GOOD OLD BOAT™

THE SAILING MAGAZINE FOR THE *REST* OF US!

www.goodoldboat.com

Issue 90 May/June 2013

GOOD OLD BOAT™

THE SAILING MAGAZINE FOR THE *REST* OF US!

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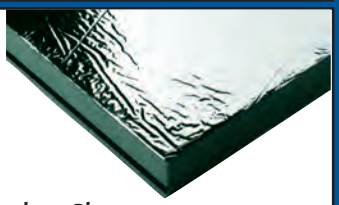

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Speaking seriously

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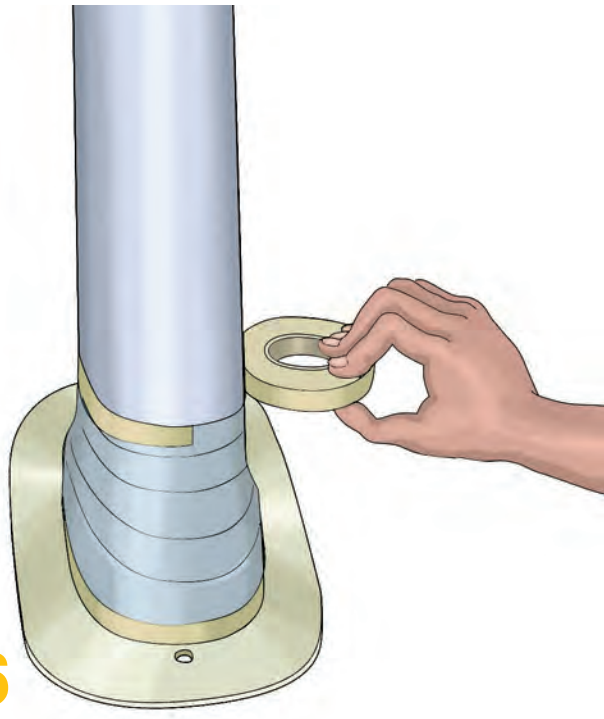
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What's more

About the cover . . .
Michael Holtzinger's 1976 Islander 28, *Anastasis* (Greek for resurrection), is this issue's cover charmer. The everett Naval Base and Washington's Cascade Mountains complete the scene. Brian Banker took this photo from his 1979 Newport 28.

Archive eXtractions

Articles compiled for you from *Good Old Boat* archives

NEW!

Review Boats 25 - 27 Footers

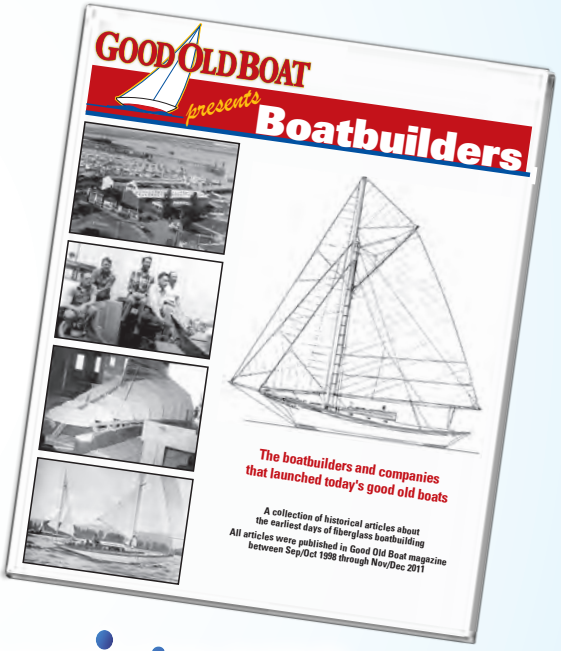
Small keelboats to sail anywhere

Reviews of some of the first sailboats introduced during the fiberglass era: the early family cruisers and racers in the size range of 25 to 27 feet. Although today's manufacturers seldom build in this size range, preferring to make the bigger bucks that come with the sale of 40- and 50-footers, these wonderful boats last seemingly forever selling and re-selling as people start with a small budget, invest in their new hobby, maintain and upgrade their sailboats, and finally move along to the next size group when the family grows, the budget grows, or the wanderlust grows.

Boatbuilders

The boatbuilders and companies that launched today's good old boats

Birth of the Valiant • Allied Boat Company • The Pearson Era • The Birth of Fiberglass Boatbuilding
The Cheoy Lee Legend • Catalina Yachts: One Big Family • The Halcyon Days of Auxiliary Power
The Monterey Boat Connection • The History of Columbia Yachts • The History of C&C Yachts
Hallberg plus Rassy • Chris-Craft's Classic Sailboats • Behind the Sabre • Tartan Yachts
Yacht Constructors: Pioneers in Glass • Camper & Nicholsons • Com-Pac Yachts • The Island Packet Story • Pacific Seacraft's Evolution • The Clark Boat Company • Fifty Years On, Ted Brewer
Working-class Heroes • The History of the Universal Atomic 4 • The Enduring Adaptable Sharpie



Boat Designers

The creators who drew the lines of the good old boats we value today

Including a few bonus profiles
Carl Alberg • Chris Bauer • Ted Brewer • Bill Crealock • Mike Ellis • Ian Farrier • Bill Garden
Thomas Gillmer • Blondie Hasler • Lyle Hess • Garry Hoyt • Bruce Kirby • Bill Lee • Charley Morgan
Gary Mull • Allan Nye Scott • George O'Day • Beattie Purcell • Philip Rhodes • Clarke Ryder
Olin Stephens • Bill Tripp • Larry and Lin Pardey • Hal and Margaret Roth

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GOOD OLD BOAT

FOUNDER/EDITOR
Karen Larson
karen@goodoldboat.com

FOUNDER/TECHNICAL EDITOR
Jerry Powlas
jerry@goodoldboat.com

PUBLISHER/ADVERTISING SALES DIRECTOR
Michael Facius
michael@goodoldboat.com • 612-605-8319

SENIOR EDITOR
Jeremy McGeary

MANAGING EDITOR
Tim Bauernfeind

ASSOCIATE EDITOR
Pat Morris

RESEARCH EDITOR
Dan Spurr

CONTRIBUTING EDITORS
Ted Brewer • Donald Launer • David Lynn
Rob Mazza • Gregg Nestor • Allen Penticoff
Paul Ring • Bill Sandifer • Richard Smith • Tom Wells

CREATIVE DIRECTOR
Mary Endres

AD & EDITORIAL PRODUCTION
Nancy Koucky

CLASSIFIED ADS AND FINANCIAL MANAGER
Karla Sandness
karla@goodoldboat.com • 701-952-9433

DIRECTOR OF CIRCULATION/RETAIL
Mark Busta
mark@goodoldboat.com • 701-952-9433

WEBMASTER
Jerry Stearns
www.goodoldboat.com

TROUBADOUR
Tom Wells

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7340 Niagara Ln. N. • Maple Grove, MN 55311-2655
Phone: 701-952-9433 • Fax: 701-952-9434

BUSINESS OFFICE:
1300 Evergreen Dr. N.W. • Jamestown, ND 58401-2204
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News from our two sites: GoodOldBoat.com and AudioSeaStories.com, our downloads site

Attention all dockwalkers

We just doubled our photographic overview of cove stripes to help you identify the manufacturers of sailboats you see as you walk the docks. This has been a (somewhat neglected) labor of love. Karen Larson took dozens of photos over a period of three years and finally got around to posting them. Have a look and, if you have one to add, send it to karen@goodoldboat.com.

www.goodoldboat.com/resources_for_sailors/boat_identifiers

Back issues page

All previous issues of *Good Old Boat* are summarized and their covers are presented on one easy-to-scroll-around listing. The issues start with the current one and scroll on down Memory Lane to the premier issue published way back in June 1998 (at right).
www.goodoldboat.com/reader_services/back_issues.php

If you are looking for a specific kind of boat or do-it-yourself project of any kind, our Article Index is a better resource. A keyword search there will help you find what you're looking for.
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2012 posted

We're caught up and are keeping up on our back issues in PDF format. The full year of issues published in 2012 has been posted. Every issue — starting with the first day we crawled out of the swamp (in evolutionary terms) — is posted and available as a download. Used together with the Article Index mentioned above, you can find what you are looking for and be reading it in minutes. As before, you can buy single copies or the full year (all six issues) at a discount.
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The design spiral

Boat evolution is a non-linear process

by Karen Larson

Any search for exactly the right words can be a frustrating experience. This is especially true if you're trying to explain a fundamental concept you understand deep in your core, so deep perhaps that you normally don't have to articulate it.

I had one of those deep-in-the-core feelings about the evolution of our good old fiberglass sailboats over the years. The evolution, as I perceive it, begins with one or two designers who modified their favorite classic wooden sailboat designs just as the fiberglass era began. The current sailboats at the time were of course the models for the next ones . . . but with additional tweaks to accommodate the new plastic material. All good old boat sailors have tales of overly strong scantlings based on the frames of the wooden boats of the time.

Another designer borrowed one or two of the first ideas and took them to the next step. Then the first designer was hired by a different manufacturer and took his evolved thinking there, where he taught six or eight young wannabes. Each of these novice designers went off in various directions with further modifications. Some of them changed firms several times. Each of them taught several more. And all of them were watching all the others' designs to see which won races and which sold boats and they made further modifications accordingly.

Over the years — as we've printed articles about the designers and manufacturers of our fiberglass sailboats and about the evolution of the boats — I have developed a deep awareness that the very small field of sailboat design and development was truly a tangled web of competitive pressures and good-old-boy interrelationships.

I tried to put all this into words not long ago when we introduced our two newest Archive eXtractions. These are downloadable PDF collections of articles we've published over the years. The collections on my mind at the time were our two new historical perspectives called Boatbuilders and Boat Designers.

In those introductions I used words like "these companies played a significant role in the evolution of the cruising sailboats we treasure today" to describe the boatbuilders. And I tried something like this to describe the designers' relationships: "The designers in this book were instrumental in guiding the design of our pleasure sailboats — step by baby step — from the wooden workboats of yore to today's family yacht."

Imagine my surprise when I found the perfect description in a recent copy of *WoodenBoat* magazine: *the design spiral*. In his editorial in issue 230, Matt Murphy tells about Paul Gartside, who was well acquainted with John Atkin and worked for a time for Bill Garden. Matt describes Paul Gartside as "one of the most prolific designers of stock plans today."

Then came the bolt of lightning. Matt says, "It was Garden who introduced Gartside to the concept of 'the design spiral' — a method of work that allows a designer to build on the knowledge gained through previous designs, rather than starting from zero with each new boat." In actuality, the concept Matt describes has more to do with using the parameters and numbers developed for a previous cutter to save time when designing a second cutter . . . and so forth. But Matt sums it up with words I could have used in my own description: "It's a fascinating thing to watch the Darwinian progression of boat design — to see the fishing schooner type morph into the New England dragger as a result of economic and environmental triggers."

There you go. That's exactly what I wanted to convey about the designers of our good old boats. The design spiral is exactly the concept I was looking for when I added, "Taken together, the designers we present here were an inspired lot who made sailing for pleasure affordable and available to middle-class boat lovers everywhere. They have made our boats what they are today and they have made our favorite pastime what it is today."

To pursue the intricate path of who trained whom and who begat which design changes, download our two Archive eXtractions from AudioSeaStories.com and enjoy the stories about the designers and builders responsible for creating our good old boats.

Boat rescuing, catboats with

Rescuing boats is a calling

Thank you to Mary Broderick for her article "Rescuing Boats" in the March 2013 issue. It really hit home for me.

Most of us do not comprehend what we are getting into when we commit to bringing a good old boat back to life. Dreams are powerful phenomena, and it seems only the most tenacious of us really make good on the monumental tasks we take on by becoming proud new owners of abandoned and derelict vessels. Mary's comparison of a stray animal in need to the keelboat on the hard showing "telltale signs of neglect" is perfectly apt. If you are to be true to yourself, once you make that commitment to rescue, you really have to see that "project" — animate or inanimate — through to completion. It defines your character.

For me, the lifelong commitment boat was the O'Day Center Cockpit 32, bought hastily from a shady broker on behalf of a Samaritan organization that had received the donated vessel from a departed Navy man. Little did I know how bad her condition really was. Everything needed servicing or replacing, and the projects I faced included a costly Westerbeke rebuild, replacing tanks, rebuilding the interior, making new cushions, and fitting new lifelines, to name just a few. Had I known at the time what it would take (in terms of blood, sweat, and money), my pragmatic self would have told me to stop dreaming and get back to work.

I didn't realize until years into ownership that my love for this vessel started when I was a kid, dreaming as I pored over the reviews and advertisements in sailing magazines. One day, about five years ago, I was shopping on eBay for original advertisements and artwork for the O'Day when I stumbled upon an original ad. It had the three-digit inquiry number that you circled on the reader-services card and the manufacturer would mail you a full glossy brochure on the vessel. In that moment it struck me — this was one of the big boats I loved as a child, dreaming of the day when I could have my own. The dreams had settled into my subconscious long before I set off for my college and working years.

Thanks again for this touching story, and here's to more dedicated people like Mary and Steve who take the time and effort to connect dreamers with old boats in need of their dedication.

–Walter Gaines, Desert Hot Springs, Calif.

Gaff rig lives on in catboats

Rob Mazza should not have stated in his article "Once upon a leg o'mutton" (March 2013) that the Marconi sail "is now almost universal" on every modern rig configuration including catboats. As a member of the Catboat Association (more than 700 members and 500-plus cats) and author of *Catboat Tales*, I can affirm that about 95 percent of catboats now sailing are gaff-rigged. The largest manufacturer is Marshall Marine, which since the 1960s has produced some 1,300 boats in three classes, 99 percent of them gaff-rigged. Only the largest model, the Marshall 22, has a Marconi rig as an option and the company told me they get maybe two to three orders every five years.

The second most popular manufacturer is Menger, now Thompson Boatworks. Their boats are all gaff-rigged. The biggest maker of one-design cats has been turning out the wooden gaff-rigged Beetle Cat continuously since 1921. More than 1,000 boats are sailing, mostly in New England, and the company can't keep up with the demand for new vessels. Years ago it tried marketing the Woodpussy, a Marconi version. It flopped and was quickly dropped from production. The rest of the catboat fleet, all designed for gaff rigs, represents half a dozen custom builders. The Nonsuch, by the way, is not considered a catboat.

As for sailing ability, a gaff-rigged boat on a broad reach or run will outperform a Marconi rig, but it won't point as high when close-hauled. Nor are catboats the exclusive provenance of gaffs. Almost half the schooners I am aware of that sail on the East Coast have at least one gaff-rigged sail. Otherwise, your article was most enjoyable.

–William Winslow, New York, N.Y.

