic River, which was very congested with boat traffic heading in the same direction. Dad dropped the sails and started the outboard as the wind went down with the sun. We made our way up the river, fighting the outgoing tide, until we finally reached the launching ramp. Mom and Robin jumped off so they could pick up the Corvair and drive to my aunt and uncle's house farther up the river where we were going to dock the boat. After Dad lowered the mast into the boom crutch so we could pass under a railroad trestle, we got under way again.

By now, it was dark. Very dark. To get to my uncle's dock, we had to leave the main channel and navigate through narrow creeks that wound through the marshes. In daylight, this wasn't difficult; their house was easy to spot from the main channel. But finding our way in darkness with only a battery lantern wasn't so easy. We followed what we thought was the right creek, but it brought us to a restaurant a mile or so farther up the river than we wanted to be. Once Dad knew where we were, we turned back and soon found Uncle Jack's dock. The boat was put away and we went back to Milford to retrieve our other car and then went home. And so concluded one of the most memorable days of my entire childhood.

A confirmed sailor

For the next two months we sailed nearly every weekend. By summer's end, I was hooked. My sister became an avid sailor as well. My mother appeared to have a good time, but I found out years later she hated every minute of it. I think it might have had something to do with the time we were late getting back to Uncle Jack's dock with a rapidly falling tide. I'm reminded of that day whenever I watch Katharine Hepburn drag the *African Queen* through the swamp.



Fortunately, there are no leeches in the Housatonic River. If there were, I think *Hee Haw* would have met the fate that she narrowly escaped at the boatyard. It wasn't until 17 years later, when they bought a very comfortable Hallberg-Rassy 29, that Mom finally realized that the phrase "g**d***boat" was actually three separate words.

Although I was quite prone to seasickness as a child and spent many afternoons leaning over the leeward rail, I never tired of sailing. Robin would curl up on the sailbags and spare life jackets under the foredeck and read. No matter how badly the boat got tossed around, she never got seasick.

When that first season ended, we hauled *Hee Haw* home and put her away for the winter. The following spring, we made new seats with storage lockers beneath them and properly fitting floorboards. The sheets kept snagging the

slats; one day when we jibed, half the floorboards flew up out of the bilge and went overboard. My grandfather had a friend in the steel business who gave us a piece of stainless steel for a proper centerboard that could be raised and lowered with a lanyard.

The following year, we kept the boat in Milford Harbor because motoring down the Housatonic River to the Sound and back took most of the day by itself. The Sears outboard, which we needed to push us up the river against a 4-knot tide, was replaced with a quieter and lighter Evinrude Mate "horse-anda-half," which I still have. A year or two later, we finally got our own trailer.

Lessons for life

I learned a lot while working on and sailing *Hee Haw*. I learned about carpentry, sailing, small-boat handling, and basic seamanship. As we

sailed, Dad taught me to splice rope and tie bowlines, square knots, and clove hitches. These lessons were great because I wanted to learn everything I could about sailing, and they also kept my mind occupied, which minimized the seasickness. For some reason I was never able to master the sheet bend. I can still eye-splice, back-splice, and long-splice, but I cannot tie a sheet bend to save my life.

The most important lesson I learned was that if something worked well once, it can usually be made to work again. Even though someone said *Hee Haw* was beyond repair, we repaired her and enjoyed her immensely for seven years. Since then, I have fixed many things, some of which I probably should have thrown away, only *because* someone told me, "That can't be fixed."

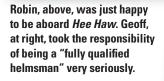
My own career was quite different from my parents' careers, so I wasn't able to share the good-old-boat

lifestyle with my kids in the same way that my parents shared it with me. But last year, my daughter, who was 18 years old, spoke of one of her fondest childhood memories. When she was 5 years old, she and I would motor up and down the Suisun Slough in northern California in the 7-foot-11 Dyer Dhow that's been in the family since I was 11, powered by the Evinrude horse-and-a-half. That was the only boat I had at the time and I never realized how much those trips meant to her until last year.

We enjoyed *Hee Haw* until 1975, when we sold her because we had completed our next garage project. Her successor, *Robbery*, was a 21-foot Ted Brewer-designed cruising/racing sloop that Dad, Robin, and I had built from scratch. I had a difficult time dealing with the prospect of parting with *Hee Haw* at first, but we were beginning a new

era of sailing for our family. And that is another story for another time. Δ

Geoffrey Miller was born and raised in southern Connecticut. He sailed on Long Island Sound from age 7 until he enlisted in the U.S. Air Force in 1983. In 2007 he retired from active duty and settled in upstate New York, where he works as a manufacturing engineer for a major corporation. Geoff and his son sail their Laser on Saratoga Lake.





Cooking without pressure

A drop-in alcohol stove is an easy, functional fit

ike most older boats, ours came with a worn-out and obsolete stove. *Sarmiento*, our Bristol 35.5, had a pressurized-alcohol fixed-mounted stovetop that had seen better days. It wouldn't fit our needs for several reasons. We wanted a gimbaled stove so we could cook while under way. In fact, many of the anchorages that we expected to visit are very rolly. There would be times, we knew, when the anchorages would present more of a challenge to cooking — with pots flying — than when we were under way. We also thought a pressurized-alcohol stove was inefficient, cranky, and somewhat dangerous because of flare-ups.

For all these reasons, I set off on "the great stove search." It was easy to eliminate the pressurized-alcohol stove. I also quickly discarded kerosene stoves, which cook reasonably efficiently but have other drawbacks. They may be even crankier than pressurized-alcohol stoves and, in addition, produce some black soot, have a distinct odor, and require regular maintenance.

High-end propane stoves and compressednatural-gas (CNG) stoves are very similar to the natural-gas stoves in many homes, and cooking on one would not be very different from cooking on the natural-gas stove in our house. However, I soon realized I couldn't afford a high-end propane stove.

I then began to look at installing a less expensive propane or CNG stove with oven, but soon discarded the CNG option because it is difficult to obtain CNG outside the U.S. Thus, my original search pointed to a propane stove and oven. By the time I was done, however, I would go in a different direction.

Problematic propane

After I started to design a propane system for my boat, I was taken aback by the additional costs and complexity of the installation.

Since *Sarmiento* didn't come with a propane stove as original equipment, I needed to find a place to build a propane locker or lockers. I say "lockers" because I would want at least two tanks on board. With one tank it is possible to run out of propane in the middle of nowhere. That can cause severe coffee withdrawal, something I really wanted to avoid.

Finding a place to build two lockers with overboard drains to keep propane leaks out of the boat was not easy. Nor would the installation be cheap, as I would have to buy two propane tanks with regulators and, for safety, a gas detector and control system. I probably would hire someone to install the necessary plumbing and safety systems, because the last thing I would want is to blame myself if my boat blew up due to a faulty installation. The cost of the additional equipment and installation would more than double the original cost of the stove. And, in the end, I would always be a little nervous.







Neat alcohol solution

As this debate raged within me, I discovered the Origo non-pressurized alcohol stove. To install the Origo stove, all I needed to do was remove the old stovetop and the air conditioner below it and fit

by Carl Hunt

the stove into the opening. It would be quick and easy and it would save many hundreds of dollars.

I was a little skeptical about the heat potential of an alcohol stove. However, various sources indicated that the stovetop would produce somewhere between 5,000 and 7,000 Btu per hour at the burner. Although propane potentially can supply greater heat, as a practical matter, lower-end propane stoves tend to produce 6,000 to 7,000 Btu per hour at the burner. My experience has been that the Origo stove takes a little longer than propane to boil water — six to eight minutes for coffee and a little longer for pasta water (there's more of it). But what's time to a sailor?

Now that it is installed, I can say that the Origo stovetop is easy to use. The alcohol is contained in a canister packed with a nonflammable filler. A flue is used to adjust the flame. All you need to do is open the flue and use a barbecue lighter to ignite the burner.

Each canister holds about a quart of alcohol and will burn four to six hours, depending on the flue setting. We tend to use about a quart and a

half a week. Most recently, we have been using industrial alcohol. It costs us \$3 to \$4 a liter and seems to work as well as the more expensive Origo stove alcohol, which isn't available in Mexico where we cruise.





Carl's Origo stove, main photo this page, fit nicely into the space formerly occupied by a fixed stovetop and an air conditioner, facing page. The stainlesssteel top is easy to clean, far left this page, and hinges up so the fuel canisters can be removed for refilling, at left.

Cooking without **pressure**

To fill the fuel canisters, it's best to first decant the alcohol from the gallon jug into a smaller container, at right. The canister for the oven is held in a swing-out panel at the base of the stove, far right.





On small pocket cruisers in particular, the single-burner non-pressurized alcohol stove might prove desirable since it doesn't take up much room. This Origo unit is a little less than 6 inches tall with a 10-inch-square top. All you need to do to add a galley where you didn't have one before is modify an existing cabinet or create a small cabinet in which to fit it. It can be installed in a small space as a fixed unit or with an optional gimbal.

Adequate performance

The Origo stove performs most cooking chores reasonably well, including simmering. We tend to cook simply on the boat — no intricate sauces but we have cooked many a good meal on our stove.

It isn't without its faults. Filling the fuel canisters without making a mess takes some practice. We store our stove fuel in a gallon jug and use a quart bottle to fill the canister. To contain spills, I fill canisters in the sink. Once you get the hang of it, it's possible to fill a canister quickly without making a mess.

In terms of cooking, the biggest disadvantage of the Origo is the rather small oven. It will hold a chicken but not a turkey. Because it has little insulation, the oven has cold spots and doesn't cook evenly. To make sure that all the chicken is properly cooked, some parts of the chicken may be overcooked. Cooking brownies or bread can be an experience because some parts may be a little doughy. They're still good — you won't have any problem eating them in a secluded cove. In my experience, low-end propane ovens, although larger, have the same problems as the Origo oven. They may not hold a turkey but they might hold two chickens. Lacking good insulation, they also have cold spots. Baking in them seems to take about the same length of time as in the Origo.

Operator errors

We've used our Origo stove for almost 15 years. The only problems we have encountered have been user-induced.

I once bought alcohol in a hardware store in a small town in Mexico. When I returned to the boat and filled the canisters, I was very surprised to discover that the alcohol was nonflammable. Unless you put small covers over the canisters, flammable alcohol will evaporate over time. Of course, nonflammable alcohol won't evaporate, at least not within a cruising season. As a result, I was forced to buy two new canisters to correct this operator error.

The other event was less costly. Soon after we installed the Origo stove, we took off on a short cruise. After about a week, we stopped at a small village on an island to replenish some supplies and spotted a freezer with two individual-sized pizzas. We thought it would be a great idea to try out our new oven by cooking frozen pizza.

After pre-heating the oven, my wife said she didn't think the oven was getting hot enough. "No problem." I said. "We'll just keep the pizzas in there a little longer than recommended."

66 We've used our Origo stove for almost 15 years. The only problems we have encountered have been user-induced. **99** A little later, she said, "This oven isn't even getting up to 250 degrees." My first disappointing thought was that alcohol might not be a very hot fuel. That thought was followed by, "Oh no! The thermometer is in Celsius!" We quickly pulled the slightly carbonized pizzas from the oven. Our one consolation was that the pizzas wouldn't have been very good anyway, even if cooked properly.

One potential maintenance issue with Origo stoves is that rust can form on the chimney/ diffuser. This hasn't happened to us yet, but if it does, Origo will replace it at no charge.

A full-time cruiser or liveaboard might want to stick to a high-end propane stove and oven because of its similarities to a household stove and oven. However, for most of us who would buy a low-end propane stove, the Origo works about as well. What really recommends it as a replacement stove is that you simply drop it in place. You don't have to plumb propane and create overboardvented storage boxes for the tanks or worry about leaks or complicated system maintenance.

Carl Hunt is a semi-retired economist. He lives in Colorado and has sailed for 30 years and cruised his boats from British Columbia to Mexico. He has chartered and cruised other people's boats throughout the eastern United States and the Gulf of Mexico, the Caribbean, the Mediterranean, and elsewhere.

Non-pressurized alcohol stoves: a second opinion

by Karen Larson

When we bought her nearly 20 years ago, *Mystic*, our C&C 30, came with an Origo two-burner stovetop and oven. Jerry and I have had no other cooking systems with which to compare our Origo, but for our cooking needs we've been happy with this arrangement.

It's true that we don't worry about fuel safety and explosions when cooking with nonpressurized alcohol. But, like Carl, we probably wouldn't recommend non-pressurized alcohol for full-time cruisers for three reasons: the fuel is a bit more expensive to buy, is said to be harder to find in some parts of the world, and can have an unpleasant odor if you have to do a lot of cooking in a confined cabin (cooking a large pot of water to boil pasta or a couple of pots for showers can make our eyes water).

Like Carl, we also use a smaller container -a dishwashing-liquid bottle with a squirt top - for filling our canisters. Spills are not a problem.

We have learned that these canisters should be kept topped up with fuel. If they get too empty, it can be difficult to extinguish the flame that can get started in the material down inside the canister. The flame is contained, but the canister becomes very hot and the normal shutoff flap is not enough to suffocate it. This has led to a couple of unexpected and exciting moments aboard until we misted the super-heated canister with water from a handpumped spray container we keep nearby for rinsing dishes. Friends who have had a similar experience with their stove believe a draft coming in through the companionway opening near their stovetop can also contribute to this sort of failure.

As for the oven, I never minded the size since I have never had any desire to cook a turkey aboard. The oven is large enough for 12 muffins and one large or two small loaves of bread. Since there are only two of us aboard (and never at Thanksgiving time) that's big enough for me. I was a bit confounded by the uneven cooking in the oven until I learned to rotate a muffin tin front to back halfway through the baking cycle. I still do that even though it is probably unnecessary since Jerry added a large diffuser to the bottom of the oven. This is a thick sheet of metal that prevents the central flame from the fuel canister in the bottom from making a hot spot in the middle of whatever is baking there.

On our project boat, Jerry has decided to install a propane cooktop, so he has taken on the complications of installing the plumbing for a gimbaled stovetop. Now that Carl points out the simplicity of a drop-in Origo cooktop, I'm not sure why we made that choice, but at least we'll soon be able to resolve the ongoing debate about which fuel can cook a pot of water faster. Since all fuels have advantages and disadvantages, we'll soon be learning to adjust to yet another cooking system. The important thing is to have warm food at mealtime and hot tea whenever we wish.



Thinking outside the lockers and drawers

by Chuck Baier

Ny of us who have lived or considered living aboard a boat understand the problem of finding enough space to stow all of our possessions. Boat designers and builders like to brag that their 35-foot model will sleep 10 and seat 15 for dinner, but they don't provide space on the boat to store bedding for 10 or the dishes and provisions needed to feed 15.

Whenever my wife and I were looking at a boat that we might buy, we would spend the first hour sitting in the main saloon asking ourselves where we would put everything we need to be comfortable and enjoy our time cruising. If we couldn't quickly answer that question, we would move on to the next boat.

In most boats there's a great deal of wasted space alongside the hull, behind steps and cabinets, and in many other areas. We've learned that, if we get creative, we don't have to spend the dollars for a very large boat just to haul all of our stuff.

Our current boat, *Beach House*, illustrates the problem, since she is 34 feet long and we were transitioning from a 40-foot sailboat with more storage than most 50-footers. As we pondered, we realized the fit would be tight, but we eventually concluded that we could make it work. The deal was done and we began the process of moving aboard.

First, the visible spaces

In the galley area, we have four large drawers and two cabinets. We optimized the drawers with plastic dividers and small plastic baskets. In a large open area under the pilothouse windows next to the galley, we keep glass and plastic containers with secure lids and additional galley utensils stored in wicker baskets.

We also have large open shelves at the aft end of the main saloon. On these, we store snacks, chips, cereal, and so on in wicker baskets, large zipper-type plastic bags, and airtight plastic containers. We use a non-skid drawer liner, found in rolls at most hardware stores, to keep everything from sliding around.

We find hanging fishnet bags are great for fruits, baked goods, and lots of other things. Hanging cup holders hold wine glasses and stemmed tumblers upside down over the shelf in the main saloon, freeing up cabinet space for vertically stacked plates and stacking cups.

In the heads, we use plastic baskets to divide and organize the contents



Once the obvious storage locations — on shelves, on bulkheads, and under berths — are taken up, it's time to explore the less obvious, such as under steps, for stowing less-used articles.





of cabinets. That way, we get more in them than if we just piled things in and had to sort through it all every time we needed something. We put paper goods in hanging net bags, where they stay much drier than when we used to stuff them inside lockers.

We also used several off-the-shelf products found in regular hardware stores and marine chandleries, such as small stainless-steel and mesh hanging storage containers that attach to the bulkheads with large suction cups. Strategically placed small teak racks hold shampoos and sundry items; small hammocks strung up along the inside of the hull store all kinds of items; towel bars and towel racks hold several towels and washcloths that might normally be stored in a drawer or locker. We store cleaning supplies, organized in plastic containers, on the shelf that the toilet is mounted on.

The less visible

So much for the easy part. To handle long-term stowage we had to get creative with less-obvious spaces.

Water tanks take up most, but not all, of the space under the bunks in the aft cabin. Because getting in and out of that space is not easy, we store in there several power tools that are not used very often.

Perhaps because of the shape of the hull, there is almost always some unused space behind drawers. This can be used for additional storage as long as you keep in mind that you have to remove the drawer to get to it.

Larger items will usually fit in areas under seats and settees. These spaces are also suitable for bins with lids for



clothes, linens, and paper goods, for example. Items that need to be stored flat and be readily available, such as charts and placemats, can go under seat cushions and mattresses.

Accessing the inaccessible

The next step is to look for small modifications to the boat's furniture that can pay off in a big way.

We found space in the aft cabin under the bottom companionway step. By removing the tread and riser of the bottom step, and with very little additional carpentry work, we found we could slide large plastic containers (of the kind used to store items under a bed) inside the steps. The riser and tread can now be easily removed and replaced to make use of this otherwise unused space.

The space between the first and second step was also deep and open. We enclosed the area just under the first step with a nice piece of teak with an opening cut in it. We can now store shoes and other items where normally there would be nothing. Because we cut this in an oval shape, we fitted a split plastic hose over the cut edges to finish it off.

Large open areas, such as under the forward V-berth, can be partitioned off into smaller compartments to allow much more to be stored in them.

Off-the-boat options

We use a few other tricks to keep the need for onboard storage to a minimum.

Almost every liveaboard we know has a large "portable dock box." This can be anything from a small second car or older-model station wagon to a



full-size utility van. For years, we used a Chevy Astro van until it got too tired. We used this "dock box" to store items we might not need on the boat but wanted to have access to regularly, such as our extra sails, materials we might need and use for repairs and projects, and some larger tools and toolboxes.

We also used the vehicle to store seasonal clothes we didn't need: winter clothes in the summer and summer clothes in the winter. We found this to be much simpler than keeping them on the boat. The clothes were also better protected because we put them in bags that can be compressed by using the suction end of a vacuum cleaner. Since our dock box/vehicle is parked at the end of the dock, it's nearby and also provides a second vehicle when we need it.

If all else fails, local self-storage facilities will rent a small room for a reasonable rate.

If you look around your boat and use your imagination, you can come up with some pretty creative ways to find the extra storage space you never thought you had. \varDelta

Chuck Baier and his wife, Susan Landry, have lived aboard for years and have cruised extensively along the U.S. East Coast and Gulf Coast and in the western Caribbean. For the moment, they live aboard Beach House in Deltaville, Virginia, where they work for Waterway Guide, Chuck as the general manager and Susan as the editor.

With a little carpentry work, Chuck exploited unused space behind and under the boat's stairs, near and center right. Out-of-season clothes are "vacuum" packed, far right.



ate has proclaimed that I should perform hard labor on the boat in the heat of July in the South. It was July when I had to drop the rudder on my first keelboat, an Ensign. This necessitated digging a 4-foot-deep hole under the rudder in the rockhard soil of the Gulfport, Mississippi, boatyard where she was hauled. Then there was the soft cabinroof of the Pearson Ariel in need of re-coring ... in July, of course.

Lately, things have been a little more dramatic. Genie, my wife, was at the helm of our Eastward Ho 31 trying to break into a line of boats so we could exit our slip. She had to gun the boat in reverse to get steerageway. Then, with sternway on, she shifted to forward and turned the wheel. With all seven tons of the boat rushing astern, the wheel got away from her and the steering system slammed against the port rudder stop. She recovered, but with a cry of, "I have



Boat projects seem to wait for the heat

by Bill Sandifer

no steerage!" Fortunately, our dependable Edson rack-and-pinion steering system reset itself and we were able to leave the harbor safely. However, the damage had been done to the rudder stop, and another repair project got under way — in July.

It didn't stop there ...

Revising the port rudder stop quickly escalated into revising the whole steering system, which the builder of the boat had enclosed in a wooden box that allowed water to accumulate, leading to a lot of rot.

The rotten box was not a pretty sight and had probably been deteriorating since Hurricane Katrina, when the boat filled with a fair amount of water and sat idle in a bayou. Because the original builder had failed to design and build the steering support system as specified by Edson International, what started as a minor job grew into a major effort.

The first task was to remove the old plywood and rotten framework and the multiple layers of fiberglass that covered them. To get at this system, I had to climb down through an 18- x 30-inch deck hatch into the lazarette, a space that is 3 feet high. How I inserted my 6-foot, 220-pound frame into this area is worthy of an article in itself. I was able to bend, twist, and otherwise force myself into this coffin-like hole, but once there I was not sure I could work in the extreme heat and confinement. My daughter, being physically much smaller than I, volunteered to do the work required there.

A close inspection showed the bulkhead separating the lazarette from the seat lockers to be free of rot and structurally sound. This bulkhead would serve as the basis for the rebuild.

A solid solution

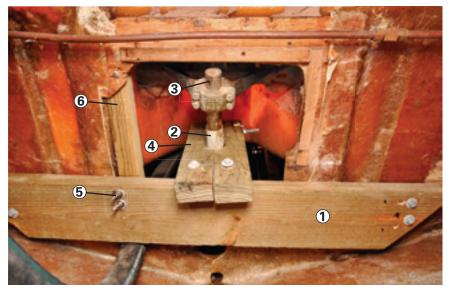
After much pondering and head scratching, I determined that I could construct a foundation for the new system with a 2- x 6-inch athwartships beam coupled with a 2- x 6-inch split plank running fore and aft.

My friend Jim Schmitt, a photographer and professional builder,

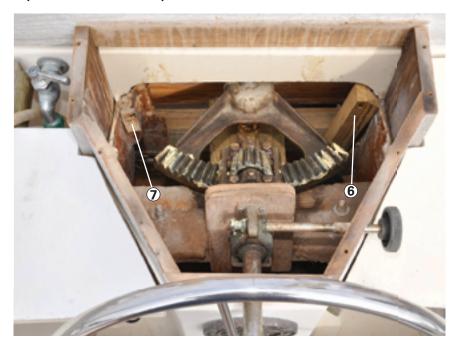
When the lazarette proved too cramped for his lanky frame, Bill was lucky his wife, Genie, was willing to squeeze inside to work on the steering repair. suggested that I purchase a length of full-dimension 2 x 6 marine-treated lumber (as opposed to a readily available 2 x 6 sold by conventional lumberyards that is really $1\frac{1}{2} \times 5\frac{1}{4}$). The difference is amazing. The lumber is pressure-treated with some potent insect repellent and relatively knot free, and makes a truly first-class foundation beam.

I fastened the beam to the bulkhead with %-inch galvanized through-bolts with nuts and washers. My wife performed an incredible trick of fitting into the cockpit locker, where she was able to put the washer and the nut on the bolt I thrust through the bulkhead from inside the lazarette. Jim assisted with some %-inch socket extensions so we could reach and tighten the bolts once they were "started."