Rob's clarification

William's point is well taken. A number of "heritage" designs, like catboats and some schooners that hark back to traditional designs and regional variations, still employ the gaff rig. A Marconi-rigged catboat would be far from traditional which, of course, is the reason the Nonsuch, an evolution of the catboat concept, does use the Marconi rig. I was thinking of the Nonsuch with regard to the modern cat rig since I became well acquainted with the concept while working with Mark

gaff rigs, and staying young

Ellis. In addition to the Nonsuch we can include the Vision series of cat-type rigs, with which I was also loosely involved while with Hunter Marine, and the number of cat ketches that appeared (some with free-standing wishbone rigs) in the 1970s and '80s from Yves-Marie Tanton, Freedom Yachts, Bruce Kirby, Mark Ellis, Gary Mull, and others.

My point is that the majority of production racer/cruisers built since the introduction of fiberglass have the Marconi rig, not the gaff rig that was almost universal before WWI. I agree that traditional designs fulfill the "classic" concept better when fitted with traditional rigs. Perhaps, in hindsight, I should have differentiated more between "catboat" and "cat rig." I apologize for any confusion that may have caused.

–Rob Mazza, Hamilton, Ontario

Sailing thrills at 81

After I had read the absolutely, wonderful article on *Cadenza*, my Catalina 27, in the March 2013 issue, Steve Madsen, one of the "Tahoe Four," gave me an opportunity to take out his Bill Lapworth-designed 24-foot Gladiator in 10 to 15 knots of wind. My previous boat (some 20 years ago) was an O'Day 23 Tempest that I dearly loved and is somewhat similar to the Gladiator.

Sailing it was like being 20 years younger! You are closer to the water, so the sensation of speed is exaggerated. As it is almost a ton lighter than my Catalina 27, the reaction time to everything is faster. It didn't hurt that Tami Boudreau, my companion on this brief sortie and a regular invitee of the "Tahoe Four," is 25 years younger than I am!

I enjoyed the "return to my earlier years" very much, but I am also anxious to get out there again on my "real boat" so, if it gets nasty, I can always motor home or just go below where I have standing headroom and take it from there. So, while I enjoyed sailing the Gladiator, at age 81, I love my Catalina 27!

–Jim Hildinger, South Lake Tahoe, Calif.

Stanchion lights

I always wanted some solar lights on the stanchions on our boat to add light when out at night, both for others to see the boat and for us when on the deck. They cost $25 each. I called Stafford Manufacturing to buy their new mounting collars ($13 a pair) and bought garden solar lights ($4 each at Walmart). When assembled (I only had to drill a small hole on the side of the light shaft), each light cost me only $10.50 ($6.50 + $4).

Stafford was wonderful to deal with. I live in Canada, and shipping via UPS would be pricey. They arranged to send them through their Toronto supplier who then mailed them to me locally. Now that's customer service!

I built four lights and saved $58! I think my subscription to *Good Old Boat* just paid for itself.

–Michael Ferris, Erinsville, Ontario

Disconnect those batteries

I read Jerry Powlas' sidebar in the January 2013 issue, "Can This be Prevented?" on preventing electrical fires. I feel that you missed one of the most important safety devices for electrical systems: a main battery disconnect located as close to the batteries as possible. Had the battery been disconnected at the first sign of smoke, that little 2-pound fire extinguisher would very likely have extinguished the fire. Without heat from an electrical source, the fire would not have reignited. For batteries located in a remote location, disconnects are available that can be activated with mechanical linkage or even a pull cord.

–Ross Terry, Glenwood Springs, Colo.

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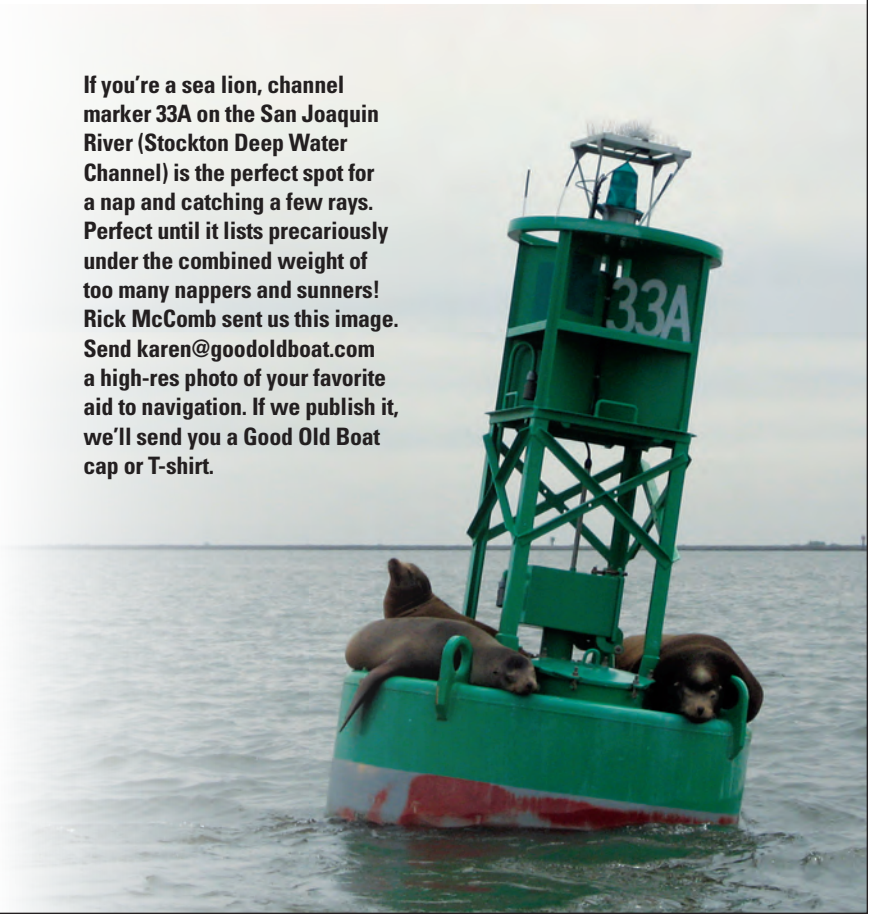


If you're a sea lion, channel marker 33A on the San Joaquin River (Stockton Deep Water Channel) is the perfect spot for a nap and catching a few rays. Perfect until it lists precariously under the combined weight of too many nappers and sunners! Rick McComb sent us this image. Send karen@goodoldboat.com a high-res photo of your favorite aid to navigation. If we publish it, we'll send you a Good Old Boat cap or T-shirt.

C&C 34+

A fast racer/cruiser from the early '90s

by Richard Smith

C&C designs are easily recognized with their somewhat aggressive lines that suggest performance above the average. The C&C 34+ is no exception, and *Intuitive*, owned by Paul and Cheryl Vesetinski, carries the look boldly in her dark blue livery.

C&C Yachts enjoys a hard-won reputation for building strong, high-performance sailboats without neglecting cruising amenities or appearance. The C&C 34 from the late 1980s and early '90s exemplifies that tradition. The boat came in two versions. The 34R, designed with racing in mind, has tiller steering and a more race-oriented cockpit and cabin accommodation, while the 34+ version has wheel steering and a cabin biased toward comfortable cruising. These designs should not be confused with the popular C&C 34 designed in 1977, of which 496 were built.

The design firm of Cuthbertson and Cassian, Ltd. joined forces with Belleville Marine Yard and Hinterhoeller, Ltd. in 1969, beginning a rich history of corporate intrigue and boatbuilding ups and downs. For an extended view of the company history, see Dan Spurr's "The History of C&C Yachts" in the September 2002 issue.

Design

Naval architect Rob Ball was design chief at C&C Yachts for much of its existence. According to Rob, the C&C 34+ hull sections are V-shaped forward for upwind performance and flatten somewhat amidships to gain speed downwind. The stern sections are powerful and full to add sailing length when the boat heels. The 34+ was offered with several keel options: deep keel, shallow keel, wing keel, and keel/centerboard.

The high-aspect-ratio fin keel incorporated a new tip configuration to increase lift without increasing drag, a feature Rob felt would be an improvement on the successful C&C 33. At 12,000 pounds, the 34+ is also relatively light, even for a C&C, with a very low displacement/length ratio of 187; some reviews suggest that the boat is somewhat tender. The R version is lighter by 1,500 pounds.

A perforated toerail (the famous "Canadian picket fence") emphasizes the graceful sheer from the raked stem to the reverse transom and is a trademark of the distinctive C&C look. The deck and coachroof blend into the hull and the hardware, the hatches, and the acrylic portlights are unobtrusive and well thought out. Nothing appears tacked on or improvised. A fine cove stripe helps to visually lower the rather high freeboard.

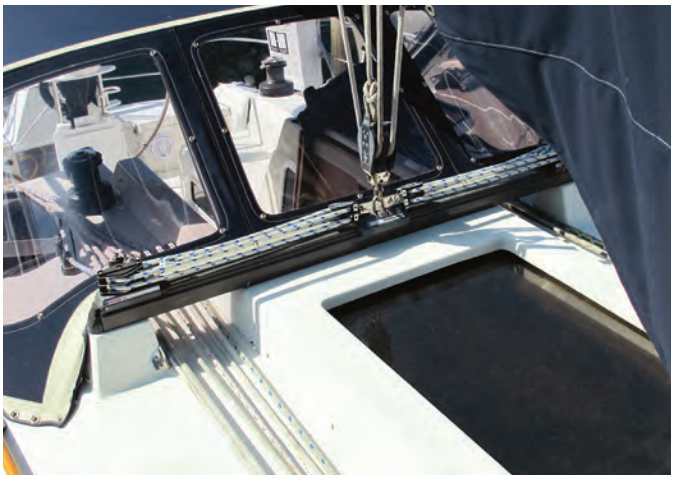
Paul Vezetinski's 1991 review boat, *Intuitive*, has a well-fitted dodger that complements the smooth and flowing coachroof. The hull looks as up-to-date as any of the newer arrivals in the marina.

Construction

The C&C 34's deck is a Kevlar-hybrid laminate with unidirectional glass in high-stress areas. A lightweight end-grain balsa core provides stiffness and insulation. As with all boats using cored construction, scrupulous attention must be paid to bedding hardware to forestall leaks and problems with water penetration into the core material.

The hull is built up of a biaxial fiberglass and Kevlar hybrid laminate over end-grain balsa core. The gelcoat is Hydrex isophthalic NGP. Additional glass is laid up in high-stress areas. C&C, along with Pearson Yachts, was an early proponent of using a balsa core to increase laminate stiffness and reduce weight and cost.

An inward-turning hull flange receives the cored deck with a layer of butyl tape between the joined surfaces. This assembly is capped with the characteristic full-length anodized-aluminum slotted toerail extrusion



As one would expect on a high-performance boat, there are a lot of lines to tweak, and on *Intuitive* they are all led aft to the cockpit, at left. The C&C 34+ carries its beam well aft to increase offwind speed potential, but a drawback of having the cockpit use all that beam is that the cockpit seats are so far apart that average-size people have difficulty bracing their feet against the leeward seat, at right.

and secured with closely spaced ¼ x 20 stainless-steel bolts.

A fiberglass interior floor module provides added structural support along with teak-faced marine-grade-plywood bulkheads that are tabbed and bonded to the hull.

On deck

The foredeck, narrow as it is apt to be on a close-winded boat, is clean and free of unnecessary gear. Chocks and 8-inch mooring cleats are installed close to the gunwale and the 35-pound Bruce anchor is stowed well outboard in a substantial bow roller. A flush hatch covers the anchor-rode locker. Few obstacles impede crew movement fore and aft as the shrouds and chainplates are well inboard on the sidedecks, where they provide good and convenient handholds amidships.

The C&C 34+ has a keel-stepped mast with a small section supported by triple spreaders. It's tuned with the help of runners, checkstays, and a baby stay. Appropriately, since he sails single-handed much of the time, Paul has the genoa on a Harken furler. Its sheets are led to Barient 28 two-speed self-tailing winches located within easy reach of the helm. Other lines are led aft to clutches on either side of the companionway. The downhaul, Cunningham, second reefing line, outhaul, and mainsheet run along the port side to Barient 21 and 22 two-speed self-tailing winches. The first reefing line, boom vang, topping lift, baby stay, and mainsail and spinnaker halyards are taken aft along the starboard side to a Barient 21 self-tailing two-speed winch. To help organize the potential confusion of such a multiplicity of running rigging on *Intuitive*, two large Sunbrella tail bags are hung on the cockpit bulkhead to contain lines.

C&C 34+

LOA: 35 feet 6 inches
LWL: 30 feet 7 inches
LOD: 34 feet 1 inch
Beam: 11 feet 7 inches
Draft: 5 feet 0 inch or 7 feet 3 inches
Displacement: 12,000 pounds
Ballast: 4,700 pounds
Sail area: 669 square feet
Disp./LWL ratio: 187
Sail area/disp. ratio: 20.4

The cockpit

Seating is comfortable in the T-shaped cockpit, though the benches are not long enough to stretch out upon. A bridge deck strengthens the hull and keeps water from sloshing down below. Stowage space below the hinged gull-wing seat to starboard is voluminous and there's a handy shallow built-in shelf for docklines and small stuff. A split lazarette aft of the large-diameter steering wheel contains additional stowage and the propane bottles. Paul installed an Autohelm wheel pilot and mounted a Garmin GPSMAP 3205 on the binnacle above the compass. A manual bilge pump is handy to the helm.

The depth sounder, wind instruments, and knotmeter are located to starboard of the companionway on the cockpit bulkhead and are easily seen from the helm. Two acrylic ventilation hatches, one over the port quarter berth and the other in the head, are located either side of the companionway where they're well protected by the dodger. One of Paul's next projects — and it's a big one! — is to relocate the mainsheet traveler from its position at the companionway to just forward of the wheel to obtain end-boom sheeting as on the C&C 34R.

After 20 years, some crazing is visible in the gelcoat in highly stressed areas with tight radiuses. Paul says he

The C&C 34+ has quite a plush interior, at left, and the openings in the forward bulkhead expand its spacious feel. While a little short on counter space, the galley, at right, does have a double sink, decent storage, and a gimbaled stove. The private quarter berth is just visible aft. The nav station and head are to starboard of the tall companionway ladder, below, and the dining table surrounds the keel-stepped mast.

has found few blisters on the bottom and he takes care of them as they appear.

Belowdecks

When I asked Paul what led him to the C&C 34+, he said it had a lot to do with the company's reputation for building good boats. As a contractor to Boeing, designing and building special aerospace components to meet exacting requirements, Paul has a practiced eye for good design and overall quality in industrial products. After looking at comparable boats he preferred *Intuitive* but, as often happens, it was his wife, Cheryl, whose enthusiasm for the living space on the 34+ tipped the scales. It's easy to see why.

The accommodations stand in marked contrast to the deck and cockpit where boat handling in difficult conditions at sea and safety for a hard-driven racing crew are given the highest priority. The saloon is not intended as a place for stowing sail bags or eating beans out of a can but as a spacious area for convivial social occasions with all the comforts and conveniences of home.