To hold the rudder tube rigid, I drilled a hole on the centerline of the fore-andaft split plank, then bolted the two halves of the plank together, squeezing the



Bill bolted the new crossbeam, 1, above, to the bulkhead. To support the rudder tube, 2, which holds the rudder stock, 3, he sandwiched it between the two halves of a split plank, 4, which he, in turn, bolted to the new beam. The bolts in the beam, 5, secure the new port-side rudder stop, 6. The starboard rudder stop, 7, below, still functions.



rudder tube between them. I then bolted the plank to the beam.

I installed the rudder stops against the bulkhead and the beam using Marine Tex epoxy as an adhesive and through-bolted them for strength.

It took two long days in 103-degree heat to accomplish the task. By the end of each day we were exhausted.

All's well that ends well. The new system performs admirably and the boat is again operational and safe to steer, but I wonder why Fate has decided I should have to perform these labors only in July.

Bill Sandifer started sailing at age 8 or 9 and taught sailing at Sagamore Yacht Club in Oyster Bay, New York, through high school and college. He has cruised the Far East, the Mediterranean, and the East Coast of the U.S. and has had a boatbuilding business. Bill currently sails an Eastward Ho 31 cruising sloop that he's owned for 12 years.



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Making your own

Housing the chart plotter

A custom box at the helm was the answer

by Danny Saathoff

systems, but I soon discovered that I'd probably need to replace the pedestal guard in order to make one work. So, in keeping with my penny-pinching nature, I decided to build my own. Every sailboat has its own helm configuration, but my basic premise will apply to a large number of good old boats.

Measuring and figuring

I began by taking accurate measurements of the helm location. *Olo* has a typical configuration with a compass mounted on a steering pedestal and a stainless-steel pedestal guard constructed of 1-inch tubing mounted to the pedestal and secured to the cockpit sole.

I decided to use the semicircular top of the guard to hold the housing in place just above the compass, and designed a box with an angled face that would hold the plotter in a position that would work for someone standing or sitting at the helm. The housing does obscure the compass somewhat but I do have a clear view of it as long as I sit behind the helm.

Quite a few design elements must be worked through before construction can commence. enough interior volume to hold the chart plotter and cable plugs and to allow the bulky cords to enter and exit the box as well as the pedestal. On the flip side, you don't want the finished box to be so large you have to peer around the thing to get a clear view forward. For me, one other consideration was aesthetics. I wanted my plotter housing to be good looking and appear as if it had come with the boat from the builder.

The box must be designed with

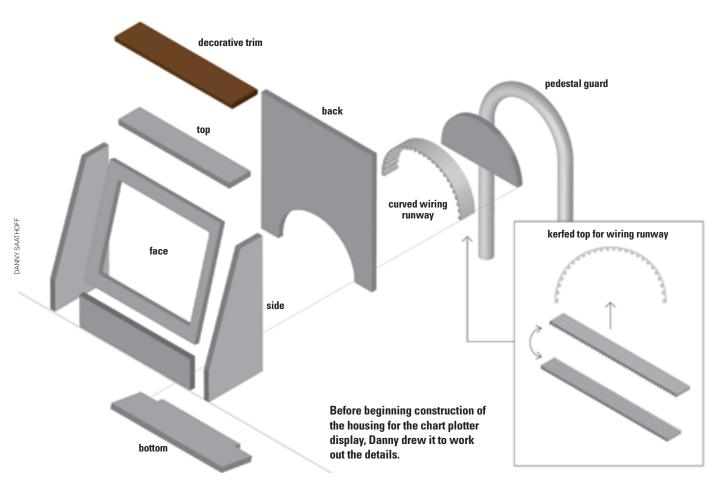
My diagrams show most of the construction details and provide a general idea of what I made. Each chart plotter will have its own configuration and requirements, so if you choose to do something similar, you'll have to design yours for your particular configuration.

Danny, above, is very pleased with how his chart plotter display has worked out on *Olo*.

fter making the decision to add radar to *Olo*, our 1986 O'Day 35 (see "Radar on the Level," May 2011), I faced the challenge of where and how to mount the chart plotter that displays the radar image.

I do most of my navigating from the helm, rather than at the nav station, and the idea of making frequent trips between helm and nav station didn't appeal to me. I thought about making a mounting bracket by the companionway that could swing out while the chart plotter was in use and out of the way when it was not, but I'd still have to leave the helm to make use of the thing. In the end, I elected to mount the chart plotter at the helm.

Some very nice housing units are available for helm-mounted plotter



Cutting and fabricating

Once I'd finalized the design, construction could begin. For the basic structure of my housing I used ½-inch marine plywood left over from a stitch-and-glue dinghy project.

The tools needed are fairly straightforward. A table saw is ideal for cutting the individual components with straight

and square edges. I used a jigsaw to cut the window out of the face and for some of the detailed cutting. A pneumatic finish nailer is nice for tacking the pieces together while the epoxy sets. I used a router with a roundover bit to soften the corners and edges of the box and a palm sander for finish work.

Once the face, sides, top, and back were cut and assembled, it was time to build the trickiest and most interesting part of the construction, the curved wiring runway on the back of the box. This element provided enough extra room inside the box to accommodate the bulky plugs that connect to the back of the unit. I left an opening on the underside of this part to allow the wires to exit the box and enter the pedestal, through which they lead into the boat and to the computer at the nav station.

To create the curved top, I ran a $1\frac{1}{2}$ -inch x $\frac{1}{4}$ -inch x 18-inch strip of

plywood through a table saw to cut a series of kerfs about ¼ inch apart and approximately two-thirds the thickness of the plywood. The kerfs allowed me to bend the plywood around a tight radius to match the inside diameter of the top of the pedestal guard.

With the kerfs cut, I was able to bend the plywood strip and trace the shape



The curved extension, at left, houses the cable plugs. The metal bar and locks, at right, are to deter theft.

<u>Making your own</u>

onto the back panel of the box. I cut the semicircle out of the back with a jigsaw. This step allowed me to push the 1½-inch strip of plywood into this curve and glue it in place. The plywood protruded from the back by only 1 inch, the diameter of the pedestal guard tubing, which made it flush with the guard.

Assembling and gluing

I took the semicircle cut from the back panel and trimmed it to fit the inside curve of the kerfed plywood. This piece would eventually be used to enclose the back, but first I used it to help glue and clamp the curved plywood in place.

I fit the kerfed plywood strip into the semicircular cutout in the back panel, pushed the semicircular piece into it, and held the pieces together with a bar clamp, creating what was essentially a form-fitting clamp. When gluing the curved plywood to the back panel, I took care not to accidentally glue the semicircle to the inside of the curve.

Once the epoxy had set, I removed the semicircle, then used the back

of a plastic spoon to create a fillet of thickened epoxy along the outside of the joint between the arch and the back panel to strengthen it. I then epoxied the semicircular piece of plywood inside the arch at the back edge, enclosing the back. To strengthen the kerfed plywood, I filled the kerfs with thickened epoxy.

The final step was to cut and fit the bottom of the box. The drawings best show the shape of this piece, but notice that the part directly beneath the arched wiring runway is intentionally left short to create an exit point for the wires. Getting this piece to fit took a bit of fussing. Using a belt sander or disk sander can speed up the process.

Another detail of interest is that I sloped the bottom of the box so any moisture that gets into the box will run out and not collect in there.

I coated and faired the entire structure with thickened epoxy to fill nail holes and filleted all the corners to further strengthen the box. This step really helps to cover



up any imperfections in the wood or the construction. It also creates a watertight structure to protect the chart plotter. After some sanding and a paint job, I had a pretty nice looking chart-plotter housing. I capped it with a piece of varnished wood to further dress it up.

Installing the display

With its faceplate removed, the chart plotter can be fastened to the housing with bolts in the four corners of the screen. I affixed four T-nuts in the corresponding locations on the inside of the box to allow me to bolt the plotter in place without using nuts and washers.

Before installing the plotter in the box, I fitted the box to the pedestal guard with two 1-inch U-bolts that hug the tubing and are tightened with locknuts on the inside of the box for security.

Speaking of security, I designed a simple theft deterrent. It consists of an aluminum bar that spans the face of the plotter and locks to the box. I say "deterrent" because, while it is strong,

nothing is foolproof. I designed this system in the hope that a thief will move on to an easier target.

While this may be a bit more than a typical weekend job, with careful planning it is not particularly difficult to accomplish. Much of the week or so I spent working on this I was watching epoxy dry.

After four seasons with our radar and chartplotter I wouldn't change a thing. I love the ease of navigating from the helm, where I sit 90 percent of the time we're under way. This system proved its worth last September when I sailed in a solo challenge race of one hundred miles. I sailed all night in all kinds of conditions — big wind, big waves, torrential downpours for hours, and dense fog. The radar gave me peace of mind that comes from knowing nothing was lurking unseen in the gloom of Lake Superior.

Danny Saathoff is an artist and a jewelry designer, although many days he'd rather be sailing. He completed his first long-distance solo race last summer and is considering doing the Trans-Superior Solo Challenge within the next few years. He sails with his family in the Apostle Islands on Lake Superior.

Hulls and holes

A boat project for the bold

Fearless cruisers defy the prophets of doom

by Randy Baker

Reading Karen Larson's editorial on overcoming fear in the May 2010 issue brought back memories of some of the fear-inspiring projects we undertook during our big refit several years ago. Some of the endeavors we tackled were considered extreme by almost every one of the omnipresent self-appointed boatyard advisors, and there was never a shortage of naysayers.

One project in particular comes to mind. The horror the advisors professed when they learned of our plan to hack a hole in the side of our hull, below the waterline no less, did little to bolster our confidence. But we knew the result we wanted and there was simply no other way, so we put aside our fears and plunged ahead.

Caribee had been plagued for years with recurring osmotic blisters. She'd already had two "lifetime repairs" to fix the problem, but the blisters kept coming back. We were determined this repair — virtually a partial hull replacement — would be the last. If this didn't do the trick, we'd face the fact that the problem was incurable.

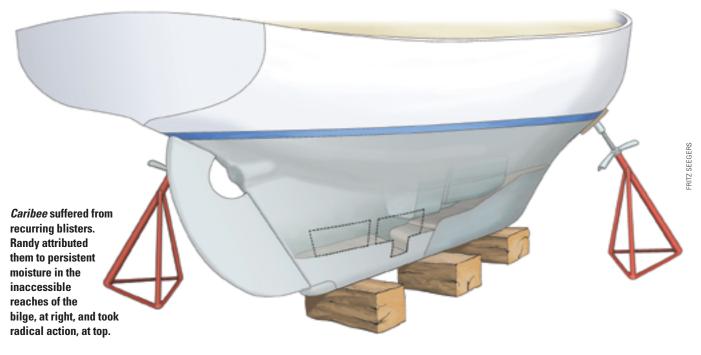
We had discovered years before that water dripped from the aftermost part of her keel whenever she was hauled out, and the drip would apparently persist indefinitely. We knew that water



was somehow trapped in the laminate at the bottom of the sump area of the keel aft of the molded-in lead ballast. We also knew this was a major contributing factor to the problem and had to be dried out before the osmosis could be permanently cured. That meant sealing off the laminate from the inside, and the only way to gain access to the very deep bilge was to cut a hole into the side of the keel.

The incision

Over the years, we had acquired a good deal of experience working with epoxy and fiberglass, and had a lot of respect for the tremendous strength and



Hulls and holes

adhesion of a properly executed repair or patch. So in truth, I actually had comparatively little trepidation as I drilled the first hole to make an entry point for the jigsaw blade. Nevertheless, it's easy to fall prey to the negativism of the boatyard pundits, who uniformly predicted disaster. Still, we were able to have a bit of fun with them as we pretended total nonchalance and I started sawing away.