The wraparound seating (with 28-gallon freshwater tanks beneath, port and starboard) is plush and the dining table can be converted to a double berth. Visually, the galley is part of the saloon. Pressure hot and cold water is on tap at the double sink and *Intuitive* has a three-burner stove with an oven and an electric refrigerator with a freezer compartment. Various storage compartments for food and cutlery add to the carefully planned and well-detailed cabin. A compact navigation station is opposite the galley and provides a comfortable place for the skipper to work, though the nav table is unsuitable for any but the smallest paper charts. A GPSMAP 4208, VHF, and AM/FM radio are close at hand.

The forward cabin feels like an extension of the saloon both visually and functionally — it's easy to imagine kids climbing up into the space and looking down on the adult gatherings below. The double berth (with a 23-gallon freshwater tank below) is lighted and ventilated by an acrylic hatch.

Light entering the long windows in the coachroof sides and deck hatches on either side of the mast makes for a bright cabin, but the acrylic is crazed with age, putting its replacement close to the top of Paul's to-do list. Overhead handholds run the length of the cabin. The trim is teak-faced plywood and solid teak and the sole is teak and holly.

The head is located to starboard of the companionway, where it's close to the cockpit and convenient for hanging foul weather gear. It houses a separate shower, a molded fiberglass lavatory with a 28-gallon holding tank beneath, and recessed cubbies for the shower head, soap, and towels. Large teak-trimmed lockers provide considerable additional storage.

An athwartships queen-sized berth is located to port of the companionway and extends aft, under and around the cockpit seats and well. A hanging locker and seat make this a stateroom, and it has become the Vesetinskis' sleeping place of choice. An acrylic deck hatch and portlights provide light and ventilation. Matching upholstery in this space is visible from the saloon, adding to a sense of spaciousness below.

The engine

Removing the companionway ladder and cover panel reveals the 3-cylinder Yanmar 36M 30F diesel. The compact compartment is well insulated with just adequate intake air provided, making for

an exceptionally quiet engine. The downside is that service access is restricted and requires opening hatches in the head and sleeping areas. The dipstick is on the starboard side of the engine, and Paul has rigged a small mirror so he can check the oil from the front. There are two starting batteries, two house batteries, and a 48-gallon fuel tank.

Under way

Intuitive backed out of her slip with a predictable move to port and we headed out into a Puget Sound only slightly disturbed by light and variable winds of perhaps 5 to 10 knots. In those conditions, the boat moved well and carried her momentum through airless patches. She was not in the least sluggish, coming about smartly with little fuss and sailing within 40 degrees or so of dead upwind. Paul reported that in higher winds weather helm is easily countered by the large wheel that also makes steering from either side convenient.

The PHRF rating for the few C&C 34+ models competing around the country is 99 seconds per mile. A J/34 is around 117, the older Sabre 34 is 144, and the Sabre 36 is 117 to 126. In comparison, the 34+ is a relatively fast boat.

Conclusion

As well as looking for the usual maladies that befall any 20-year-old fiberglass boat, such as soft areas in the deck, failed bulkhead tabbing, blisters, and so forth, a potential buyer of a C&C 34+ should be aware of the balsa core below the waterline. Water penetrating this core as a result of hull damage could have serious consequences. So far, though, the Kevlar composites and modern construction techniques used in the 34+ have stood up to the stress and strain of two decades of hard sailing.

That said, the boat is a C&C and carries one of the finest pedigrees in the business. The 34+ splits its personality between a practical race-worthy deck and an interior that will appeal to those with something less than a total commitment to the rigors of sailing a boat hard in a very competitive size range.

A check of the Internet showed prices for a 1990 C&C 34+ can range from $77,000 to $99,000 depending on condition, equipment, and location.

The contributions made to this review by chase-boat skipper Gerald Riggs and photographer Elizabeth Smith are greatly appreciated.

Richard Smith, a contributing editor with Good Old Boat, *is an architect and has built, restored, and maintained a wide variety of boats. He and his wife, Beth, sail their Ericson Cruising 31,* Kuma, *on the reaches of Puget Sound.*

Resources

Lots of C&C-related information is available at www.cncphotoalbum.com.

Removing the companionway ladder reveals the front of the engine, at left, but the back and sides are harder to get at. Molded fiberglass inner liners are well suited to the head, at right, where the inevitable moisture from the shower, sink, and toilet can damage wooden components.

Comments from C&C 34+ owners

Here's what a couple of former owners have to say about the C&C 34+.

"My wife and I sailed *Yankee Breeze*, the last C&C 34+, for 17 years on Lake Superior and Lake Michigan. She was perfect for us. I liked moving in light air, winning a few club races, cruising in big water, and her ability to handle heavy conditions. My wife enjoyed the comfortable cabin, the secure feel of the boat and, with all the lines coming back into the cockpit, the security of my not running around the deck all the time.

"It's a good-sized boat with excellent small-boat feel. I enjoyed her maneuvering capability under only the furling headsail, and sometimes would sail all the way to the slip.

"We had the wing-keel version with 5-foot draft and didn't feel we sacrificed much in performance. It was excellent for club racing and comfortable in shallow waters.

"We had some keel blistering caused by outside storage in Wisconsin winters, and some minor cabin leaks in heavy rains, but no structural or mechanical problems."

–Bill Sproull, Bloomington, Minn.

"We bought a C&C 34+ for cruising Lake Superior with our two small children and, although that wasn't why we bought her, promptly entered the Apostle Island Race Week. She sailed well and we did better than we expected with a new boat. She was easy and fun to sail and our young kids had no problems sailing the boat and holding a proper course.

"The accommodations worked for two couples on overnighters and on an extended cruise. My wife really liked the layout and the initial stability under sail. The 7½-foot draft was great for Lake Superior but it kept finding bottom in Lake Michigan's shallower waters. With the lake levels lower than ever, cruising options would be limited.

"The athwartships berth took some getting used to, and my wife had a hard time maintaining her seat in the cockpit when heeling. We had some initial problems finding leaks in the deck and with the engine electrical connections."

–Craig Olney, Deer Park, Illinois

The Cunningham 101

A simple way to power up or down the mainsail

by Don Launer

Many mainsails have a cringle at the luff of the sail a few inches above the tack. It's known as the Cunningham and is named after its inventor, Briggs Cunningham (1907-2003) of New York. He was a successful 6-Meter sailor in the 1930s and was the winning skipper of *Columbia* in the 1958 America's Cup. He later donated his schooner, *Brilliant*, to Mystic Seaport.

Although it is well known and used regularly by racing sailors, most cruising sailors don't bother with the Cunningham because they know little about it or how it can increase the efficiency of a mainsail.

A mainsail should have a curve, called draft or camber, from luff to leech. Within limits, the greater the curvature, the more power the sail has. We need our sails to have the most draft and driving force in light winds. In strong winds we need to reduce that power to keep our boats under control. We reduce power by flattening the sail — reducing its draft. We can also move the location of the sail's maximum draft forward or aft to best accommodate the sailing conditions. The principal ways to affect the draft of a mainsail are with the halyard, the outhaul (*see "Outhauls 101," July 2012*), and the Cunningham.

The Cunningham effect

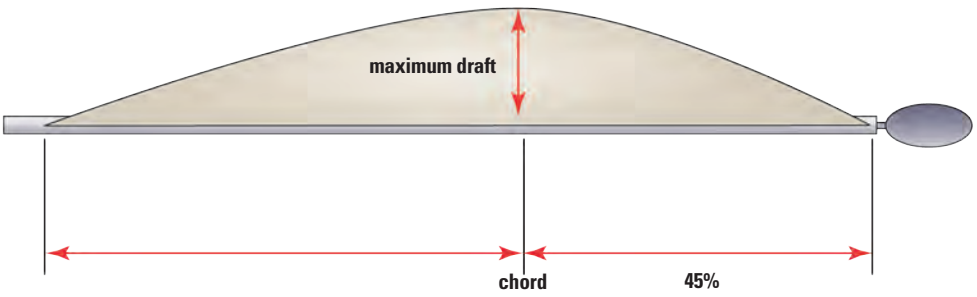
In light winds, the mainsail's maximum draft can be as far as 50 percent of the chord length (the distance from luff to leech) aft of the luff. In strong winds, the maximum draft should be about 40 percent or less of the chord aft of the luff. Tensioning the Cunningham shifts the sail's draft forward to achieve the optimum draft for the wind conditions.

Downhaul methods

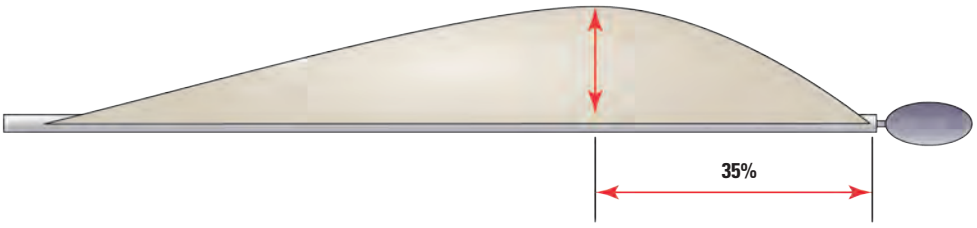
The Cunningham cringle can be hauled down in a manner similar to a reefing cringle. In one method, a line fastened to a fixed point on the mast or boom below the foot of the sail runs up through the Cunningham cringle and back down to that fixed point. The downhaul line can be tensioned at the mast or led aft to the cockpit. On small boats the Cunningham can be hauled down without the need for additional mechanical advantage. On larger craft, however, a block and tackle or some other means of gaining mechanical advantage is necessary.

In some instances, the downhaul line is fitted with a Cunningham hook that is placed in the Cunningham cringle when needed and used to bring it down. One small

Layout and illustrations by ted toLefson



With no tension on the Cunningham, the maximum draft of a sail might be at about 45 percent of the chord aft of the luff.



Tensioning the Cunningham can move the draft forward a significant distance and dramatically alter the sail's shape.

disadvantage of that method is that the sail will be brought down slightly off center.

Tensioning options

The luff of a sail can be tensioned with the halyard, the Cunningham, or both. The halyard does not do the job as well as the Cunningham and the end results are different. One disadvantage of trying to tension the luff with the halyard is that the halyard is pulling upward while supporting the sail's weight. The Cunningham, on the other hand, pulls the sail down, with the weight of the sail helping. Because the Cunningham is more easily and rapidly adjusted than the halyard, racing sailors tend to play the Cunningham tension frequently.

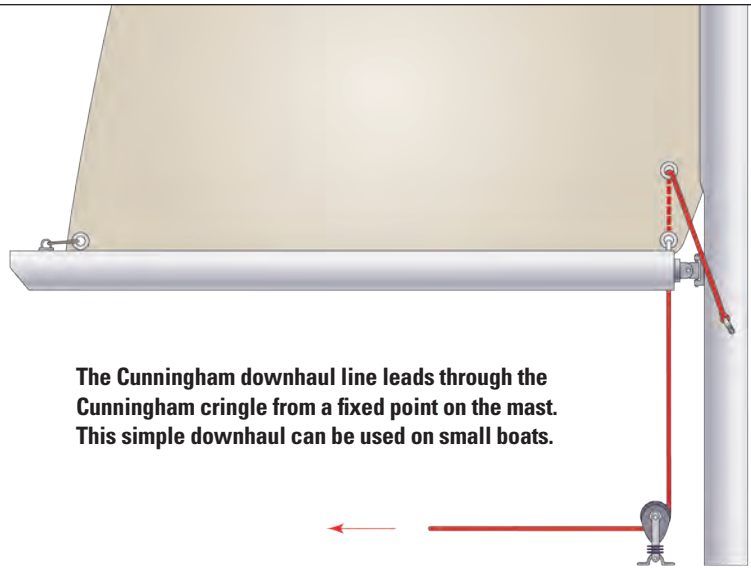
Many racing classes place restrictions against hoisting the mainsail higher than a particular mark on the mast, often known as the black band. When this is an issue, the Cunningham makes it possible to tension the luff as necessary without chancing a violation by accidentally raising the mainsail above the mark with the halyard.

The Cunningham does create small puckers near the Cunningham cringle, but they are more than compensated for by the improvement to sailing performance.

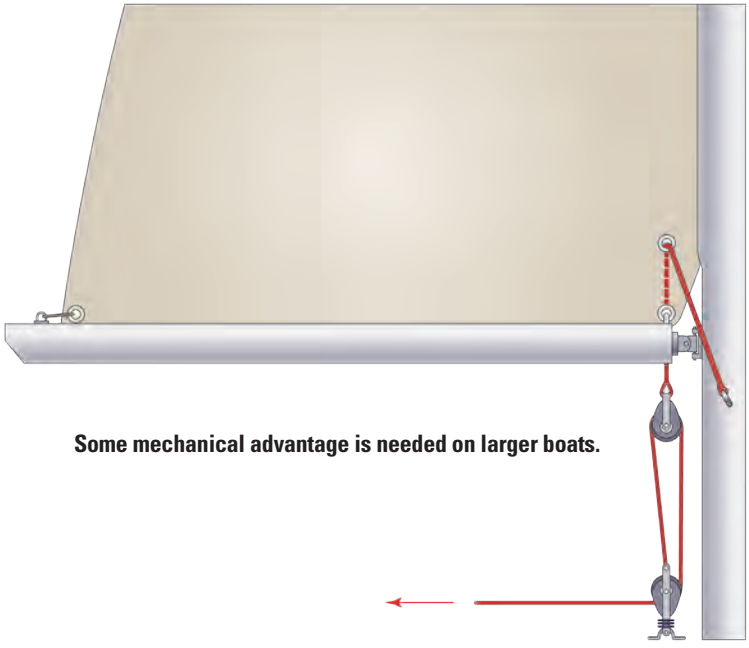
Advantage for old sails

Knowing how to use the Cunningham should be in the bag of tricks of every sailor, whether racer or cruiser. As a mainsail ages and stretches, its draft moves farther aft, making the sail increasingly less efficient when close-hauled and in higher winds. Cruising sailors, who do not replace their mainsails with the same fervor as racing sailors, can derive an advantage from the Cunningham by using it to extend the useful life of the sail.