What we wanted to accomplish was twofold. First, we had to seal off the bottom of the existing sump area with epoxy and fiberglass cloth to make sure it was completely watertight. Second, we wanted to create a lower, smaller sump, just large enough for two bilge pumps. This sump would contain the inevitable bit of bilge water in one small space and keep the rest of the bilge dry most of the time, helping ensure that no water could penetrate the laminate over the long term.

After we made a hole big enough to access the bottom of the existing cavity, we dug out an area for the new sump using a hammer and chisel. We were amazed to find dry pieces of fiberglass

66 Sometimes you just have to disregard the fear and the naysayers, trust your instincts, and forge ahead. **99**

cloth, sawdust, wood chips, and even gravel and cigarette butts embedded in the composite of the lower keel. It looked like somebody had taken a scoop shovel to the sweepings on the shop floor, dumped them in, and poured resin over them. Maybe the hull was laid up on a Friday. Little wonder the keel was a trap for water that then wicked into the hull and contributed to the blistering.

After digging out the new sump (and after a meticulous cleaning with solvents), we let it all dry out for several days. We then proceeded to seal the entire lower keel cavity with multiple layers of biaxial glass cloth and epoxy, finishing off with several coats of epoxy and barrier-coat additive.

We took the opportunity to add a garboard drain plug for convenience

and safety when hauled out: convenient because we would never have to pump out water when hauled (when washing out the bilge, for instance) and safe as no rainwater could collect below if we stored the boat dry and unattended for a long period.

The closure

Next came the reconstruction of the section of hull we'd cut away. We wanted to make sure it was plenty strong from the patch alone, but we were comforted by the knowledge that, as a part of our blister-repair job, we would be covering the entire keel, including the reconstructed area, with several layers of epoxy and heavyweight biaxial cloth. We were planning to replace a lot of material that had



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been stripped away by a gelcoat peeler in two successive peel jobs done in the earlier attempts to dry out the hull.

First, we ground back the edges of the hole to about a 12:1 bevel inside and out. Then we laid epoxy-saturated cloth over the hole, overlapping the edges by several inches, starting on the inside. In some places, we glued thin pieces of fiberglass (well waxed) to the hull as a temporary form to hold the new laminate in place until it cured. To close the last part of the opening, we epoxied an unwaxed fiberglass backing plate, which would remain in place, to the inside.

After the hole was sealed, we switched to the outside and laid several layers of glass over the inner layers, bringing the level out to flush with, or slightly proud of, the hull. We next faired off the excess with an angle grinder and smoothed it over with an epoxy fairing compound, finishing it smooth with an orbital sander. We then simply waited until the rest of the hull and keel was sheathed with epoxy and glass, forming it all into one integrated structure. It ended up perfectly smooth; it's impossible to tell by looking at the keel that the repair was ever done.

Blister free

The project has been a resounding success. We always have a dry bilge, except for the small sump, so long as we remember to pump occasionally. We've had no blister problems for six years. When we store the boat on the hard, we just unscrew the garboard drain and put a small piece of nylon screen in it to prevent insects from entering, secure in the knowledge that if we get rainwater below, it will drain out and leave everything dry.

By all means, do your research and try to anticipate any possible problems before attempting any seemingly radical project. Once you feel confident, don't be too easily dissuaded by the opinions of others. Sometimes you just have to disregard the fear and the naysayers, trust your instincts, and forge ahead. After all, it's *your* good old boat.

Randy and Cheryl Baker have been living aboard and cruising Caribee, their 1968 Nicholson 32 sloop, since 1992. They completed a three-year refit in Trinidad in 2004, transited the Panama Canal in 2008, and are now cruising the Pacific.





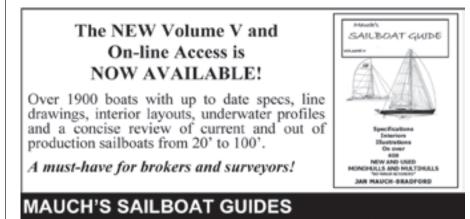
Cutting into it from outside the hull revealed the black truth that was the inside of the bilge, at left. Before going any further, Randy and Cheryl had to clean it out, at right.



To prevent water from lingering in the bilge, Randy chiseled out a small sump to hold a pair of bilge pumps, at left. The rebuild began with fiberglass laid from the inside against a form, at right.



Before closing the hole, Randy lined the inside of the bilge with glass cloth and epoxy, at left. The closure then proceeded in stages, at right. Note the little sump and the drain plug.



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Sailing life

Good old boats gather

August, 2006

At first we thought it was trash, the Ziploc-enclosed brochure thrown into the cockpit of our Bristol Channel Cutter, *Calypso*. A quick look around us made it clear that someone had tossed these prepared bundles into the cockpits of all the nearby boats. Reassured, we opened the bag, intrigued by the title on the brochure: Hospice Turkey Shoot Regatta. What was this regatta, did it apply to us cruisers, and what the heck does that odd name mean?

Five years and four regattas later, we have some answers. The regatta is fun, fun, fun, with the added bonus of knowing you are helping raise money for local hospice chapters in a rural area of Virginia. It's extra fun for lovers of good old boats: to enter, the boat must be built to a design at least 25 years old. Where else does a 25-foot Fisher motorsailer race alongside a Fast 40, a Tayana 41, or a Cape Dory Typhoon?

The "fun" tag most assuredly applies to non-racers, who tend to enter the "Flying Cloud" division, but there is a division specifically for the hard-core competitors in the group — and the winner of that "Lightning" division has the honor of competing in the national regatta in late spring. Sometimes it feels like Murphy is in charge of the weather machine for the weekend, but fun is had by all, regardless.

The unique name? Well, there are no turkeys shot during the weekend, at least not by the racers. The regatta, based out of Yankee Point Sailboat Marina on Virginia's Corrotoman River, was originally held over Thanksgiving, when the wind tends to be consistently good on Chesapeake Bay. But having to dress like the Michelin Man is not most people's idea of perfect sailing weather, so the organizers picked temperature over wind and moved the regatta to Columbus Day weekend, and the regatta has grown from 10 boats in 1995 to 118 in 2010.

Saturday, October 8, 2010

Day one of the 15th annual regatta, the day of fleet-based start sequences, dawned bright on dew-slicked decks. The weather forecast was fabulous — for sunbathing, not sailing.

The navy-and-yellow J-24, *Marijo*, pulled away from the dock, the first notes of the Michigan Fight Song blaring from her cockpit, her five crew clenching cigars in their teeth. Next came *Petite Amie*, a Marshall Sanderling catboat, at 18 feet the smallest in the fleet, her two 60-something crew tidying lines. *Godspeed*, a replica of the square-rigger that brought settlers to Jamestown, fired her cannon as she headed into the channel with her load of spectators.

The first start was to be at 11:30, but by noon the race committee came on the radio to announce a postponement. Apparently, Murphy was listening, and within 20 minutes the breeze had filled to almost 10 knots.

Resources

Turkey Shoot Regatta

Karen Knull, Yankee Point Sailboat Marina; 804-462-7018 karen@yankeepointmarina.com





for a good cause

by Nica Waters

Fundraising and fun at the Hospice Turkey Shoot Regatta

Grins flashed as bright as the sun as we enjoyed the perfect sailing on offer. The only downside to the day came on the first leg when we sailed up to a splintered mast in the water and the dismasted 36-foot Herreshoff ketch sitting forlorn and motionless. Apparently, a bronze chainplate had failed, with disastrous consequences. Luckily, that was the day's only casualty.

Sunday, October 9, 2010

The day of the pursuit race. Even less wind was forecast.



The Fisher motorsailer had the first start time, and 20 minutes later she was still on the line, unable to move in the lack of air. She became the first of many to withdraw from the race. The wind, if anything, died further, turning the starting line and 150-yard first leg into a parking lot of drifting sailboats. Hands and boathooks poled out spinnakers and jibs, hands and feet reached out to fend off other drifting boats. Despite the heat and the frustration of not moving, crews smiled and raised cups in greeting. I heard someone

say, "Pardon me, do you have any Grey Poupon?" and laughter rang out.

Murphy was still watching: the breeze filled in right after the time limit was called.

Columbus Day weekend on the East Coast means many things to many people, from apple picking to the Annapolis Sailboat Show. For us on *Calypso*, it means only one thing — heading to Yankee Point Sailboat Marina and the Turkey Shoot Regatta, where Murphy sometimes runs the weather but never spoils the fun. Won't you join us next year?

Nica and Jeremy Waters, along with their kids, Julian (11) and Maddie (9), and their beagles, Sadie and Belle, sail their 1976 Bristol Channel Cutter, Calypso, out of Deltaville, Virginia. They've owned the boat since 1992, have completed two Bahamas/Caribbean cruises, and are starting their second refit of the boat.





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Pop Pop's Cruise



Grandfathering kids into sailing

by Greg Fairbend

he story of Pop Pop's Cruise is rooted in a question asked of me by my 18-year-old grandson, Tony, when he was just 9. Following an extended trip to Maine on our 30-foot Catalina, *Feierabend*, my wife and I were excitedly telling our family of our experiences.

"When can I go on a long trip with you, Pop Pop?" Tony asked.

"When you are capable of taking care of yourself on the boat," I answered, and that made me wonder what I could do to help him become that capable young person.

It was my good fortune as a child to attend a waterfront day camp where I learned to sail and developed the love I have for sailing. My goal became to find such a program for my grandson. It had to be a program my wife and I would be able to offer to all 10 of our

Christopher Lato, Jack Heiden, and Tony Lato join Pop Pop for an official cruise photo.

grandchildren if it was something that they wanted to do. We found it at the Housatonic Boat Club, in Stratford, Connecticut: the Junior Sailing Instruction Program. We decided the age of 11 would be most appropriate for the children to begin to develop their sailing skills as well as their selfassurance and confidence.

All our grandchildren had been on our boat numerous times but as guests, not as crew members. To be part of a working crew, they needed to be more capable. To me, that means that — within reason — the crew can focus on boat tasks and activities and take care of themselves at the same time. For example, if I determine that harnesses, tethers, and life jackets are appropriate for a given situation, I should not have to help anyone into his gear.

In the middle of the winter of 2009, I was looking for a way to take the kids to the next level of boating experience. By this time, one of our grandsons was

Logs from Pop Pop's Cruise, 2010 Tony Lato (18)

It was almost as if Poseidon didn't want us on his seas for our second voyage aboard the *Feierabend*. Our first misfortune happened as my brother, Christopher, and I were driving to Pop Pop and Grandma's house. My Wrangler went over a normal bump but, since there is a problem with the front end, it started literally hopping on I-95 at about 63 miles per hour. Then I lost the clutch pedal. Scary stuff. I called AAA and we were towed back home. Pop Pop picked us up the next morning, delaying our start.

We arrived at the boat and loaded her up but, just as we were about to start the engine to cast off, we realized two things. The first was that the gearshift lever was stuck and the second was that stainless could be pretty brittle - the lever came clear off, just like my clutch! At this point we were all secretly freaking out on the inside. I thought there was no way we could continue and feared the worst. Luckily, it turned out to be just the old cable to the engine. It was disassembled and a new one ordered and reinstalled, delaying us two days. Everyone helped with the process. Our cousin Jack did a great job of reassembling the instruments while we were under way.

We finally arrived at Port Jefferson, about 13 miles across Long Island Sound, picked up a mooring, and did some intense



continued on page 56

Sailing life

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swimming. Our Uncle Greg came out in his boat and took us fishing. We all had pretty good luck, and everyone had a good time even though we didn't get any keepers. We stayed there another day. We relaxed, read, tanned, and just generally enjoyed. Our uncle came back so we could go fishing again. This time we had the tide on our side and everyone caught at least 25 fish. We also explored in the dinghy and did some more swimming at a nearby barrier beach.

On Sunday, we headed to Northport where we picked up a mooring at the Northport Yacht Club, giving us access to showers, a pool, and the village of Northport itself. We enjoyed these amenities, stayed the night, and then headed for Oyster Bay. Finally we had enough wind coming from the right direction for us to have a great sail.

The next day it was finally my turn to be skipper, and it was our best day of sailing. Just that day alone was enough to keep me coming back for years. There is something about turning off the engine and hearing nothing but the bow as it cuts through the waves that has me hooked. To me, it is the most relaxing thing in the world because it is truly liberating.

Later that day, we experienced another facet of Momma Nature's powers as the sky opened up for a storm. We broke out foul weather gear, turned on the engine, and headed to Port Jeff while keeping a watchful eye on the Doppler radar to make sure we would beat the lightning. We arrived safely, picked up a mooring at Setauket Yacht Club, and took advantage of the showers there. The next day we took the launch into Port Jefferson, explored the town, and had a great seafood dinner. Jack and I had the same thing - the fat father of the little fluke we were catching with Uncle Greg. Delicious!

We left the next morning and managed to get in more sailing. I took lots of pictures that day, my favorite one being a shot of the telltales flying perfectly horizontally, something everyone agreed was a great thing to see.

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On the boat, Pop Pop and his grandsons could engage on a level they might not have found ashore.

17 years old and two were 13. They each had successfully completed the sailing camp and all expressed interest in the cruise idea. Pop Pop's Cruise was born as a logical next step in developing their sailing and boating skills and love of the water.

A delivery cruise

I believe the development of young people is best fostered by engaging them together in accomplishing a stated goal. We set for our goal the delivery of *Feierabend* to Stonington, Connecticut, from where my wife and I would begin our cruise.

We began to discuss things like crew change, care of equipment, a schedule, ports of call, and planning. We talked about crew assignments (helmsman, navigator, and log keeper), getting familiar with tide and current charts, distance between stops, plotting and piloting skills, a galley schedule, and — very important to a happy and well-functioning crew — a daily meal plan with specific meal assignments for everyone. Meal planning included making up the menu, purchasing the needed provisions, and the preparation, serving, and cleanup for that meal.

Each member of our crew was assigned to work out in advance — with my help if needed — some part of the trip. One was responsible for figuring the distances between our planned stops and what our estimated travel time should be. Another was to figure the tides at each stop and what times the currents would be helpful or not. The third, using local charts, was to do the plotting necessary to get us where we wanted to go. Also as part of our plan, the three main tasks of helmsman, navigator, and log keeper would rotate daily, with me as the relief guy.

I put a set of guidelines together for our trip: what to bring, what not to bring, things to do and not to do. This included what is now the famous rule: no electronic games or gizmos. In my opinion, if this cruise was to have a positive influence on the lives of my grandchildren, in how they interacted with their cousins and with me, we would have to talk to each other and not be looking at the tops of heads bent over fleeting fingers.

I explained my position, and suggested that old-fashioned games take the place of modern high-tech activities that stifle personal interaction. I explained that this was a trip for all of us to be together, learning from each other while working at our common objective of getting *Feierabend* to Stonington on time.

That weeklong trip in the summer of 2009 was a success. We ate well, we learned to live in the rain, to pick up and secure a mooring in a near gale, to anchor in a quiet and reflective river. We learned to use the VHF in the fog, to talk with captains of high-speed ferries about our location and theirs. We sat in the cockpit in the evenings and talked with each other. We swam together, and worked together to get the genoa under control. We visited a shop that makes custom team wear and designed a logo for our cruise and ordered shirts. And we got *Feierabend* to Stonington on time.

Throughout the adventure we gathered experiences, and we realized that the the takeaways from Pop Pop's Cruise were the intangibles, not the destination. As we were completing the crew change and the launch was heading to shore, all three boys, each in their own way, asked about a second cruise in 2010.

A tradition gets under way

When planning for 2010, we reviewed some of the good and the not-so-good from the previous year and made minor modifications. Simpler meals and no hard suitcases. The biggest change was a conscious decision not to have a specific destination, only to head west from *Feierabend*'s home port. Many fine harbors lie to the west of our slip in Milford, Connecticut, all fairly close together. In 2010, without a specific place-and-time commitment to drive us, the sailing would be much easier.

Pop Pop's Cruise 2010 had all the glitches you could ever not want. The shift cable broke as we were about to start. That cost us two days. Then we were faced with debilitating heat. On two nights it was 86 degrees on deck at 2300 hours, so we had to make a run to a supermarket to buy three more cases of water. The biggest disappointment for me was that the new refrigeration unit that I tried to have ready for our trip would not operate. That meant we had to chase ice.

Those three items were unavoidable givens accepted by all and, in the end, had no negative impact on our 2010 experience. Unlike 2009 when rain, fog, and humidity were our crewmates, this year we had only one afternoon of nasty stuff, and the entire crew joined me in the cockpit in foulies, "To keep you company, Pop Pop; you might need us."

The purpose of our cruise was to give us all an opportunity to get to know each other and grow in our real-life roles and as members of a crew. This little display of camaraderie and support helps to illustrate the kind of learning that came from our journey together. And we were nowhere near our destination for the day . . . or life.

We plan for Pop Pop's Cruise to continue, but one logistical issue must be addressed. Do you have any idea how much space a 19-year-old, two 15-year-olds, a 12-year-old, and a Pop Pop take up with their gear and the food needed to feed them? One of my crew had a solution: "You've got to get a bigger boat, Pop Pop." Of course, why didn't I think of that?

Greg "Pop Pop" Fairbend has been messing around for 64 years in everything from an 8-foot punt to his present 1989 Catalina 30, Feierabend. Cruising, day sailing, racing, and deliveries have taken him from Maine to Florida and Bermuda, but what he enjoys most is being on the boat with his family: wife Ellen, four children and their spouses, and 10 grandchildren. For the second year now, this trip has allowed me to get away from work without really going too far. It allows all of us to have "waterfront property," which we all love. It's fun to just sit in the cockpit and watch the sunset or watch boats come in and out. Later, it's always fun to stargaze, hear about crazy scientific theories, or just talk about the day. I learned to navigate without relying on the GPS, learned to read a chart, and got a chance to see the rules of the road in use, something *Chapman's* cannot teach. More importantly, the four of us got a chance to come together and, although this sounds tacky, bond over the course of a week. We got to be ourselves without our moms or other relatives there, since they normally would be around anytime the four of us might be together.

This bond is a strong one; it allows us to depend on each other, since we had to over the course of the cruise. The great thing about this is that Pop Pop allowed and encouraged this to happen. Everyone had responsibilities to fill. For example, if Pop Pop was at the helm and we were coming into a busy harbor with a strong current, he had to trust that we were competent enough to grab the mooring line and quickly wrap it around the cleat. We had to keep a watchful eye on each other as we swam and, best of all, we had to take turns cooking meals for each other.

An interesting thing is how people changed over the course of a year since the last cruise. I noticed that our cousin Jack has matured significantly. I also noted that there was basically no bickering among us, even on those hot days with nothing to do. Pop Pop's cruise has fostered these relationships and "harbored" growth as family members and as sailors. I plan on sailing at least at the club level at the College of Charleston for the next four years and look forward to the day when I can invite Pop Pop on my own boat and take him for a sail.

Jack Heiden (14)

While we were in Port Jefferson, Uncle Greg came and picked us up on his boat and we motored out into Long Island Sound. He gave us each a fishing pole, showed us the bucket of bait, and said, "Drop your lines down to the bottom; we're fishing for fluke and that's where they are." Tony was the first to bait his line, so he dropped it in and, before I turned around, he was reeling in a fish!

That's how the rest of the time went, dropping our lines in and, if we were in the right spot, we'd all have something in 30 seconds! We were catching fluke, blue jays, and sea robins. The biggest fish of the day was Uncle Greg's 20.25-inch fluke. We were catching so many fish we ran out of bait. With one of the last pieces of bait, I caught a sea robin. Uncle Greg said, "Bring it on the boat." We cut it up and used it for more bait. At the end of the day, we estimated we'd caught a combined total of 100 to 110 fish.

After the interesting start of the trip, my favorite parts were: sitting down below reading, then suddenly not hearing the engine . . . but we were still moving: we were sailing. Or when Pop Pop said, "OK, let's turn the engine off now," and then we were just relaxing on the deck, sailing with the silence of the motor off.

It was great to have the four of us. We got to switch duties each day. We switched breakfast, lunch, and dinner; helmsman, *continued on page 58*



Sailing life

continued from page 57

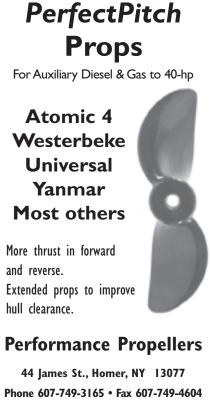
navigator, and log keeper. One day each of us wouldn't have to make a meal because there are only three. Breakfast and lunch were the easiest. Breakfast was usually cereal, and lunch ended up being peanut butter and jelly. Dinner ranged from meatballs to chicken; every dinner was delicious.

Helmsman was the preferred duty of the day, and it was even more preferable on a windy day. When you're helmsman, you're at the wheel the entire time the boat is moving, motor or sail. For the navigator job, Pop Pop showed us how to use several specific tools to determine where we were. There was some learning involved in that. Log keeper was the task of writing the day's events in a notebook.

Even though we'd all been to sailing camp and gone on Pop Pop's cruise before, I think I speak for all of us when I say it was a learning experience, not only learning what you'd expect, but we also learned a lot about each other, even something about ourselves. For example, I learned that I can, in fact, go more than a week without texting. Chris takes his Connect Four game very seriously, Tony is a great photographer, and Pop Pop has an extremely high amount of patience.

I mentioned it before, but it deserves to be noted again. After being on the dock or having to use the motor, having sail up was really quite amazing. It was so nice to be able





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to go without listening to the loud motor. It was fun, too, the way the boat heels, watching the telltales, and even pulling the genoa lines.



Christopher Lato (14)

One would generally wonder how four men aged 14 and up can survive one week together on a 30-foot sailboat. Sailors would wonder about the space issue and the weather, friends would wonder how you would not go completely insane,

and mothers would wonder if you might get unhealthy from a lack of fruit and vegetables. However, not one member of the crew cared about any of these things.

One night on the cruise we stayed on a mooring belonging to NorthportYacht Club. Jack was the man on the helm for the day and wanted to take on the challenge of driving up to the mooring whileTony picked up the line. The pickup stick was bobbing from one side of the bow to the other. It trickedTony. He lost sight of it as we were creeping past it. Luckily, I saw it and pulled it right up. It took a team effort, but in no time we were safely on the mooring.

> I have an uneasy memory of anchoring on the boat trip. When we arrived in our chosen place of anchorage in Oyster Bay, we began to let the chain out. We drifted back and settled as the tide reached its low. The depth-o-meter read 5 feet 11 inches. We were swimming when we learned this. After that, I no longer went swimming. I am 6-feet 1-inch tall and would rather lie on a bed of nails than have my feet touch the bottom dwellers in Oyster Bay. I checked the depth-o-meter periodically through the night. The water was never that shallow again, but it still is unknown whether or not the mighty hull of the Feierabend touched the bottom of Oyster Bay.

> At the end of the cruise, the four of us were like brothers. Every night there were Connect Four tournaments, an electronics-free game which generally leaves one winner. But when we landed back home in Port Milford, we all had connected together. We talked about everything together and had really gotten to know each other. So in reality, we all had connected four and we all won. Thank you, Pop Pop, for an amazing time. Where do you want to sail next year?

PART ONE

In this, the first of two parts, authors Leslie Linkkila and Philip DiNuovo describe what happens when rigging fails in paradise, how they kept their mast up, and the choices available to sailors when replacing standing rigging themselves.

e were anchored in the ultra-calm anchorage nestled between Isla Del Rey and Isla Espiritu Santo in Islas Las Perlas in the Gulf of Panama, making final preparations for crossing the Pacific in our Mason 33, *Carina*. Before taking off on the 4,000-mile passage to the Galapagos and on to the Marquesas, we wanted to inspect the rig, so Philip donned a climbing harness and I (Leslie) cranked him up to the masthead.

"Uh oh," he called down. "What?"