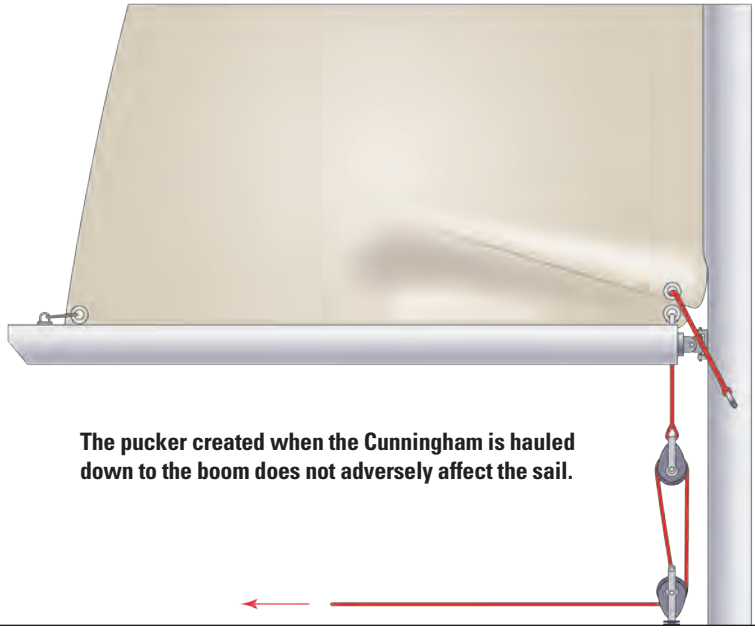
Don Launer, a Good Old Boat *contributing editor, built his two-masted schooner,* Delphinus, *from a bare hull. He has held a USCG captain's license for more than 40 years and has written five books. All of his 101 articles through November 2011 are now available for downloading as a collection from the Good Old Boat download website, <www.audioseastories.com>. Look under Archive eXtractions.*



The Cunningham downhaul line leads through the Cunningham cringle from a fixed point on the mast. This simple downhaul can be used on small boats.



Some mechanical advantage is needed on larger boats.



The pucker created when the Cunningham is hauled down to the boom does not adversely affect the sail.

Sundew returns to bloom

Years of tender care revived a wilting Watkins

by Jim Shroeger

Her name is *Sundew*. She's a 1978 Watkins 27 shoal-draft cruising sloop. She was named after an award-winning tulip in Holland. Sadly, when we found her she looked more like a faded rose than any kind of award winner. Her interior was crammed with gear, most of which was broken, antiquated, or just plain useless. She had been improperly placed on her cradle and the cradle supports were causing indentations in her hull.

We were interested because the price was right. The owner had been asking $15,000. After the survey report came back, we were able to buy her for only $5,000. She needed a lot of help — but with the money we saved and a willingness to put in whatever time was required to bring her back to life — I was sure *Sundew* could be an award winner again.

It took almost two truckloads to carry away the junk but, once we removed the clutter, we were able to assess the scope of the restoration project to which we had committed ourselves. We compiled a list of repairs and renovations that would take five years to complete. We began outside at the bottom and worked our way up.

The keel was saturated with water. We had to drill several holes through the fiberglass so the water could drain and it was almost two weeks before the interior of the keel dried out. This step was followed by grinding away fiberglass, laying in new glass, finishing, and finally applying new bottom paint. Surprisingly, the remainder of the hull exterior was in great condition and required no further attention. The indentations in the hull disappeared after she was repositioned on her cradle.

The next task was to replace the instruments that I'm sure were previously used by a fellow named Noah. We selected new Navman speed and depth gauges. Drilling holes through the hull to mount the new instruments' sending units was a bit traumatic, but things went as planned. Next, we added a new West Marine multi-channel VHF. After that, we turned our attention to the interior.

From the sole up

Sundew needed many things if we were going to turn her once more into a safe, enjoyable, and comfortable cruiser. The problem was where to start. Once again, we decided to start from the bottom, with the cabin sole. The previous owner had used self-stick carpet tiles to cover the sole. By the time we started our restoration, some of the tiles were missing and others had migrated to new neighborhoods. The cabin sole looked like a badly abused checkerboard. The first step was to remove and discard all the carpet tiles.

My goal was to create a traditional nautical cabin sole with materials we could easily obtain locally. We live in Michigan. At the time, I was working at our local Home Depot, which offered "cull" lumber. (Cull lumber is sold for considerably less than retail due to some defect.) I was able to procure 4½-inch oak base molding in random lengths for 10 cents on the dollar. It took about three weeks to accumulate the quantity of molding I needed. At that time, the store received some windows shipped on mahogany pallets (really!). As the pallets were usually discarded, the manager was willing to let me cart off as much pallet

Barb Shroeger and Ellie May find *Sundew*'s refurbished cabin to their liking, at right. Jim made the cabin sole, at bottom, with oak and mahogany. To hold the sole planks down while the adhesive set up, he reconfigured bar clamps as spreaders, below.

mahogany as I wanted. With sufficient materials in hand, I was ready to begin work on the cabin sole.

I cut down the molding into 3½-inch-wide by ⅜-inch-thick planks with a shiplap joint. Between the planks I set ¾ x ⅛-inch mahogany inlays that produced a nice contrast with the oak planking. I also had to make several special shapes to frame out two bilge-access panels.

Once I had a sufficient amount of planking milled, I was able to begin the installation. I had decided not to use metal fasteners (I wanted no holes to drill in the fiberglass cabin sole and no screw holes to plug). The planking was to be fastened with 3M 5200. While 5200 is a great adhesive, it must be held solidly in place for 24 hours. This presented a problem since traditional clamps would not work. The solution was to use Irwin Quick Clamps, reversing one end. This converted the clamps into spreaders.

I used 36-inch clamps and, by adding 1 x 2-inch extensions of various lengths, I had spreaders that I could press against the overhead and exert sufficient pressure to hold the sole planks in place until the adhesive set. I found I could fit two or three planks per session. The entire cabin sole took three weeks to complete and turned out even better than I had hoped.

Deckhead embellishment

Moving upward, I thought the overhead in the main cabin was as plain as milk on a platter. The remedy was to install beams. To prevent the beams from looking cluttered, I divided the available overhead space into six equal sections, which placed the beams a little less than three feet apart. Each beam was made from two 2 x ¼-inch mahogany strips laminated together to create a 2 x ½-inch beam.

To determine the lengths of the beams, I made two 2 x ½ x 5-foot pine strips. I held these one on top of the other with three rubber bands that allowed the strips to slide along one another. I held the strips in the location where each beam was to be mounted and slid the pieces outward until the ends made contact with both sides of the cabin, then marked the strips to capture the length. When I laid each strip on the actual beam, I was able to mark and cut it.

I installed these beams with the help of the Irwin spreaders, using 5200 as the adhesive. In each case, I positioned the beam in its predetermined location and used the spreaders between the overhead and the cabin sole to apply pressure to the beam until the adhesive set up. I pre-finished these beams before installing them. This was much easier than trying to cut in the varnish coats afterward.

It took a little over a week to laminate the beams, make the measurement strips, and install all seven.

Jim thought the overhead looked bland, so he installed mahogany beams, at right. To hold them up while the glue set, he used the same technique as for the cabin sole, below.



***Sundew*'s new table, above left, folds against the bulkhead, where a hinged flap holds it in place, above center. Jim's flexible shower grating is a work of art, above right. Granite counters brightened up the galley, below left and center, and the head, below right.**



The completed project was yet another step in the creation of a nautical look for *Sundew*'s interior.

Furniture improvements

Next on the list was the dinette table. The original table resembled a cross between a fold-down ironing board and a Murphy bed. The legs had to be stored separately and were often buried when we wanted to use the table.

A trip to our local exotic-wood importer, plus $200, netted me a half sheet of ¾-inch African mahogany plywood, several 6-foot 4 x 4-inch mahogany planks, and one 2-foot 4 x 4 mahogany block.

Using the old table as a size pattern for the new one, I made the main table body from the mahogany plywood and the sea rails (or fiddles) and the legs from the 4 x 4-inch stock. I cut the sea rails to ⅜ x 2 inches and used a band saw to cut the special rounded corners out of the mahogany block. I rounded the table corners to fit the sea rails.

I joined the table halves with a brass piano hinge and attached the entire unit to a bulkhead-mounted shelving unit with another brass piano hinge. A hinged mahogany cover provided a final touch by hiding the unfinished table edges and giving us an anchor point to secure the table in its upright position.

Sundew's renovation also included new granite countertops in the head and galley. Normally, granite would be too heavy for use in a small sailboat. However, a company called Granite Transformations makes a granite product that is only ¼-inch thick and light enough to work well in marine applications. As this is a special product, we had technicians from Granite Transformations do the installation. The result was unique and beautiful.

Once the granite tops were installed, I dug out the rest of my mahogany and fitted additional sea rails around all the new countertop areas. I also installed a new partial partition, with a handhold, between the galley and settee area.

The next project, a small grating for the sole in the head, was featured in the May 2007 issue of *Good Old Boat*. *Sundew*'s head is a bit small, and the challenge was to create a grate flexible enough to fit the various curves and bends of the head sole. I used brass brazing rods as the base for the grate. Each piece (there were nearly 200) was ⅝ x ⅝ x 3 inches, with 3/16-inch holes drilled horizontally through each end. To assemble these, I first made a template of the head sole. I threaded the wooden pieces onto the brass rods in an alternating pattern until the shape of the grating matched the template. A dab of epoxy in each of the perimeter pieces kept the grating in its finished form.

Creature comforts

All these renovations were made with the intent of adding a nautical atmosphere to *Sundew*'s interior. Next, I turned my attention to dockside amenities and creature comforts.

Michigan's summers can deliver spells of 90-degree and hotter weather. We had cruised one summer when the temperature was between 90 and 100 degrees for almost two weeks. Sitting at a dock during a heat wave in a sailboat that has turned into a pizza oven is not a pleasant experience. That motivated me.

We found a room-sized air conditioner small enough to fit in the companionway and still allow us room to come and go. I shaped two filler boards to fit

around the AC unit, made a closed-cell Styrofoam pad to support the unit on the bridge deck, and used the remaining dropboards to secure the unit in place. Adding an interior leg (made from an old turnbuckle boot) completed the installation. The total job cost less than $100.

The AC didn't add much to the nautical look we were trying to achieve, but it sure made life belowdecks a lot more enjoyable. A more detailed account of this renovation was published in the July 2007 issue of *Good Old Boat*.

Another addition for dockside convenience was refrigeration. This was not the 12-volt, $1,500 system that replaces the old icebox. Our system was purchased at a yard sale for $20. It was a small dorm-sized refrigerator that I installed in an area that was used as a "collect all." By changing the location of a chart rack and a small rack for navigation tools, I was able to secure the refrigerator opposite the galley on a shelf where it's easily accessible.

Prior to acquiring the refrigerator, we paid nearly $20 each week for block ice when cruising. Instead, for approximately the cost of one week's ice supply, we were able to have dockside refrigeration! We found that, even when unplugged, the fridge could keep things cool for an entire day. This was perfect for our cruises from marina to marina, and we gained dry storage by converting the old icebox to a storage bin. For trips longer than a day, we simply reloaded the icebox with block ice and sailed off, knowing we could plug in again at the next marina. During our cruise last summer we saved close to $200.

Shade and safety

The final two upgrades have to do with cruising comfort and safe seamanship.

When we acquired *Sundew*, she was rigged so any sail change or adjustment had to be done on the foredeck. We have been in many bad weather situations where going forward was akin to taking a long walk on a short pier. No matter what you did, you were going to get wet! I decided to run all the lines aft. I led the mainsheet and jibsheet aft through several turning blocks and led the main halyard to a winch mounted on the cabintop. I also replaced the old Barients with two new self-tailing sheet winches. These changes made *Sundew* a comfort and a pleasure to sail.

The other improvement was to *Sundew*'s cockpit. She already had a dodger but I envisioned a more pleasant setting that required a Bimini. A representative from our local canvas shop took a few measurements and presently a new Bimini arrived. Weather curtains followed. They attach to the dodger and a stern curtain zips to the aft portion of the Bimini.

These curtains added protection from the weather but created an operational problem. *Sundew*'s mainsheet is attached to the aft end of the boom. With the Bimini in place it was not possible to use the mainsail. Under way, we could only use the jib. The solution to this little dilemma is the focus of our next project to be undertaken this year. We plan to install mid-boom sheeting. I am still researching the alternatives.

When we found *Sundew*, she was a faded rose. After five years of upgrades, renovations, and remodeling, she lives up to her namesake. *Sundew* has earned countless compliments and made us proud to be her owners.

Jim Shroeger began sailing more than 50 years ago in Jet 14s and progressed through a series of small to medium-sized daysailers including a Star. In the early 1970s, he and his wife, Barbara, and their two kids began their summer family cruises on the Great Lakes, which they continue to this day in Sundew, *their Watkins 27.*

Resources

Granite Transformations
www.granitetransformations.com

After making modifications that primarily enhanced *Sundew*'s belowdecks atmosphere, Jim turned to improving the comfort of the crew. A small air-conditioning unit fits neatly into the companionway dropboards, at left, and still allows ingress and egress. (The upper view is of the exterior, the lower view is of the interior.) In hot weather, shade is essential, so Jim added a dodger, a Bimini, and a foredeck awning, at right.

Fire aboard

Prevention demands diligence and vigilance

by Ed Zacko

Ellen and I have been involved with two major boat fires over the years. The first was in the Caribbean on board *Entr'acte*, our Nor'sea 27. We had guests on board, something that disrupts the usual routine. We had just returned from a day's snorkeling and were all hungrily anticipating dinner.

Entr'acte was anchored in St. John, USVI, and the winter trades were blowing in earnest. All the hatches were open and the wind scoop was drawing welcome cool air into the boat. Ellen was preparing dinner in our small galley for more people than usual. The stove was running. While waiting for a pot of water to boil, Ellen tried to get a jump on the next day's varnishing. She opened a gallon can of denatured alcohol and began to pour some into a 2-pint bottle.

I was in the aft cabin with David, my brother-in-law, while Ellen's sister Joanne was writing postcards at the chart table and their son Jayson was in the cockpit playing with his new-found hermit crab in a bucket of water.

There was no sound, no flash, no warning — all we heard was Joanne saying, "Guys, we need you up here, NOW!" She actually sounded calm.

As I entered the cockpit, I was knocked back toward the aft cabin by a blast of heat from the main cabin. In front of me all I saw was a wall of flame. Joanne had climbed out the forward hatch but, through the flames, I could clearly see Ellen still inside the cabin, clothes smoldering. With all the willpower in the world, I tried to get to her but the force of the hot air pushed me back. Joanne finally succeeded in helping Ellen escape through the forward hatch, by which time her clothes and hair had started to burn. In one motion she came up through the hatch and dove over the side.

Disoriented? You bet! Ten seconds before, we were happily discussing the lobsters we caught for dinner and suddenly Ellen was in the water and we were fighting a raging inferno.

There was so much fire and so many flammable materials (oil, alcohol, paper, plastic, varnish, teak oil, cloth, and imminently wood) it was impossible to decide what technique was right for fighting each type of fire. There was no time to think, only to act!

A frantic few moments

I grabbed the fire extinguisher from the aft cabin and shot at the companionway to gain entrance. My next shot was the stovetop to extinguish the burners, that were now torches, but they immediately reignited. My third shot fared no better. David came to the rescue by unceremoniously dumping the bucket of water, along with one very surprised and panicked hermit crab, onto the stove. This bought me enough time to reach the master kerosene shutoff valve and throw the fire blanket on top of the burners. My last shot of this extinguisher was saved for gaining access to the second extinguisher that was covered with burning alcohol.