"It's bad, very bad."

"You're kidding, right?"

"No, I am not kidding! We only have a couple of wire strands left holding up the forestay."

We were roughly 50 miles south of Panama City, where — despite its status as the crossroads of sailing — there is no rigger.

Our standing rigging is made of 1 x 19 stainless-steel wire rope with Sta-Lok mechanical terminals and had been professionally installed in 1999. Since we had been diligent about cleaning and inspections and had replaced *Carina*'s chainplates in 2007, we were (unwisely) confident about our rig's integrity.

Of the many spares we had on board, we had no wire rope, Sta-Lok terminals, or spare wedges for the terminals. In hindsight we had been irresponsible ... but that was the situation. Getting back to Panama City would be difficult against episodic winter northerlies and short steep seas. These conditions could

Where there is no rigger Arigging repair is a community effort

by Leslie Linkkila and Philip iNuovo

cause the forestay to part, taking the roller furling unit, and possibly even the mast, with it.

Other cruisers offered us their spare (used) wire, but its age was similar to *Carina*'s failed wire. We decided to motor back to Panama City, where obtaining supplies would be easier than anyplace we had cruised or would be cruising. We used our SSB radio and modem to email a Seattle marine supplier and ordered wire rope and fittings to be shipped to us in Panama City.

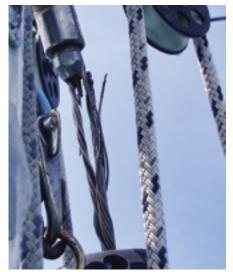
Our immediate need was to reduce the tension on the failing forestay. We moved both spinnaker halyards to the bow, secured them to the forward port and starboard cleats, and winched them tight. We then eased the backstay a bit. To reduce weight on the forestay, we dropped the genoa and flaked and stowed it. We returned the Profurl swivel to the top of the extrusion with the genoa halyard so it was tucked under the stop. We moved our two main halyards aft, attached them to padeyes, and winched them tight. We set up our running backstays in their working positions and tensioned them. We hoped these steps would be enough to keep the rig intact while we motored to Panama City for 12 to 15 hours under potentially rough conditions.

A better plan

Friends on the other boats in the anchorage conferred, kibitzed, and offered suggestions. Finally, friend Royce, of the schooner *RDreamz*, recommended we take down the

forestay while at anchor. His argument was that by lowering and disassembling the furling system on his expansive deck, we could prevent a catastrophic failure that would cause serious damage to the furler and possibly the mast. Luckily, his boat's deck was longer than our forestay.

We assembled and met with crews from *RDreamz*, *Tao 8*, and *Bluebottle* to carefully plan the steps needed to remove the damaged forestay. The following morning dawned breezy but the water in the anchorage remained flat calm. We pulled *Carina*'s anchor and slowly motored up to *RDreamz* and passed a line from our



Leslie and Philip discovered this damage at the upper end of their forestay while anchored in a remote anchorage hundreds of miles from the nearest rigging supplier.

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Rigging matters



A team of helpers, assembled from cruising boats in a remote anchorage in Panama, watches as Philip prepares to lower *Carina*'s forestay onto the deck of the schooner *RDreamz*.

bow to the stern of *RDreamz*. Once this line was cleated on both vessels, we put *Carina* in reverse at low rpm and locked her wheel.

Philip donned his climbing harness once again and we cranked him to the masthead. Using a rolling hitch, he tied a second halyard to the furling extrusion about 5 feet below the furler wrap stop. After tensioning this halyard, the team on *Carina*'s deck removed the clevis pin from the tack of the roller furler, swung the furling drum and forestay over the bow pulpit, and handed it to the team on *RDreamz*. When ready to lower the forestay, Philip snipped the remaining wires . . . they were so few he only had to use lineman's pliers. Though supported with a halyard and with the backstay eased, there was still enough tension that the wires parted with a sharp "Sproing!"

A team of two managed both halyards, slowly lowering the top of the forestay as the team on *RDreamz* walked forward on deck, carrying the furling drum while supporting the extrusion to clear the stern rail as it came down.

Soon *Carina*'s forestay was resting safely on the deck of *RDreamz*. We then attached the spinnaker halyards to *Carina*'s bow pulpit to support the mast and lowered Philip to the deck along with the upper Sta-Lok terminal and the frayed end of the forestay.

Later, while disassembling the extrusion sections, we cleaned and inspected the furling drum, extrusions, extrusion bearings, and setscrews. We were careful to label where sections intersected. We also took care to measure, to the millimeter, the full length of the original $1 \ge 19$ wire rope.

With the parts of the furling system safely stowed in *Carina*'s main saloon, padded with pillows and tied down, we began our trip to Panama City. There we would meet the shipment of rigging supplies we had ordered by email.

Our original plan had been to bring Carina into the marina at Panama City, where we could lay out the new forestay, install the Sta-Lok terminals. and assemble the Profurl extrusions using a stable and relatively clean dock. This option seemed less appealing as we approached the city. The marina was tightly packed with megayachts, the management unfriendly, and the slip cost shocking. The idea of using the parking lot near the anchorage was even worse — it was filthy and served as the staging area for crowds of island-bound ferry passengers. So when friend John of Nakia suggested that we might be able to install a new wire and then reassemble the furler directly on the wire as it hung from the masthead, we agreed.

A collaboration of cruisers

To do this, we would need help. Once we received our parts shipment, we assembled another team of eager volunteer cruisers from the vessels *Susurru*, *Iwa*, and *Nakia*. All the boats involved had rigs with mechanical terminals either Sta-Lok or Norseman — but none



The team on *RDreamz*, at left, walked forward on deck carrying *Carina*'s furling drum while supporting the extrusion to clear the stern rail as it came down. Leslie and Philip labeled the components as they carefully dismantled and inspected the Profurl furling assembly, at right.



To tie a rolling hitch onto a stay, take two turns around the stay in the direction the load will be applied, at left, cross the end over the standing part, and take another turn, tucking the end under, center and right. Long link plates, bottom right, allow access to the forestay turnbuckle.

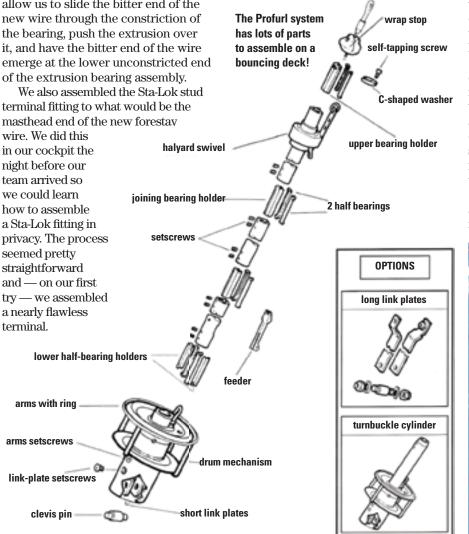
of these cruising sailors had actually assembled a terminal. For that matter, neither had we. In addition, most of our team also owned Profurl roller furling, so everyone was interested in that aspect of the project too.

To prepare for reassembling the roller furler, we made sure that the inner-extrusion bearings were at the top of each extrusion section. This would allow us to slide the bitter end of the new wire through the constriction of the bearing, push the extrusion over it, and have the bitter end of the wire emerge at the lower unconstricted end of the extrusion bearing assembly.

We also assembled the Sta-Lok stud terminal fitting to what would be the masthead end of the new forestay

When our team was assembled, using the old wire as a measure, we cut the new forestay wire, allowing for the damaged wire we had cut off during disassembly and the fact that the new wire would stretch a bit.

We again winched Philip aloft, where he and the masthead crossed the sky in wide arcs in the rough conditions



— we were in the La Plavita anchorage amid wakes created by workboats and vessels transiting the Panama Canal, all the while being buffeted by 20- to 25-knot winds. We considered postponing the project, but everyone was enthusiastic and we proceeded.

Using a rolling hitch, the deck team attached a halyard to the new forestay and hoisted the forestay wire fitted with the Sta-Lok eye to Philip, who slipped it onto the masthead tang and secured it with a clevis pin and cotter pin. We then lowered Philip to the deck.

We assembled the Profurl by slipping each section of extrusion onto the forestay in succession, beginning with the top section. The genoa halyard was attached to the swivel and we periodically took up on the halyard to raise the swivel up the foil column. We had a messenger line attached to the swivel so we could retrieve it later.

As each section of extrusion was added to the growing furler foil on the forestay, we pushed the assembly slowly



Rigging matters

upward. One person was the assembler, sliding each extrusion over the bearing of the adjacent extrusion and securing the setscrews with (red) thread locker. A support person handed him tools and materials when needed. Another team member fetched and aligned the next extrusion section, and the last held the bottom end of our increasingly weighty assembly as it swayed around in the wind, waves, and boat wakes.

The final section was longer than the others, due to the long link plates of our Profurl unit. Reaching as high as possible, grunting and groaning as *Carina* danced around her anchor, the assembler was finally able to get the setscrews in place. In retrospect, we could have made this easier by removing the furler link plates or by hoisting our assembler up the staysail stay to the height of the joint.

With the assembly complete, we attached a halyard to the drum and winched the Profurl assembly as far up the forestay as it would go, to expose the lower end of the $1 \ge 19$ wire. Our team, eager to learn, watched and helped as we assembled the lower Sta-Lok fitting, a stud which fit the turnbuckle.

To complete the assembly, we threaded the stud into the turnbuckle, then secured the tack with the clevis pin and tensioned the forestay. The final touches were to reattach the Profurl link plates at the tack and the wrap

Resources

Blue Wave Blue Wave A/S www.bluewave.dk

Hi-Mod Petersen Stainless Rigging www.petersen-stainless.co.uk

Hayn Enterprises www.hayn.com

Norseman Navtec www.navtec.net

Quick Attach Suncor Stainless www.suncorstainless.com

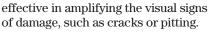
Sta-Lok Sta-Lok Terminals, Ltd. www.stalok.com stop at the masthead and, lastly, to tune the rig. We were all satisfied with the successful completion of our first do-it-yourself rigging project.

Rig care and inspection

Rigging life expectancy depends on many factors including the grade of the stainless-steel wire, terminal type, the quality of the workmanship used in constructing and installing terminals (swages or mechanical terminals), maintenance, the environment (temperature, humidity, and salinity), rig tuning, and boat usage (frequency and racing versus cruising). We recommend an inspection of all standing rigging components at least annually, preferably more often, but especially before every ocean passage!

Although we don't know the exact cause of our failure, we suspect it was an incident in which a spinnaker halyard that had been stowed at the bow pulpit wrapped the forestay as we attempted to furl the genoa while sailing downwind in fresh conditions.

To clean and inspect our rig, we use WD-40 (a moisture-exclusion agent and lubricant available everywhere we have cruised) along with a fine synthetic scrub pad and a soft cotton rag to remove dirt and surface rust. After cleaning, we carefully scrutinize the full length of our stainless-steel wire-rope stays and shrouds, turnbuckles, tangs, and terminals, looking for corrosion, pitting, cracks, broken strands, and wear. Any questionable areas, we examine more closely by magnification. We have no dye penetrants aboard but these products, when available, are



It is also advisable to periodically invert rigging wire and terminals since seawater, dirt, and acidic pollutants run down the wire and accumulate at a wire's lower end, causing corrosive breakdown in the terminal. Internal corrosion in terminals causes the swelling that leads to cracking and failure, a problem more pronounced with swaged terminals. Mechanical (compression) fittings, such as Sta-Lok, provide greater internal space for expansion in the event of internal corrosion.

Also, depending on the age of your boat, pulling and inspecting your chainplates is prudent. Six of *Carina*'s eight chainplates were dangerously cracked, something we discovered during a refit when she was 20 years old. When viewed from above and below, they appeared serviceable. It wasn't until we pulled them that we could see the failures just below deck level. We were very lucky we discovered the problem in time to prevent a catastrophic failure.

Mechanical or swaged?