The rest of the time was a blur of shooting dry powder at everything that burned, accompanied by copious buckets of water continually thrown onto everything inside the boat, whether it was burning or not. This was no time for finesse!

The entire event from ignition to extinction lasted less than a minute. Yes, time does slow down during these events. It is just fantastic what can happen in only a minute!

Alcohol inferno

The ignition had set in motion a complex series of events. First, the gallon can of alcohol exploded in Ellen's hands and sprayed flaming alcohol all over her and everything in the main cabin. The ignition itself extinguished the flames of both burners on our kerosene stove and they immediately cooled to below the vaporization point. This resulted in liquid kerosene spraying upward to be ignited by the ambient flames and turning the two burners into blow torches.

Everything in the cabin was covered with burning alcohol that, as it burned away, would set fire to all of the combustible surfaces beneath: varnish, wood trim, books, papers, ship's log, clothing, and plastics. The flames from the floor were sucked up through the louvers of the head door as by the draft

of a chimney. Anyone who had been inside the head compartment at that moment would have been asphyxiated or burned alive as the flames ignited the toilet paper, wood, and a nylon jacket hanging there. The jacket instantly evaporated into a cloud of invisible hydrogen cyanide. Even the fire extinguisher in the main cabin was on fire!

Aftermath

Ellen had second-degree burns on her face, hands, and fingers. Her hair was singed, her eyebrows burned off, and she had what appeared to be one incredible sunburn. Fortunately, she kept her face in the water throughout the battle, which we believe kept the burns from getting worse. We treated her for shock and kept her under watch, but she had no further complications beyond severe blistering on her hands and fingers. With rigorous attention and care, these faded away after a few weeks with no permanent scarring or other lasting effects.

Incredibly, *Entr'acte* emerged unscathed. Aside from the indescribable mess, the only evidence of this event is the scorched louvers of the head door, which had just started to ignite. To this day when we clean, we look at them and shake our heads.

When we were building *Entr'acte*, Ellen and I had discussed just such an event. We decided that — should a fire occur — it would probably be associated with the stove and the first reaction would be to get away from the fire. It seemed, therefore, that mounting a fire extinguisher close to the stove was not a good idea. Instead, we installed one near the forward hatch and another in the aft cabin. That aft cabin extinguisher saved our boat.

The cause of the fire

We were anchored into the trade winds. The wind scoop was drawing beautifully and provided perfect ventilation. It was actually more like a wind tunnel, but it felt wonderful. Even though Ellen was forward, pouring the alcohol almost 8 feet away from the lighted stove, the wind carried the fumes right through the boat to the burners and . . . BAM!

Could this fire have been avoided? Absolutely! Did we know better? Yes! But this had been a week of sheer chaos and we were off-balance, rushed, and frazzled, trying to entertain company and keep a 9-year-old occupied and happy. Had we been alone in our usual mode, we would never have done anything so abjectly stupid!

What we learned

- Beware of *anything* flammable around *any* heat source, especially if it has an open flame. This includes cooking stoves, but also heat guns, hot-air heaters, hair dryers, candles, and birthday cakes. This sounds like a no-brainer, but in a small space like a boat the danger is greatly magnified.
- Fumes from many solvents are heavier than air and will settle low in the boat. They can be ignited by a hot engine manifold, lighted stove burners, cabin heaters, oil lamps, and

Recipes for disaster

Boats are lost for many reasons, many of which are beyond our control. No matter how diligent a watch we keep, whales, submerged containers, trees, and logs are invisible in a running sea, especially at night. Navigating in low visibility puts many things somewhat out of our control. An onboard fire, however, is perhaps the most "avoidable" of hazards. The real horror is in its suddenness. One minute you are happily living your dream and the next everything is literally going up in smoke.

Here are a few potential fire sources we have experienced first-hand or witnessed over the years, all of them eminently avoidable.

Engine-room hygeine

How clean is your engine?

A clean engine and engine room is not an affectation of a gearhead hot rodder. I am amazed when I look into engine rooms and see greasy monsters lurking there in the dark. Years of buildup from fuel and oil leaks can easily ignite, especially during a long hot run in the tropics. We've seen this time and again.

Do not tolerate any leaks!

Oil is insidious. A little goes a long way to create a mess. Fuel from leaky lines, engine bleeding, and filter changes, and oil from filter changes and leaking gaskets runs along wires. It pools inside electrical tape and the conduit of the wiring harness, building up over time to eventually cause a malfunction of some kind or even lead to a fire.

We blew an oil line on *Entr'acte* two years ago. Despite meticulous cleaning, even now I still find oil in places and in quantities that surprise me. A scrupulously clean engine, engine room, and bilge go a long way toward preventing a fire.

Engine-room firefighting

If you do have an engine room fire, *do not* rush to open the

continued on next page

compartment door. That gives the fire an abundant fresh source of oxygen. You are far better off closing all vents to the engine room and firing the extinguisher through a small opening — perhaps built in and capped for just this purpose. This is a great argument for a built-in automatic engine-room extinguisher.

Stove safety

Alcohol stoves have always been deemed "safe." This is because an alcohol fire can be put out with water. However, alcohol fumes, like gasoline fumes, are heavier than air and are capable of violent explosion. A friend was boiling water for coffee when the burner shut off suddenly because the tank had run out of fuel. Being quick on the trigger, he wanted to refill the tank and continue with his task so he would not lose the prime. As he opened the fill cap on the pressure tank, alcohol vapor — under pressure — escaped from the tank to fall invisibly onto the still-hot burner and BANG! Both of us were blown right across the cabin. All the hair on his arm was burned away and his face and T-shirt were scorched. He should have waited for the burner to cool before opening the fill cap. The fumes in an "empty" tank make it far more volatile and lethal than a full tank.

Beware when priming kerosene and alcohol stoves. Those of us who use pressure alcohol or kerosene to cook must prime the burners with alcohol. If for some reason you "miss the prime" or the burner goes out and needs to be re-primed, beware! Wait for a minute or two to allow the burner to cool down and then prime a different burner. Never attempt to re-prime a hot or warm burner or an adjacent one until the burners have cooled for a minute or two. It's a waste of time and alcohol because even a warm burner will vaporize the priming alcohol long before the burner becomes hot enough to function properly. More important, by pouring alcohol onto a hot burner, you run the very real risk of having the burner ignite not only what is being poured but also flashing back to the alcohol container you're using.

candles. Beware of solvents. (***Note:*** *After writing this, Ed wrote, "Just the other day in Vanuatu, a guy wanted to clean his bilge so he went at it with copious amounts of acetone. After he finished, he used a 12-volt vacuum cleaner to finish up. He started the vacuum and BOOM! The vacuum sucked the acetone fumes into its motor and, horribly, the explosion set off his propane tanks. There was not much left."* ***–Eds.***)

- You can go from a beautiful carefree day to absolute disaster in less than a minute.
- Fire extinguishers should be placed away from areas where fires are most likely to start. At least one should be stored in a cockpit locker.
- You can never have too many fire extinguishers.
- The *only* type of extinguisher to have on board is one rated A-B-C, for *all types* of fires, because you will be fighting all types at once.
- Inspect extinguishers regularly to see that the gauges are in the green. If not, replace them immediately.
- Shake and roll your extinguishers regularly, and especially after long passages to windward. This prevents the powder from settling and compacting over time. We store our extinguishers in a horizontal position so the powder has less tendency to pack tightly.
- The tradition of following a shipboard routine has a practical purpose. Entertaining guests, especially children, distracts you from your normal routine, causing you to do things you would not normally do. Try not to let the presence of guests disturb your onboard routine.
- Heroics go out the window. As hard as I tried to enter that cabin, it was impossible until after the first shot from the extinguisher and the bucket of water. Without the aft-cabin extinguisher, we would have lost the battle.
- Any boat *must* have alternate and *unobstructed* means of exit, both forward and aft. Without the forward hatch, Ellen would have been burned alive.
- Cooking on board a boat is a full-time job, different from cooking ashore. When cooking on board do *only* that! Period! Do not multi-task cooking with entertaining or preparing for some other maintenance task.

Another galley fire

Our second experience with a boat fire was many years later. This fire was more insidious in its cause, something none of us would ever have expected.

We were traveling the ICW in company with another boat heading to the Bahamas. *Nadine* was a 28-foot sloop owned by Fred, Monica, and their young sons, Josh, 11, and Justin, 9.

Like us, Fred was fond of kerosene stoves and he had outfitted *Nadine* for this cruise with a used one he'd found

"They quickly exhausted all of their extinguishers, but the fire kept reigniting."

in a marine consignment center. It was in great shape. He installed it, and off we went.

On a cold Chesapeake Bay afternoon, they were happily cooking dinner when POOF! The entire galley was in flames. Fred didn't panic. He grabbed his rather large extinguisher and gave the fire a solid blast. Out it went. POOF! Another ignition. Another hit. POOF! The fire would not die! They quickly exhausted all of their extinguishers, but the fire kept reigniting. The cabin was now full of smoke and, with the fire raging, Fred gave the order to abandon ship. As I came alongside with two more extinguishers, the kids took to my dinghy while Monica remained behind to take care of Fred, who was exhausted and somewhat overcome by the smoke.

Unlike with our fire on *Entr'acte*, I could enter the cabin. This fire had more smoke but far less heat because it was still confined to the galley area. I took a deep breath and dove into the cabin. I could see the flames, but could not find their source. I knew I had about a minute or so before I had to breathe and would have only one chance. From studying the flames, I determined that the source was associated with the oven.

Opening the door, I saw perhaps the most magnificent pie I have ever seen and, at the same time, located the source of the flames: *inside the framework of the oven itself!*

I had to make a terrible choice: save the pie or the boat and, believe me, I thought about it. That pie was right out of a storybook! But common sense prevailed and I shoved the nozzle of the extinguisher into a vent hole and let her rip, not once but several times with both extinguishers. I kept shooting until I could not hold my breath any longer and bailed out. That did the trick. The fire was dead, but so was that apple pie.

All ended well. No one was injured and we all lived to continue the voyage south.

Lessons learned

- ***Cause:*** The fire was caused by oil-soaked oven insulation. Fred's used stove was an older unit such as you might find on any good old boat. Throughout its years of use, raw kerosene from leaks, cleaning fluids, cooking grease, and food oils had gradually found their way through screw holes and assembly points and accumulated in the fiberglass insulation common to all stoves, even those in our homes. Over time, the fiberglass insulation soaked it all up like a sponge, slowly becoming a giant cigarette lighter. Eventually, the day arrived when there was sufficient oil buildup that the heat from the burners caused it to ignite.
- ***Proper use of the extinguisher:*** All fire-extinguisher instructions say to "shoot at the base of the fire." This deprives the flame of much-needed oxygen. If you just shoot at the flame itself, the fire will re-ignite. It was only when I aimed the nozzle into the vent hole and directly at the source of the fire that I introduced enough powder to smother the flames. I shot *a lot* of powder into a small space!
- ***Check your oven insulation:*** In the days following the fire, we disassembled both *Nadine*'s and *Entr'acte*'s stoves. They were in the same condition. *Entr'acte*'s insulation was a ready candidate for the same event. Over many years, the insulation had soaked up spills made when filling the tank and cleaning burners as well as cooking oils and other oily stuff. For $5, we replaced the insulation in both stoves.

How many times have we seen someone squirt a bottle of charcoal lighter onto the briquettes of a grill before they are lit? Fine, but after they are lit, it is the height of folly. Don't prime your kerosene or alcohol stove this way.

Never, ever, leave your stove unattended. We have seen cooks set a pot to "simmer" while going out spearfishing. You might get away with this in a house but doing it on a boat is asking for trouble.

Electrical-fire sources

Don't overlook electrical wiring. I had an "instant fire" one afternoon as I was installing a new engine-hour meter. It was a very simple operation: remove two small nuts and out comes the gauge, two more nuts and off come the wires, reassemble everything and reattach the panel. That's it! Two minutes later, as we were preparing to go ashore, we smelled smoke and I saw flames behind the instrument panel. I immediately turned the batteries to the "off" position and disassembled the panel. The wiring studs on the new meter were a little bit longer than those of the old meter . . . just enough to make contact with something behind the panel. Even though the studs had rubber boots to cover them, the pressure of the panel being screwed down was enough to dislodge one. Had we left the boat sooner, it would have been a disaster.

Always leave plenty of space between electrical connections and cover all connecting wires securely with rubber boots, tape, liquid electrical tape, or heat-shrink tubing.

Battery charging

Battery chargers are culprits too. Boats have been lost due to battery chargers. Many people leave their boats connected for weeks or months at a time in their absence. We never leave *Entr'acte* connected to a charger when we're away for any length of time. Turn it off and disconnect the boat from the power source. Many marina electrical systems are overloaded beyond

continued on next page

belief. You and the charger are at the mercy of whatever faults occur.

High-output alternators and fast charging systems also cause fires. Battery fires are truly frightening. We have seen several battery fires recently caused by "fast charging." Some fast-charging systems allow the user to regulate the output of the alternator while monitoring and regulating battery temperature and voltage. The danger arises when trying to charge a large battery bank in an hour of engine time. The faster the charge rate, however, the higher the heat buildup.

We have a high-output alternator. It certainly has a place and, when used properly, performs a wonderful service. We like a simple externally regulated system. It fully charges the batteries in its own good time and is much smarter and more patient than I am. It takes longer to charge, but it is far safer.

Handle gasoline with care

You can never be too careful around gasoline. Even boats with "safe" diesel engines carry gasoline for outboard motors and generators. Jerrycans spring leaks. Be careful where you store them and be careful when transferring fuel from them to other containers.

One afternoon while at anchor, I needed to filter a gallon of gasoline. The foredeck was out of the question as I was afraid the fumes would find their way through the forehatch even if was closed. I chose the cockpit instead.

We all learn that when at a fuel dock you should close all hatches and doors until departing. With this in mind, I closed all the doors and the hatches and proceeded to make my pour. It only took 30 seconds and there was more than adequate ventilation. From below, however, came the cry, "Why am I smelling gas in here?" I looked down and, surprise! — I was right next to the open vents to the engine room. I had forgotten to spin them closed. Needless to say, we opened everything up and spent some time blowing out the engine room. Perhaps the foredeck would have been the better place after all.

Remember your outboard motors and generators. Why would we be sensible enough to be pathologically afraid of gasoline yet store outboard motors and generators when not in use or during layup in the head? Sure their tanks are empty, but what about their carburetors? Remember that an empty tank is more dangerous than a full one.

Beware of that jerrycan stowed on deck just outside your open port or hatch. Completely full, it's not a problem, but notice how it bulges on a hot day when it's half full. Can it crack under this pressure?