Mechanical terminals offer the hands-on sailor a distinct advantage over swaged terminals by permitting replacement of rigging wire and terminals without the need for specialized swaging equipment or tools. This is critical to the longdistance cruiser, since a failed fitting will inevitably happen hundreds, if not thousands, of miles from the nearest rigger and rigging supplier.

Recently, we replaced the remaining old wire of *Carina*'s standing rigging





Internal corrosion in swaged terminals, caused by the accumulation of seawater, dirt, and acidic pollutants, leads to cracking and failure. Note the small vertical crack at the top of this fitting, at left. Pulling and inspecting chainplates is prudent because, when viewed from above and below, they often appear serviceable, as this upper shroud chainplate did, above. If this crack had remained undiscovered, the rig was destined to suffer a catastrophic failure. while at anchor in the rural island group of Vava'u in the Kingdom of Tonga. We were able to tackle this project, necessitated by the discovery of corrosion and more broken strands in our rigging wire, because all our stays and shrouds are fitted with Sta-Lok mechanical terminals.

When disassembled, the 11-year-old Sta-Lok terminals appeared to be in very good condition. We cleaned, inspected, and reused them, replacing the old wedges with new ones. Our experience has made us appreciate the Sta-Lok system sold to us by a rigger who also happened to be a former cruiser.

Swaged terminals may be less expensive than mechanical terminals and they have a reputation for superior strength. However, the process of swaging results in work-hardening of the stainless steel, which causes brittleness and susceptibility to stress corrosion, and the specialized equipment needed to form swaged fittings is impossible to find in remote areas anyway.

The extra cost of mechanical terminals is mitigated by the fact that they can be reused when re-rigging, generally with the need to replace only the wedge, a minor expense. Any of the available mechanical systems, if appropriately sized, will be more than adequately strong. All currently marketed brands of mechanical terminal claim operating ranges between 90 and 100 percent of the breaking strength of the wire. At least two brands offer Lloyd's listing or certification.

With mechanical terminals, the same terminal body may be used with an end fitting of a threaded stud, fork, or eye. This universality allows for the wire of a stay to be end-for-ended without the need to change any terminal fitting.

Based on our experience, we would highly recommend using mechanical over swaged rigging terminals.

Mechanical rigging options

The most common brands of mechanical terminals are made in the UK: Sta-Lok (Sta-Lok Terminals, Ltd.), Norseman (Navtec), and Hi-Mod (Petersen Stainless Rigging, distributed by Hayn Marine in the USA), a relatively new product that is gaining in popularity. Blue Wave terminals (Blue Wave A/S) are made in Denmark and sold through dealers

66 The extra cost of mechanical terminals is mitigated by the fact that they can be reused. **99**

in North America. A previous relationship with Suncor Stainless resulted in the similarly designed product labeled Quick Attach, which seems to be intended primarily for lifeline applications. All these brands are constructed of type 316 stainless steel and are marketed for use with stainless-steel wire rope. Internet prices for the different systems at the time we were researching this article were similar.

All the brands work essentially the same way: a wedge or a cone (based upon wire type) is inserted on the end of the stainless-steel wire rope and then the wedge-wire assembly is compressed onto the wire as the two sections of the terminal are threaded together using hand tools. Wedge design for all systems varies with wire type, except in the case of the Blue Wave and Quick Attach systems, which have a universal wedge (that they call a "jaw") for each wire diameter.

One design distinction of note: the Sta-Lok wedge is compressed inside the male-threaded terminal section (called the socket), such that when the terminal is assembled, the wedge is internal to the walls of both the male- and femalethreaded terminal sections (called the former), doubling the wall thickness securing the wedge. The Norseman, Hi-Mod, and Blue Wave wedges are internal to the wall of only the femalethreaded body section of the fitting. What this doubling means in terms of breaking strength we cannot say, as little objective testing data is available.

Sta-Lok and Hi-Mod both claim to hold to the full breaking strength of the wire, though only Sta-Lok offers certification of this specification by Lloyds of London. Norseman literature makes no specific claims regarding strength and there have been reports of failure under testing (see Good Old Boat, March 2000). The Blue Wave product carries Lloyds certification of its breaking strength specification at 90 percent of the wire's breaking strength, though there is a note in their literature that indicates that wire breaking strength may be "decreased by 0 to 15 percent" when using these terminals. Most owners we interviewed seem happy with the performance of their fittings. regardless of which brand they own. \mathcal{A}

Philip DiNuovo and Leslie Linkkila came to cruising and boat ownership as adults and quickly developed a passion for small-boat travel. In 2003, they quit their professions and left the Pacific Northwest behind. Now in the South Pacific, Philip and Leslie have had to learn to service nearly every system aboard Carina, their Mason 33.

In the second part of this article, to be published in the September issue, Leslie and Philip will discuss lessons learned and the specific steps involved in replacing their rigging.



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Simple solutions

Poor man's anchor hoist

Mechanical advantage for the windlass disadvantaged

by Jerry Powlas

or about 19 years, we have anchored *Mystic* without benefit of bow rollers or a windlass. When we were weekend sailors, we only had to bring up the anchors a couple of times per outing, but after we started cruising for longer periods, anchoring began to take on greater significance because we were doing more of it.

We use lightweight aluminum anchors most of the time and, so we can lift them off the bottom, we don't have a lot of chain on them. That's fine as far as it goes, but the actual task of lifting the anchor and chain is not very ergonomic. We're now going to fit *Mystic* with an anchor windlass, but by the time I began to give in to that kind of thinking, we were on our long cruise in the middle of the Canadian wilderness on the east shore of Lake Superior. No windlass for *Mystic* that season. We did, though, devise a way to spare our backs while bringing in the anchor.

We almost always motor up to the anchor until it is underfoot. Karen then cleats off the rode and I back down to rip the anchor out of the bottom. After it was out, we used to lift the rode, anchor, and chain up over the side. That was the real work and the part that was hard on our backs (mostly Karen's back). we snapped an ascender onto the jib or spinnaker halyard and clipped it to the rode. I then used the halyard winch to pull the anchor out of the bottom and hoist it aboard. It took a little coordination, but we got pretty good at it. While I cranked the winch, Karen guided the rode, chain, and anchor aboard so it didn't drag along the hull. Once everything was aboard, I lowered away and Karen stowed it all and mopped around a bit to get the mud off the deck.

You can do this with an ascender, which is a rockclimbing device, or you can simply do it with a short piece of line bent to the halyard and tied with a rolling hitch to the rode. If you use a line, make it one or two sizes smaller than the rode. The smaller, more flexible line will work better. We carry two ascenders to allow me to climb the mast when I am alone, so they're aboard anyway. The ascenders will not fit the larger-diameter rodes, so you'd have to use a rolling hitch if your rode is much larger than climbing line. If your rode is that big, you probably have a windlass anyway.

I'm looking at windlasses and thinking about how to fit one on *Mystic*. Maybe next season or maybe not but, either way, we're done lifting the chain and anchor over the side. Now our backs can age more gracefully.

The halyard solution

For most of last summer we tried a variation. We brought the anchor underfoot and cleated it off as before, but then *Jerry Powlas* is co-founder and technical editor of Good Old Boat. *His engineer's training helps him in his efforts to live by the Princess Principle aboard* Mystic.



Once the anchor is under the bow, the ascender is attached to the rode and clipped to a halyard, at left. While Jerry (off camera) hoists away on the halyard, Karen, at center, guides the anchor rode until she has the anchor and chain (and a little mud) on deck, at right.

Quick and easy

Dorade draft excluder

A simple airflow control

by Don Launer

Dorade vents are great. They supply water-free air belowdecks even in a pouring rain or when spray is soaking the deck on a beat to windward.

We have two Dorades, one over the head and the other over the settee in the cabin. In the off-seasons, when we're sitting at the cabin table and a cold wind is blowing outside, the airflow from the Dorade can cause a draft on the backs of our necks. To solve this problem we have installed small sliding doors on the overhead under each of the vents. This allows us to temporarily reduce or close off the air supply when we find it annoying, without having to go out on deck.

Don Launer's bio is on page 15.

Don controls the air entering through his Dorades with sliding closures made of plywood and varnished to match the cabin trim.



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Quick and easy

Sandpaper bookends

Hold abrasive sheets flat and sorted

by Stan Freihofer

cut sandpaper into quarter sheets to keep on hand for finish sanding. In the Florida humidity, sandpaper soon curls and becomes unmanageable. To solve the problem, I began stacking the quarter sheets in a pair of cheap nesting bookends, available at office stores. Now the sheets can't curl and, since the sheets are rectangular, I can separate the different grits by alternating their orientation in the stack.

Stan dissuades his sandpaper from becoming unruly by sandwiching it between bookends.

For easy storage, I drilled a hole in one of the bookends so I could hang the sandpaper holder from a hook or a nail. \varDelta

Stan Freihofer was raised in St. Thomas, U.S. Virgin Islands. He is currently restoring a 1981 Cape Dory 25, which can be viewed at <www.ReefRoof.com>.





Quick and easy

Dockline holders

Helping dock "crew" do the right thing

by Michael Facius

When we bring our 1979 C&C 30, *Callisto*, into a dock, I like to have the docklines made fast and their ends positioned so helping hands on the dock can easily get hold of them.

For years, I've tried to find a slip knot that would work with my ½-inch docklines and my ¼-inch lifelines. I finally gave up. I would much prefer using a knot rather than a device for attaching any kind of lines on my boat, but the solution I came up with has proved to be handy, quick, and secure.

We whipped our white docklines with blue whipping line and added a band of red Rescue Tape to make them stand out.

Next, we added stainless-steel holder rings on both sides of our boat at locations that are the easiest to reach from the dock. We fastened the rings to the lifelines with stainless-steel wire, using a Clamptite tool.

Our docklines are ½ inch and are fairly new and flexible, so our rings have an inside diameter of just over 1 inch. If your lines are stiff, you might need to go to a larger inside diameter.

As we approach a dock, all we have to do is push a loop of a dockline into its ring. With the distinctive markings on the docklines, it's easy to direct helpful dockmates to grab and use the line with the red end ... rather than "helpfully" yanking on our stanchions or lifelines. \varDelta

Michael Facius is Good Old Boat's publisher and advertising manager. He and his wife, Patty, sail their 1979 C&C 30, Callisto, out of Bayfield, Wisconsin, on Lake Superior. They have been sailing since 1986, beginning with an O'Day 20.

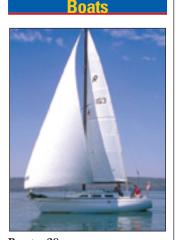




With one end made fast on the boat and the other tucked into a ring on the lifeline, Michael's dockline is set up so a helper on the dock can easily grab it and take it to a dock cleat.



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Ranger 28 1977. Gilded Lily. Fully restored. Feature boat Sept. '06 issue. Many upgrades. Beautiful, fast, comfortable sailer. Enhanced A4. New bottom paint. Dinghy, davits. On the hard, Atlanta. \$12,500. Walt Hodge 770-498-1678 walt@wingnwing.com www.wingnwing.com



Grampian 34

Elysian is a rare 1973 Grampian 34 center-cockpit ketch. Solid comfortable cruising boat with lots of storage, easy handling, full aft cabin. Many recent upgrades (too many to list) include new electrical systems, sails, 2-anchor bow roller, and all-new LED lighting (cabin and tri-light). All new S/S opening ports. New epoxy barrier coat. Thunder Bay, ON. \$26,000 CND.

Michael O'Reilly 807-474-5321 elysian_sale@helplink.com http://elysian.ca

Sundance 23

1976. Includes 2-axle home-built trailer. New halvards, lifelines, compass, docklines, anchor and rode, depth gauge. New fuse block added and mostly rewired w/marine-grade wire. Deep-cyle battery. Evinrude 9.9-hp engine w/electric start, gone over by mechanic in '09. Runs great. Main, jib, and spinnaker w/pole. Interior in great cond. Escanaba, MI. Ready to sail! \$4,300.