Be smart with propane

Propane use is also problematic. We were recently in a marina where a boat two boats away from ours had a propane tank sitting in the wheelhouse and the "working tank" clearly visible in the galley below. If that boat ever blew, it would take out the entire marina and us with it. I mentioned our concern to the owner, who was happily standing next to the tank while using a belt sander, sparks flying, to spray powdered fiberglass all over the boat next to him. He was unmoved. We mentioned our worry to the marina management and they also were not concerned. We left the marina.

A few years ago we were visiting the boat of someone who writes for the foreign yachting press. He was using a stove fueled by Camping Gaz, where a gas canister screws directly to the stove itself — inside the boat in his galley! During dinner preparations, the stove ran out of gas. We were absolutely appalled when he lifted a mattress to retrieve a new gas bottle. Under his bunk were no fewer than 20 gas cylinders — some full, others empty, and many of them rusty.

We have witnessed gas explosions on two occasions. In both cases, everything was installed properly, well-maintained, and used with proper care. Obviously something went undetected.

On board a boat we must always play the game "What could possibly happen?" As I move about *Entr'acte*, I always ask myself this question and try to forestall the events I imagine. You never know what might get you.

> **"We had never thought to inspect the insulation."**

Kerosene was not the culprit. While these stoves have long been criticized because of the need to prime them with alcohol and the danger of flare-ups, this fire was not a result of either of those activities. Cooking releases grease and oils that settle on galley surfaces that are easy to see and clean, but they also accumulate in unseen and completely inaccessible spaces, such as our oven insulation. We remove our stove from its mountings annually and clean away an amazing amount of grease buildup, but we had never thought to inspect the insulation. Upon discussing this issue with friends, they disassembled their gas cooker and also found oil-soaked insulation. If a flare-up of this nature had happened with a gas stove, it would have been catastrophic.

No matter what cooking fuel you use, the danger is there. This certainly surprised us. Check your older stove and you may be surprised as well.

Ed Zacko the drummer met violinist Ellen while playing in the orchestra of a Broadway musical. That show ran for only three weeks but their *show is still running after 36 years. Ed was reading* Sailing Alone Around the World *and Ellen said, "Why do you want to go alone?" They built their Nor'Sea 27,* Entr'acte, *from a bare hull and since 1980 have crossed the Atlantic to Europe and back four times and sailed to New England, the Caribbean, and the Bahamas countless times. After seven years in the Pacific,* Entr'acte *is headed to northern France for a second trip through the French canals. Follow their voyage at <www.enezacko.com>.*

Salvaging a dream

When super-human effort isn't enough, humanity succeeds

by Philip DiNuovo and Leslie Linkkila

This is a story of disaster, struggle, despair, and dreams lost . . . but also one of friendship, creativity, redemption, and triumph through sheer stubbornness. It begins with a cyclone.

It was late in the season for tropical storms in the south Pacific when a deep low formed between Fiji and Samoa. It developed quickly and swept onto the north coast of Fiji's northern island of Vanua Levu on the ides of March 2010 as Category 4 Cyclone Tomas. It then slowed dramatically, its 145-knot winds and pounding rain leveling villages, stripping coconut palms bare, and flooding cropland.

In a remote corner of the island at Viani Bay, a late-model Hunter 41 was catapulted onto the reef like a toy boat. Those aboard were rescued through the heroic efforts of the crew of a nearby motorsailer. In the storm's aftermath, local boys undertook a salvage operation — mostly with bush knives — and the damaged vessel was left abandoned.

A seafaring nomad

Brian Taylor is a Kiwi and a voyaging nomad who sails mostly by himself. By definition, singlehanders sail on a slightly different tack than the rest of us and Brian is no exception. Buzz-cut and bespectacled with a perpetual cloud of smoke hanging about his gaunt frame, Brian is cheerful, kind, and softly erudite even when just passing along great jokes . . . an all-around good mate.

We met Brian at a well-known watering hole in Tonga's Vava'u group during the 2009 cyclone season. Although he occupied "his own bar stool" at the Mermaid, he wasn't as entrenched as Jack Wagoner, a sprightly, seemingly ageless WWII veteran who not only had a bar stool dedicated to him but also had his picture as "Commodore" above the bar. While Jack stayed near his bar stool, Brian set sail downwind for Fiji in his slow but reliable, rust-streaked, much-patched, one-off steel cutter, *Kyogle*.

When you cruise distant ports for any appreciable amount of time, characters like Brian drift in and out of your life, so we were pleased and not too surprised to see him again in Savusavu, Fiji, a funky, sleepy town of friendly Fijians living peacefully among wacky expats. We felt right at home.

We learned that Brian had purchased the wrecked Hunter 41, still ashore in Viani Bay and now renamed *Viani*. Brian was in the throes of a seemingly impossible salvage operation. Viani Bay is fringed with reef, yet incredibly deep and inconveniently located 200 miles from the nearest yacht haulout facility, in Lautoka. No roads reach Viani Bay. Two small villages perch on its shores, most of the homes occupied by the extended clan bearing the name of Fisher. Transportation in or out is by tortuous footpath across the mountains or by local boat, 15 miles to Buca Bay to catch the once-daily, rickety former school bus that travels down the pothole-strewn Hibiscus Highway for a kidney-busting 6-hour ride to Savusavu.

The remote location didn't diminish Brian's enthusiasm for saving this previously well-found modern yacht. He dreamed *Viani* would someday become his comfy floating RV (or caravan as they say Down Under). Armed with enthusiasm and aided by friends who often questioned his sanity, he began the salvage operation.

The first major challenge was to recover *Viani's* looted instruments and equipment. This was eventually

Cyclone Tomas threw a Hunter 41 onto a reef-bound shore in Fiji, at top of facing page, where she was abandoned by her owners. The local villagers, who had no access to heavy equipment, righted her by digging a hole beneath her keel with shovels. This gave them access to patch the holes in the starboard side, at bottom of facing page. Brian Taylor, at right in the photo on this page, purchased the wreck and engaged his friend, Tuki Langdon (and, by extension, many of the local populace) to help him salvage it.

accomplished with the intervention of the village chief (this is Fiji, remember). The loot, or most of it anyway, was eventually returned in a pile of dirty cardboard boxes. Spaghetti-like bundles of cables and connectors protruded from the equipment as wires had been snipped or hacked hastily and without regard to future use.

At this juncture, *Viani* was afloat, thanks to the extraordinary efforts of Brian's friend Tuki Langdon and a team of Viani Bay locals. (Without Tuki there would be no story to tell.) Cyclone Tomas had deposited *Viani* on her port side, leaning landward and with a large hole at her waterline. Lacking heavy equipment, Tuki and the boys ingeniously righted her for patching by excavating the ground beneath her with shovels. The hole quickly filled with water, but *Viani* stood tall and was soon patched, tilted to seaward, and floated.

Viani may have been patched and floating but she was essentially sinking, and sinking fast. Her keel and the stump of her rudder wobbled alarmingly with each passing wake. Wires that had previously connected bilge pumps dangled in the sloshing water. All hands concentrated on keeping Viani afloat long enough to allow her to sail, motor, or be towed to a site where repairs could be made.

Quest for a safer haven

Brian's first step was to move *Kyogle*, the mother ship for the salvage, to Fawn Harbor, a safe haven 15 miles downwind. Meanwhile, back in Viani Bay, Tuki was diligently manning the hastily wired bilge pumps and keeping batteries alive by hot-wiring the auxiliary engine (the engine panel had been looted).

After setting sail for Fawn Harbor, *Viani*'s crew battled capricious winds and an inoperable engine well into the night as they floated toward Vanua Levu's barrier reef, roaring with surf. Unable to confirm a safe course into the narrow, dog-legged entrance to Fawn Harbor, Brian decided to leave Tuki on board *Viani* while he took his inflatable in search of the break in the reef. Tuki — who is not a sailor — drifted through the night dangerously close to disaster.

The moon had set and Brian was unable to find the unlit tree trunk that marks the entrance to Fawn Harbor. Exhausted, he fell asleep while his dinghy drifted. When Brian did not return, Tuki picked up his cell phone, saw a faint signal, and called for help from the Pickering family in Fawn Harbor. Tony Pickering jumped in his skiff and drove through heavy seas to reach *Viani*, took her in tow, and guided both boats through the pass and into the calm waters of Fawn Harbor. They immediately filed a missing persons report for Brian.

Spirits were low up and down the coast, but the dawn brought Brian into Fawn Harbor, groggy but very much alive. His good friends, though relieved he was safe, joked that they wanted to kill him for undertaking such a crazy escapade. Meanwhile, *Viani's* bilges continued to fill at an alarming rate and she couldn't be left unattended in case the hastily assembled connections to her temporary bilge pumps failed.

A reunion

Into this adventure we sailed a day later, almost, but not quite, oblivious to it.

Our first order of business was to organize some sustenance for the team. Brian seemingly exists on tea and cigarettes, but Tuki and the Fawn Harbor boys (led by chief Maya) needed food. The boys were important for the planned careening that all hoped would reveal the cracks and allow for effective patching. While Brian traveled to Savusavu in the hope of negotiating with customs authorities, we assisted Tuki as he applied gallons of automobile filler to *Viani's* hull while free diving. His efforts seemed to have little effect on the leak.

The day of the careening, chosen for its tides, started with a squall followed by a magnificent rainbow that made everyone optimistic. Armed with anchors, miles of line, and trunks of wetland trees, the team eased *Viani* onto a shallow patch near the reef and propped her up. They watched the water recede and then rise again but could not locate the secret to her damage. *Viani* continued to take on water.

Into this scene stepped the unflappable Rita Nesdale. Rita travels from Perth each year to spend a month or two accompanying Brian on his sailing adventures. There was going to be no cruising this year for Rita and, to her surprise, she didn't have to make just *Kyogle* livable, she had to face *Viani's* wrecked interior too.

A week or so later, a rare break in the trade winds that make Vanua Levu a dangerous lee shore allowed Tuki, Rita, and Brian to make the 35-mile dash for Savusavu, where ferries and small planes call and limited hardware is available. Brian and Tuki built a cradle and hauled *Viani* ashore.

After freeing the boat from the reef in Viani Bay, Brian moved her to Fawn Harbor to careen her and patch persistent leaks.

Fiji may not be a third-world country, but things don't happen here in ways we are accustomed to. Instead of ordering lumber from a lumberyard, Tuki hiked his ancestral lands, selected the finest vesi wood trees, felled them, shaped them into beams with a chainsaw, and had them hauled across the coastal mountain range to where *Viani* waited at Nakama Creek.

A jungle haulout

When we sailed back into Nakama Creek four months later, we found Brian and Tuki bustling about *Viani*, sitting high and dry in a cradle that looked strong enough to hold the *QE II*. We had missed the action but were regaled with stories of how the cradle was dragged by brute force up the gravel boat ramp to sit just high enough to have king tides lapping up under her shattered rudder — a haulout coordinated and executed in typical jungle style and with typical jungle success.

Things were looking up and spirits were high. *Viani's* keel had been straightened and patched, her rudder prosthesis was nearly complete, and the wiring and plumbing puzzles were being solved. Dealing with the askew propeller shaft would have to wait until *Viani* rested once again in the briny blue and the hull resumed its proper shape.

The question was how to get *Viani* wet again. How, exactly, could they push 13 tons of boat and cradle down a stony incline? They had not used rollers during the haulout and it would be impossible to install them now without lifting *Viani* with a crane. So Tuki visited his church (no, not to pray) while Brian puttered off to Hussein's Hardware to buy a whole fleet of mini hydraulic jacks.

Then began the slow process of jacking up sections of the cradle and inserting under it the borrowed 2-inch Schedule 40 steel pipes that normally support the ceiling of Tuki's church. As the weeks went by, the cradle snuggled

deeper into the ground made soft by the summer rains. Even with rollers, *Viani* stubbornly refused to move. Brian, amazingly, seemed unfazed and sat puffing on a cigarette and contemplating the failure *du jour* before ambling off to make tea so he and Tuki could engineer a new plan.

One day, after a crowd of men failed to move *Viani* even an inch using jacks and levers, Tuki got an idea. He gathered up all the coconut-palm trunks lying around the site and laid them end to end in a row from the upland end of *Viani's* cradle to a hardwood post the team had cemented into the ground roughly 70 feet inland. A hydraulic jack inserted into the row of palm trunks was able to push the cradle, and *Viani* began to move downhill, albeit glacially, toward the sea — another great example of jungle engineering that, though wobbly, actually worked.

On April Fool's Day, Brian sent this email message:

Hi All . . . Well we are there at long last; floating alongside the wharf and still in the cradle which is lashed to the yacht . . . We eventually called on the services of the 13-ton powerboat with twin engines. No, the pulling power was not enough, so he took a running jump with about 20 feet of slack. No, that did not work either but we did break some ropes. He increased speed before taking up the slack (and then the rope stretch) to 7 knots and we did move a foot or two. Interesting watching the powerboat doing 7 knots forward, being stopped by the non-moving load, and then being pulled quite quickly backward by the rope stretch taking up. After this initial movement it was easy . . . just a couple more running jumps and we were free.

I pushed the cradle containing the yacht to the wharf with the dinghy and we started looking around

In Savusavu, Tuki and his team built a cradle for *Viani* and hauled her ashore so Brian could set about making her seaworthy again.

for a cup of tea until we noticed the bilge pump was working. Yuck. Turned out that one hose was leaking (would you believe the big washing machine/dryer outlet?) and the seacock, although turned off, was not operating . . . Tuki smacked a bung in fast from the outside of the hull, so we are now a dry boat again . . . Then we had a cup of tea!

. . . That, I hope, completes the end of the 9-month salvage attempt which started after Cyclone Tomas (16 March 2010) took Viani *ashore at Viani Bay.*

Viani **and her cradle settled into the rain-softened ground and resisted all efforts to budge her toward the sea, above. When a new scheme eventually prompted** ***Viani*** **to move, the crew (that included the authors — Leslie in the white and Philip in the floral blue), took a celebratory break, below.**

A false start

Alas, *Viani*'s salvage was not complete. While fixing what now seemed to be minor issues, Brian optimistically set sail two weeks later inside Savusavu Bay. All went well until the rudder fell off and disappeared into the deep. A rescue operation was launched to tow *Viani* back to Nakama Creek. Two months went by while Brian organized the purchase of a replacement rudder that, when all the costs were added up, doubled his investment in *Viani*. Inexplicably, U.S. officials held up the shipment due to security concerns. Typically, although it had been consigned to Savusavu as air freight, the rudder eventually arrived by sea.

Extracting the stub of the old shattered rudder stock and installing the very buoyant replacement rudder while *Viani* was afloat (and still slowly sinking) stretched the creativity of the team. At last, she was afloat and mobile once again. During the interim period, there had been plenty of other projects to keep Team Viani busy. Ever cheerful, Brian wrote:

GPS — it was actually inset into the deck . . . wires cut, of course, and broken inside the unit — however Michael of Bebi Electronics *here managed to do some micro-soldering for me and it is all go; connected up to the chart plotter/autopilot/radar. All of this stuff now talks to itself (including wind speed and direction, depth, and boat speed) so I can have the radar image on the chart plotter screen and vice versa. Maybe I do not have to leave the chart table to go sailing (???) . . . Interface Google Earth and maybe I don't even have to leave the wharf to see the world!!!*

A real boatyard

Things seemed to be looking up when the 150-mile passage to Vuda Point Marina in Lautoka went smoothly and *Viani* was lifted and set gently into a proper boatyard for what Brian hoped would be final repairs. Of particular concern was the area where the keel joined the hull. He needed to eliminate persistent leaks. As expected with a boatyard vacation, a thousand additional things occupied the team that once again included the affable and tolerant Rita.

Launch day in the boatyard was tense. As soon as the travel lift set *Viani* in the water, she began to leak, so she was hauled ashore once more. Diagnosis: insufficient reinforcement where the keel stub joins the hull. During the re-launching, the previous repairs had opened up and, when she was set down again, the keel depressed an inch up into the bottom of the hull. A lesser man might have thrown in the towel at this point but, instead, a now grim Brian emailed Hunter Marine for engineering advice. Hunter suggested surgery from the outside of the hull to allow access to the inner supports where structural repairs might be made.

Tuki and Brian completed the repairs as recommended, applying reinforcements to the inside and outside of the hull. Once Brian pronounced the surgery successful, they closed the wound, sealed it with epoxy, applied antifouling paint, and *Viani* was launched once more. A quick 18-mile test sail downwind to Musket Cove confirmed a dry bilge and allowed for a small celebration. Rejuvenated and unfazed by a growing list of additional issues, Brian and crew brought *Viani* back to Vanua Levu, even stopping in a few choice

anchorages to allow for a bit of relaxation after 17 months of struggle

Back in Savusavu, Brian began to prepare *Viani* for her first long passage from Fiji to Tonga. While there, he sold his trusty old *Kyogle*.

A fateful passage

Viani's departure was delayed by late-winter blustery weather and friends' concerns, but finally Brian pointed *Viani* east toward Niuatoputapu, rolled out sail, and disappeared over the horizon, elated to be at sea. Even under normal trade-wind conditions, this is a hard passage into large ocean swells, but conditions deteriorated even further and *Viani* took a beating. Quite suddenly, Brian heard the bilge pumps working and investigated. Water was pouring into *Viani* and the pumps were overwhelmed. Extra pumps he activated could not keep up with the flooding. Still 125 miles from Niuatoputapu, Brian altered course for Niua Fo'ou, about 40 miles downwind.

Niua Fo'ou has no protected anchorage but it was the nearest land and would have to do. After anchoring on the narrow shelf on the lee side of the island just off the supply-ship wharf, Brian snorkeled to survey the damage. He could not believe what he saw: extensive cracking around *Viani's* keel and the same keel wobble that had plagued them from the onset of the salvage.

Knowing the damage was permanent and irreparable, Brian considered his options. He could not safely go to sea again in *Viani* and there was no harbor, crane, or even a remote chance of repair at Niua Fo'ou. He could either let her sink where she was or drive her ashore. He put *Viani* on the beach and donated her and all her gear to the local population.

Instantly, Brian became the guest of the Tongan government. Many of his possessions, such as his camera, were held pending an "official" investigation. The Tongans were good hosts though, housing him, homeless as he was, in an apartment normally reserved for the king when he visits.

Word of *Viani's* demise leaked out, though details were few. The cyberwaves were abuzz with worried emails begging information. His good mate Curley Carswell, at anchor in Vava'u 200 miles away, prepared to rescue him by sea. Before Curley and crew could depart, however, the kindly Tongans decided to leave the copilot of the weekly flight to Niua Fo'ou behind so Brian could take his place and be flown out to Neiafu in the Vava'u group.

In Vava'u, Brian was quickly enveloped by the warm welcome of friends. Larry and Sheri at the Ark Gallery gave him a clean berth aboard a borrowed yacht, good cheer, and space to recover from the shock of being marooned and boatless. Through this turmoil, Brian was remarkably cheerful and writing reassuring emails, despite the painful loss of his home, most of his possessions, and his dream.

It was now time for Jack, "commodore" of the local yacht club that was now defunct due to a fire that leveled the Mermaid Café, to step in. His boat, *Antares*, a Pearson Vanguard, had been his refuge and vacation home for more than 20 years but now sat deteriorating at her mooring in Vava'u. He was home in California when he heard of Brian's disaster and kindly offered to sell *Antares* at a price Brian could afford.

Before leaving Fiji on her fateful voyage to Tonga, *Viani* displayed the grace she once possessed as a sailing boat.

Some might say that Brian just bought himself another nightmare, but *Antares*, though old and in need of care, is a strong, cyclone-tested boat.

So here the story ends . . . or begins, depending upon your point of view. Brian is once again afloat, the ever-present mug of tea and cigarette in hand, knees crossed and deep in thought as he plans his next escapade with Rita and Tuki, one dream lost but another just found.

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 professional jobs and left the Pacific Northwest behind and are now in the South Pacific. Follow them in their ongoing travels at <http://sv-carina.org>.

Louvers

Interior ventilation as an art form

When air cannot circulate inside interior compartments, moisture builds up and mold grows. Dan solved the dead air problem by fitting louvered vents, at right and on facing page.

Among the rituals we held during our many family sailing adventures, one was airing out the boat. For a family of six crowded in a small sailboat cruising the waters of the Pacific Northwest, this was a necessity. On bright sunny warm days we carefully arranged all the cushions topside and hung the sleeping bags side by side over the boom. In the cabin below, we opened all the hatches while we cleaned the interior.

I knew, too, that at the end of the cruise in four to six weeks, we'd be heading home to the deserts of southern Idaho and any remaining moisture would be baked away. I did wonder, however, what we would do if the cruise were to last an entire summer. How would we keep the boat ventilated?

The easiest way to deal with damp conditions is to create good air circulation. To do this you need vents: vents on the cabinet doors, vents on the lockers, and vents in the storage bins. Rather than buy cheap-looking plastic ones or expensive wooden ones, I decided to make my own. I've watched videos showing someone constructing louvered doors for homes. This project seems to require routers and special jigs and a lot of time. What's more, this complicated technique won't work on the small vents we needed for our bins and lockers. Out to the woodshop I went to find a quick and easy way to make louvered vents.

A decorative addition

First comes the wood. Teak is fine, but I like to use a combination of woods. I chose teak for the outside frame and hard maple for the louvers. The contrast is stunning, like a teak-and-holly sole. I went a step further on our beloved 26-foot Kent Ranger. Before we sold it, I had redone all the interior cabinet doors and added several vents. I used teak for the outer frame, a narrow piece of maple to separate the frame from a panel of black walnut, and maple for the louvers. When we visited our old boat many years later, the doors and vents looked as good as when I first made them.

On our new good old boat, a 1982 O'Day 23, I wanted to add louvers on the storage area under the V-berth and for the bins around the ice box. As this little boat is really a weekender, I wouldn't normally bother with louvers, but we were in the middle of a refit prior to cruising for the entire summer.

The next step was to figure out how big to make the louvered vents. After that, it was time to start cutting wood.

Simple components

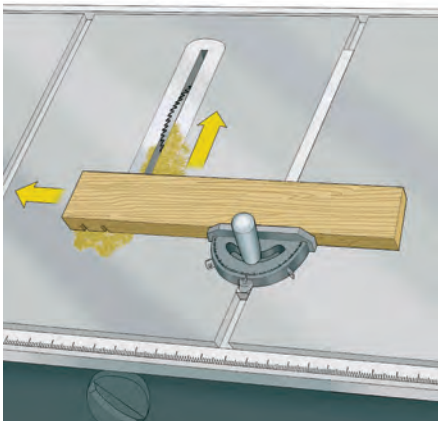
To look at the completed vent you might think this is a complex project, but it's made of just three different pieces: the perimeter frame, the louver slats, and the strips of wood with 45-degree slots cut into them into which the slats are fitted.

Using the table saw, I ripped a piece of teak to size for the perimeter frame, ¾ x 5/16 inch. For one of my louvers, I cut two 5½-inch lengths and two 5-inch lengths, then cut half-lap joints in the ends of each of them to form the corners. I glued the corners with epoxy. This completed the perimeter frame.

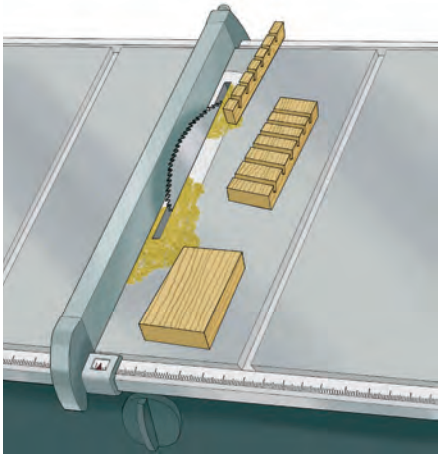
The fun part is making the strips to hold the louvers at the proper angle. In my case, that angle was 45 degrees. The most important part of this step is to use a piece of wood that's longer and wider than needed (you can cut it to size later). My board was 4 x 8 x ¾ inch. By using a larger board, you keep your fingers far, far away from the carbide saw blade. You *do* want to keep them far, far away. How I know this is material for another article.

I tipped the saw blade to 45 degrees and set the cut depth so the blade would cut through about two thirds of the board, making the slots about ⅝-inch deep. Holding the board against the miter fence, I made a series of cuts across the full 4-inch width of the board. I started the first cut well in from the end, knowing I would trim it later to the correct length.

It's best to keep the cuts no more than ⅝ inch apart; ½ inch is better yet. By using an extra-long 4-inch-wide board, I could make pieces for several louvers.

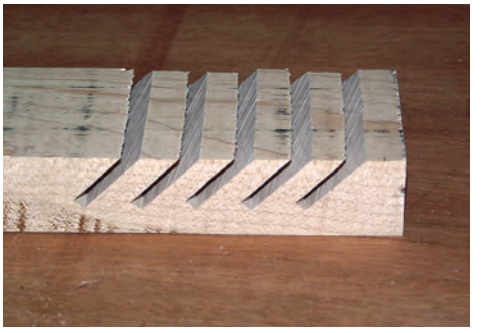


Next, I set up the rip fence on the saw, reset the blade to 90 degrees, and cut my slotted board into ⅜-inch-wide strips. I now had several pieces of wood ⅜ x ¾ x 8 inches with a lot of 45-degree cuts in them. I cut two of them to the appropriate length and glued them into the inside of the louver frame.



made easy

by Dan Cripe



Slat receivers Dan made by ripping the slotted board, at right, fit inside the frame, middle right. The slats end up T-shaped, at bottom right.

I then cut the louver slats. For this louver there were only six. Taking another oversized board, I ripped strips ¾ x ⅛ x 4 inches. The ⅛-inch thickness was for a snug fit in the slots cut with the table-saw blade. (A thicker blade would require thicker slats and a finer blade thinner slats.) For this louver, I cut 4-inch-long slats.

Final assembly

It was now time to insert the louver strips into the slots. Note that they fit from the back of the frame, so they needed a little trimming to bring them flush with the face of the frame. Using a knife, I marked the front edge of the louver strip next to the slot at each end. I then cut away just enough of the louver strip for it to fit flush with the face of the frame. The cut strip looks like a flattened T.

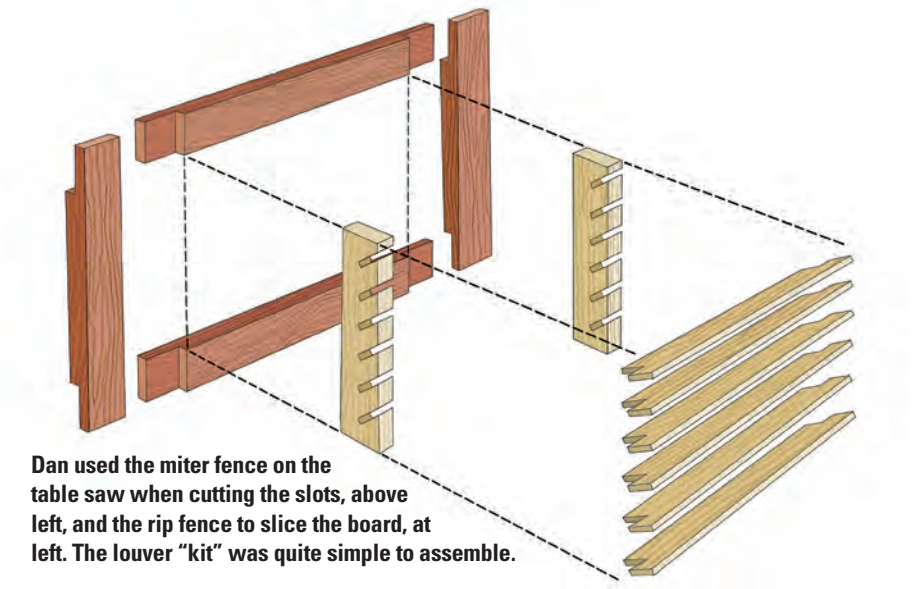
Once all the strips were trimmed to fit and glued in place, I was almost done. All that remained was to sand the whole assembly smooth and, using either a round-over or a router with a round-over bit, ease the outside edge of the frame.

I made this particular louver to fit on a fiberglass interior panel and glued it in place with a little bead of silicone. If fitting a louver in a locker door, you might want to make a frame for the inside.

Even though that summer's cruise was less than summerlike — it was more cool and damp than warm and dry — our boat remained dry inside and we had no dampness at all in the vented lockers.

I used scrap pieces of wood that were lying about the workshop, so the cost was near zero. Even if I had purchased the wood, the outlay would have been minimal since little material is needed. All it takes is a little time and — as this is boat work — it's more pleasure than work.

Dan Cripe took "early retirement" from the building industry in 2010 and has lots of time to devote to sailing and writing. He and his wife, Teresa, have owned a series of boats, all named Fantasy, *which they have sailed with their four children at home in Idaho and also on the "big waters" of the Salish Sea. Their current* Fantasy *is an O'Day 23.*



Dan used the miter fence on the table saw when cutting the slots, above left, and the rip fence to slice the board, at left. The louver "kit" was quite simple to assemble.

A multi-tasking

Adding a tee adds versatility

The cylindrical rubber plug in the old Groco SV-type seacock had seized solid.

Grooves in the removal tool engage lugs inside the through-hull (see bottom of page).

My Columbia 10.7 was suffering from hardening of the arteries. More specifically, it was hardening of the seacock. The Groco SV Series seacocks were a unique design. Instead of a tapered bronze plug or spherical ball, this type had a rubber plug at its heart. The horizontal rubber plug had a vertical hole through the center. To operate the valve, you loosened a wingnut on the side of the seacock. This relieved pressure on the rubber plug and allowed the handle to rotate. Once the seacock was open or closed, as desired, you tightened the wingnut, compressing the rubber cylinder and sealing off leaks. The series was manufactured from 1960 through 1993 and, if properly maintained, the seacocks continue to serve faithfully in many good old boats.