Don Alverson 906-399-8690 perpetualm@aol.com http://www.sailboatlistings. com/view/20292



Nonsuch 36

1984 Hinterhoeller. Freshwater boat. Well-loved, cared for by proud owner. Single-sail rig w/ wishbone-type boom makes the Nonsuch 36 perhaps the easiest sailing boat ever built. Westerbeke 58 w/600 hrs. Many new features added since '02. Included, uninstalled: new propane cabin heater and new electric sail winch. Additional photos available by email. In Muskegon, MI. \$85,000. Timing is everything!

Edward Kress 231-766-2561 amyjohn1218@comcast.net



Ericson 27

1977. Very clean and well maintained. Freshwater boat. Atomic 4. Tiller steering. Upgraded hardware and boom. New main '08. Storm jib, 135, light-air genoa, spinnaker, all in great cond. New lines, all led aft for singlehanding. New antiskid on deck. Mahogany veneer finish in cabin. Useful and efficient galley. Headroom 6'1". Custom cradle. Already purchased larger boat. Bayfield, WI. \$10,500. **Jill Carey**

jilltcarey@yahoo.com



Com-Pac Sun Cat 17 2008. Cape Cod cat gaff-rigged daysailer w/enormous cockpit and lots of legroom. No cabin. Yamaha 4-hp OB. Mastendr quick-rig sailing system allows easy singlehanded mast raising. 14" draft w/ keel board up, 54" down. Trailer. Golden Valley, MN. \$17,500. Jim Uttley

suncat2008@hotmail.com http://ourcompacsuncat daysailer.weebly.com



Allied Seabreeze 34 1968. Classic Allied design. Good cond. Hand-laid fiberglass. H/C pressure water, 12V fridge in well-insulated box. Autohelm 500 wheel AP. ST winches. 35-lb plow and 2 Danforths. Harken 150 RF genoa. Draws 3'6" w/500-lb bronze centerboard up. High hrs on engine, runs good but burns oil. Excellent bluewater sailboat Has cruised Florida, Bahamas and Bermuda. Safe and solid. Sodus Bay, NY. \$25,000 OBO.

Jim Sullivan jrsul@hotmail.com



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away. New Brightside paint '04, VC 17 bottom. RF, auto helm, Icom VHF, Garmin GPS, stereo, Datamarine S/D and log. Lots of running gear. Extra sails: main, 3 headsails, spinnaker. Anchor and rode, fenders, lines, etc. Atomic 4 in good cond. New water pump, EGR, and electric fuel pump. Dripless shaft seal. Steel cradle for storage. Grosse Ile, MI. \$13,900.

Lewis Williams 313-336-4236 celcon@comcast.net http://pw1.netcom.com/~suter/ triton.html



Seafarer 22

1975 sloop, long keel. One main, two jibs, all in good cond. All new lines '09. 7.5-hp Merc OB. Sleeps 3. New cushions in cabin (5") and cockpit. Porta Potti. VHF, D/S, many extras. Trailerable with medium SUV. Trailer included. In mid-MI. Can deliver within 100-mi. radius. \$4,250 OBO.

Ted Rensland tedr44@hotmail.com

Rob Roy 23

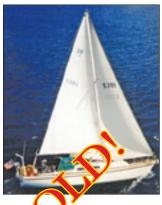
1984 yawl. Ted Brewer-designed pocket cruiser. 2 ample berths and lots of storage. Marine Concepts quality construction, original trailer, and Honda 4-stroke OB. Newer sails, all in good working order. Hull, deck and cabin professionally repainted '06. Well found and ready to sail. See Practical Sailor and Good Old Boat (May '03) reviews. Colonial Beach, VA. \$8,100. John Johnson

jajohncb@gmail.com

Cal 2-27

1980 sloop. Yanmar 16-hp rebuilt '08, new trans '09, WS, AP, depth, Harken RF, ST winches, 2 Danforth anchors, interior refinished, cushions recovered '10. Exterior needs TLC. Fun sailing boat. In Mattapoisett, MA. Must sell. \$7,000 OBO.

Anne Mullett womansailor@yahoo.com



Pearse 35 Classic and. oro. Bristol cond., commuly upgraded, fresh water, always stored inside. Astounding complement of sails. RF iib. Monitor windvane, Edson WS, Garmin GPS, inflatable w/5-hp OB, dodger on S/S frame. Impeccable teak interior, full headroom, new cushions, fridge, Force 10 propane stove, vacuum head, pressure water. 3 anchors, full-hull rubrails, upgraded Atomic 4. Ready for extended cruising. 7 jack stands. Owner retiring. Beaver Island, MI. \$20,000.

Gray Sweeney



Soverel 28

1962 classic yawl. Comfortable sailing boat. Everything new or updated. 20-hp Westerbeke diesel, new mainsail, sailcovers, cockpit cushions. Sleeps 4, head, galley, good headroom in cabin. Lots of sails. Marine radio, AM/FM radio w/CD player. New carpeting and toilet. In the yard at Point Bay Marina, Charlotte, VT. Reduced price \$8,900 OBO.

Bill and Nancy Brogden 802-436-2785 nancybrogden@vermontel.net



Stone Horse 23'4"

1974 Edey & Duff. Hull #53. Second owner. Two-headsail rig, both RF, custom furling staysail on club. Westerbeke 12B2 inboard w/built-in 10-gal tank, 365 hrs. Loaded w/usual gear. Spare marine battery and charger. Exc cond. In the water at the Great Lakes Naval Station, IL (Lake Michigan). \$21,000.

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Colvin 38

Bluewater sailer. Recent sails, main and mizzen full-battened. Mast steps, custom Mack Pack sail covers w/integral lazy-jacks. 28-hp FWC Volvo diesel. Lofrans windlass w/remote. VHF, stereo, chart plotter. 2-burner CNG stove, double sink, pressure water. 4 batteries (450 A/H), 110 gal water, 70 gal fuel, 25 gal holding tank. Edson steering. Raymarine AP and windvane. Dinghy, 6-hp OB. MA. \$34,000.

> Adrice Thibeault sailaketch@gmail.com



Blackwatch 23

1981. Shoal-draft, cutter-rigged, trailerable pocket cruiser. Moor Patience draws 24". 22'7" LOA. Exhaustive restoration in '08/'09 from mast top to keel. Original gelcoat is magnificent. New RF jib and staysail, extensive canvas. Airy cabin sleeps 2. All new teak. Extensive restoration list available. CO. \$18,500.

Mark Nash-Ford 720-933-3222 Allaboutfun@comcast.net http://www.youtube.com/ watch?v=a8VbahlCtjs

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Dean Gibbons sweetpea26@mac.com http://islander29.tumblr.com



Classic 31

1969. Designed by American marine architect Peter Van Dine, built in Ontario. Whistler is a rugged, seaworthy ketch. Full keel, 4.5' draft, 9' beam. Heavy hand-laid fiberglass hull, Atomic 4, steel cradle. 6'2" headroom, enclosed head, pressure water. Shore, dual batteries, VHF, D/S. Very stable and a great sailing boat. Thousand Islands, Ivy Lea, Ontario. \$12,000.

Howard Whittaker 613-729-3035 howhittaker@gmail.com

Offshore 33

1989 cat ketch. Teak-and-holly cabin sole. Teak deck trim. Bimini, StackPack sails, 16-lb plow anchor, compass, D/S. Fridge, 2-burner gimballed stove w/oven, pressure water in galley and head sinks. Holding tank. Double berth, single berth, and large V-berth. 6'3" cabin headroom. New cabin VHF radio. New fuel system '09. New bilge-pump system '08. Cat rigged w/wishbone booms and no shrouds. Mint cond. Stony Point, NY on Hudson River. \$26,900. Bernard Jankowsky

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The LEDs are powered by four button-type batteries concealed in the headband.

Visit <www.sailorsnightvisioncap.com> for more information, including options for embroidery and volume discounts.

No-Wear Chafe Guard

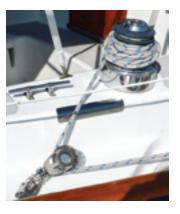
If you have one of those nasty places on your boat where a working line, such as a jibsheet or a dockline, saws against your gelcoat, this product might be the solution for you.

No-Wear Chafe Guard is a very thin strip of type 316 stainless steel with an industrial-strength adhesive on the back. It's flexible, so it can be formed to adhere to curved as well as flat surfaces - and you don't

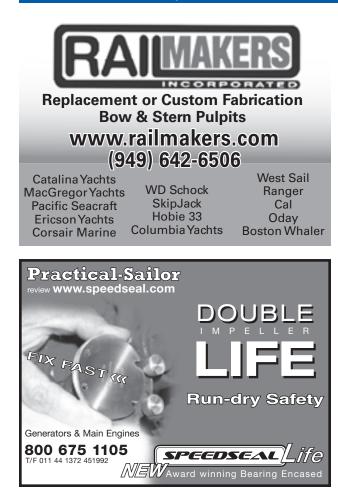
have to drill any holes! Should you ever want to remove it, you can use a heat gun to soften the adhesive, then gently lift the edges.

No-Wear Chafe Guard comes in two sizes. 6 x 2 inches (\$13.95 plus S&H) or 9 x 2 inches (\$14.95 plus S&H).

For more information visit <www.nowear quard.com>.



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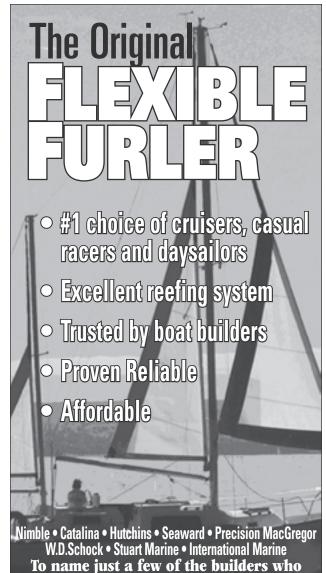
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Reflections





Aaron and Nicole found anchors for the taking in, clockwise from top left, Port Townsend, Seattle, Poulsbo, Ballard, Seattle again, and outside the NOAA building, also in Seattle.

very sailor knows the price of gear goes up exponentially with size. Interestingly, this appears to be completely untrue once an anchor gets above a certain weight. In fact, in our wanderings we have discovered tons of anchors lying around *free for the taking!* Knowing the price of a large anchor and the sound sleep that comes with knowing you have secure ground tackle, my wife, Nicole, has been inspired to take advantage of these amazing deals.

It appears that some towns are so desperate to get rid of their free anchors they attempt to lure takers with nice paint jobs. The anchor in beautiful white is available in Port Townsend, Washington. Don't wait too long. This one looks like a steal.

The biggest free anchor we've found so far was right in downtown Seattle. This one even included a rare swivel. But you have to look closely at the photo to see the defect. Even though it was above her head, Nicole fortunately noticed the bent



fluke before taking it to the boat, as this would have severely reduced its ability to set. So beware, sometimes with free anchors, you get what you pay for.

Nobody else seemed interested in the free anchor in Poulsbo, Washington, so Nicole gave it a tug, trying to get it back to the boat. I would have been happy just to have that shackle for the mainsail halyard, but unfortunately we couldn't free the pin.

We even found an anchor right outside our marina in Ballard, Washington. This one, although a little rusty, had 80 feet of chain rode attached. *Free!* You would certainly sleep well knowing the working load of your rode was many times the weight of your entire boat.

As we began discovering free anchors around our cruising area, we learned that getting one back to the boat can be difficult. By the time we came across the one among the boulders in Seattle, Nicole had learned an important secret: you have to lift with your legs!

We found the stern anchor outside the NOAA building in Seattle. Perhaps



this one wasn't as free as we thought, however. We discovered one evening that NOAA has armed security. Lesson learned: always verify the freeness of an anchor, especially at night. \varDelta

Aaron and Nicole Maraschky are out cruising aboard their 1983 Hans Christian 33, Bella Star. Read more about their adventures and escapades on their website, <www. svbellastar.com>.





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