When maintenance is deferred and the seacocks aren't exercised often or maintained, however, the rubber plug hardens and the seacock becomes harder and harder to operate. The previous owner of my boat had let them go to the point that the seacock on the engine's cooling-water inlet seized and the handle broke off. The good news was that it broke off with the seacock open so the engine could be run. The bad news was there was no way to close the valve.

I limped by until the next haulout by squeezing the hose closed with Vise-Grips . . . not an ideal situation. I knew for safety's sake I'd have to replace the seacock at the next haulout.

Gathering the parts

As haulout time approached I began to gather the needed supplies and tools. The first order of business was purchasing a new seacock, one with a stainless-steel ball with Teflon seals, a stainless-steel stem, and a bronze body.

I chose a Groco model BV750 bronze seacock. In addition to the stainless-steel ball and stem, it had PTFE (Teflon) seals and can be serviced while installed. The mounting holes on the triangular base were, of course, different from those on the old seacock. This turned out to be a good thing. There are two drain plugs and a provision for attaching the grounding wire.

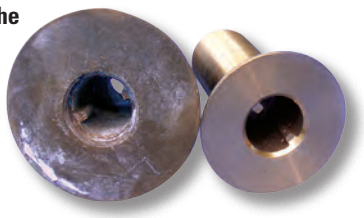
While going through my parts boxes gathering supplies, I came across a flush-valve setup I had done a magazine test on years before. The system was designed for an inboard/outboard unit on a powerboat but had features I liked, primarily a quick-disconnect fitting and an associated ball valve that allowed for easy introduction of antifreeze into the engine. You simply connected a hose to the quick-disconnect fitting and dropped it in a bucket of antifreeze.

It also came with a length of hose with a quick-disconnect fitting at one end and a strainer at the other. This could be dropped into the bilge and the valves configured to allow the engine cooling pump to act as an emergency bilge pump. With a little repurposing, I adapted that setup to my new seacock installation.

Extraction and reassembly

Once the boat was hauled, the first task would be to remove the through-hull from the seacock. This particular through-hull had been in place since the boat was built in 1978. I figured it would be well and truly stuck in place and wasn't looking forward to removing it. To ease my task, I purchased a through-hull removal tool. This is a cast-iron fitting that is stepped and notched to fit any through-hull from a ½-inch to a 1½-inch diameter.

I figured I would need all the help I could get, so I used a pipe wrench on the tool with a 4-foot pipe as a breaker bar on the pipe-wrench handle. To my utter surprise, the through-hull backed out slowly but surely from the seacock. The butyl sealant applied



The old through-hull (on the left in both photos) has a much larger base than the new one (on the right). Had Paul used the new one, he would have had to cut it to length.

seacock

by Paul Esterle

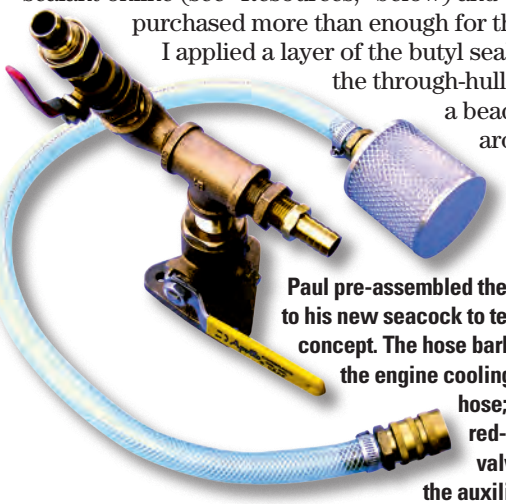
all those years ago was still sealing and still pliable. I don't think I really needed the breaker bar.

With the through-hull removed, it was time for the next surprise. In the belief that I might have to cut out the old through-hull, I had purchased a replacement. My through-hulls are all of the flush, countersunk style. I soon learned that modern through-hulls have much smaller heads than older ones. If I had cut the old one out, I would have had to fill in and patch the old hole to fit the new through-hull. Luckily, the old one was in perfect shape and could be reused.

The first step in assembling the new seacock and associated plumbing was to add a bronze tee to the top of the seacock. I fitted one leg of the tee with a hose barb for the connection to the engine's cooling-water intake. On the other leg I fitted a ball valve, then the quick-disconnect fitting. Actually, it was a bit more complicated than that as I had to use some creativity and additional bronze fittings to get the various connections headed in the right directions. I used Teflon plumber's tape on all the connections.

The original seacock was installed on a plywood donut epoxied in place. I had planned on replacing that donut along with the seacock. On inspection, however, the donut proved to be as sound and as solid as the day it was installed, a further sign that no leakage had ever occurred. One less job to accomplish.

I found a reputable supplier of marine butyl sealant online (see "Resources," below) and purchased more than enough for the job. I applied a layer of the butyl sealant on the through-hull with a bead of it around the base of the threaded section. I then screwed the through-hull into the seacock and slowly tightened it. The sealant will slowly flow into place, so I retightened the fitting over the next day or so, scraping off excess sealant that oozed out.



Paul pre-assembled the fittings to his new seacock to test his concept. The hose barb is for the engine cooling-water hose; the red-handled valve is on the auxiliary line.

Installing the seacock in the boat required Paul to make a modification to the connection for the engine cooling-water hose.

While I was at it, I replaced the hose from the seacock to the engine, as it was also original to the boat. I pulled it out to measure the length of new hose I would need — big mistake! I should have bought more hose than I needed and taped the end of the new hose to the old one so I could pull it through the various limber and access holes. I probably spent more time fishing that new hose into place than replacing the seacock.

Simple and functional

Operating the new seacock is simple. Normally, I keep the quick-disconnect ball valve closed and open just the normal seacock for cooling water when I'm aboard and close it when I leave the boat. To winterize the engine, I close the seacock and open the ball valve. I place a hose from the quick-disconnect in the antifreeze, start the engine, and the cooling pump pulls the antifreeze through the engine. By switching the antifreeze hose with the strainer-equipped hose, I can use the engine cooling pump as an emergency bilge pump.

So I now have a new seacock for my engine cooling-water intake, an easy way to winterize the engine with antifreeze, and a potential emergency bilge pump should I need it. As long as I regularly exercise and maintain the seacock, it should last as long as the original, maybe longer.

With the engine cooling seacock replaced, that leaves just the galley sink, the head sink, and the head overboard-discharge seacocks to be replaced. Whew!

Paul Esterle has been boating since the early 1960s. Starting out with a wooden Sunfish, he graduated to stripper canoes and sailing wooden Folkboats on Lake Erie. Paul is currently based at the head of Chesapeake Bay, where he works on and sails his small fleet of classic plastic sailboats.

Resources

Source for butyl bedding tape:
www.pbase.com/mainecruising/butyl_tape

A mast boot for all sea

Rubber roofing out of a can does the trick

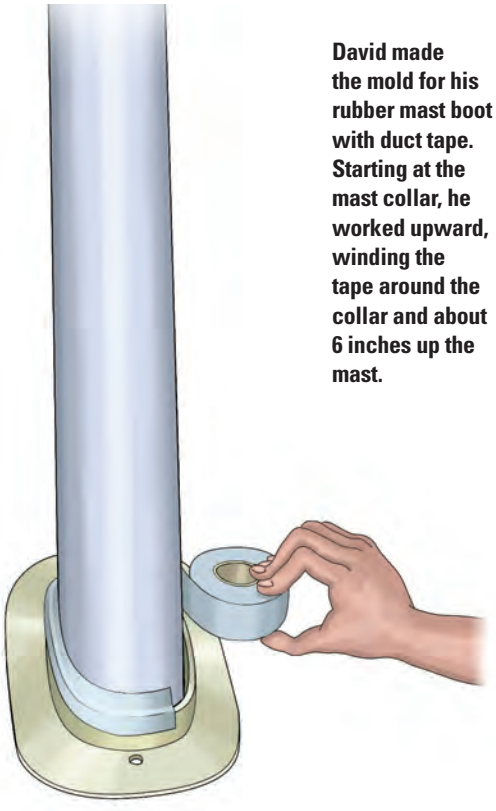
Over the years I have tried several methods to create a watertight mast boot. As a temporary fix, I once used duct tape. It was inexpensive and actually lasted about 10 months before it started to leak. I tried using a couple of rolls of mast-boot tape, a wide self-bonding tape. It was quite a bit more expensive and lasted only a year and a half before it started leaking. I also tried Spartite, a two-part liquid that forms both a mast wedge and mast boot. It worked well, but is expensive and, if not applied properly, can permanently bond the mast to the boat.

While we were in New Zealand last year, we pulled the mast for a refit. When we re-stepped the mast, we could not reuse the Spartite boot and I began looking for another solution. At the suggestion of a local rigger, I decided to try a one-part waterproofing compound that's marketed for roof and gutter repairs. This is a thick rubbery substance about the consistency of honey that can be applied with a brush. It will adhere to metal and painted surfaces and, once it dries, it remains flexible and is UV-resistant. It seemed ideal for my application.

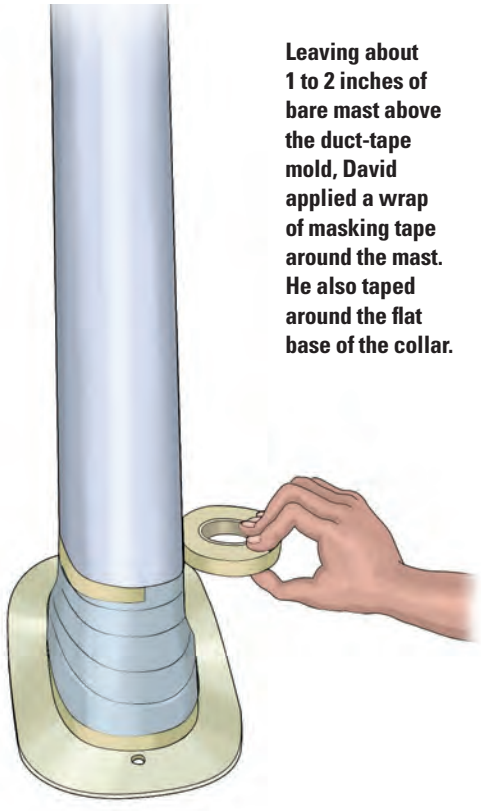
A quick-and-easy mold

My first step in making the mast boot was to create a form, or male mold, to support the waterproofing compound until it could set. I used my ever-present duct tape to make the mold, but any wide adhesive-backed tape would work. I started by making a wrap around the deck collar and continued to make wraps upward until I had a cone-shaped form reaching from the deck collar to the mast. Next, I put a wrap of masking tape around the mast 1 to 2 inches above the top of the mold and applied masking tape to the deck below the mast collar.

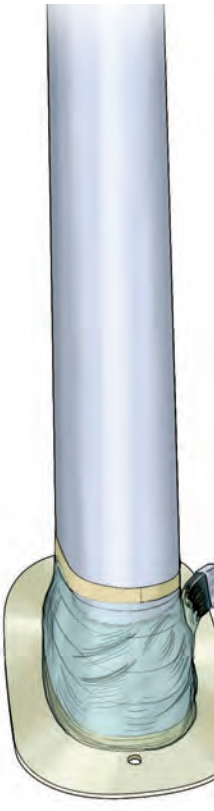
I found the waterproofing compound at a local building-supply store. The product itself is not hard to find (and several brands will do the job), but it is difficult to find in a small quantity. For *Nine of Cups*, our 45-foot cutter, I needed less than a quart, and the products were usually available only in 1- and 5-gallon containers. See the Resources box (facing page) for sources I've located that will sell and ship the waterproofing compound in 1-gallon or smaller quantities if you cannot find it locally.



David made the mold for his rubber mast boot with duct tape. Starting at the mast collar, he worked upward, winding the tape around the collar and about 6 inches up the mast.



Leaving about 1 to 2 inches of bare mast above the duct-tape mold, David applied a wrap of masking tape around the mast. He also taped around the flat base of the collar.



sons

by David Lynn

Since the rubber boot didn't look "finished," David covered it with a dress boot made of Sunbrella, then added whippings top and bottom.

Laying down rubber

Using disposable chip brushes, I applied three thick coats following the manufacturer's re-coat schedule. For the product I used, I was able to apply a new coat after eight hours of drying time, so I applied two coats the first day and the last coat on the second day. After it dried beyond the tacky stage, I carefully removed the masking tape, using a razor blade as necessary. I then let the waterproofing compound cure for a couple of days.

Since the waterproofing is UV-resistant, the mast boot was now functionally complete, but it didn't look finished. I decided to make a cover from Sunbrella, using a small piece left over from our Bimini project.

The cover-up

The shape of the cover is a bit odd — it's the base of a cone. After a bit of trial and error, I came up with a simple formula that can be used to make the pattern.

First, I measured the circumference of the mast, *C1*, and the circumference of the mast collar, *C2*. I estimated how high on the mast I wanted the cover to reach and put a pencil mark on the mast at that point. Then I measured the distance from the base of the mast collar to the pencil mark on the mast, which is *Ht* in the formula. You can calculate the two radii, *R1* and *R2*, using the formulas below.

$R1 = (C1 \times Ht) \div (C2\text{-}C1)$

$R2 = R1 + Ht$

David applied three coats of waterproofing compound over the mold and the mast up to the masking tape, waiting the appropriate length of time between coats.

For example, on *Cups* the mast has a circumference of 26 inches and the mast collar has a circumference of 31 inches. The distance from the bottom of the mast collar to the top of the cover is 7 inches. Plugging these values into the formulas:

$R1 = (26 \times 7) \div (31\text{-}26) = 182 \div 5 = 36.4$ inches

$R2 = 36.4 + 7 = 43.4$ inches

Before marking and cutting the fabric, I made a paper template to check my calculations. Once I was convinced the template was accurate, I used it to draw the pattern onto the fabric. I added an extra inch to one end of the pattern to allow for an overlap, then added ½ inch to the entire outline to allow for hemming the edges. Next I folded the ½-inch of material along the outline and hand-stitched it. Marcie keeps a roll of basting tape on hand. It's narrow double-sided adhesive tape and works well to hold the material in place while stitching it. The last step in the fabrication process was to hand-stitch mating pieces of Velcro onto the ends of the fabric where it overlaps.

I installed the cover by wrapping it tightly around the mast and collar and pressing the Velcro strips together. I wanted to add a whipping with ⅛-inch white nylon line to the top and bottom to give it a finished look. In previous versions, I used a French spiral hitch and once I even finished it with a Turk's head. It was a lot of work and I don't think anyone but me ever noticed. This time I used an easier method. I used a hot-melt glue gun to attach one end of the small line to the cover about ½ inch from the top, then made 12 wraps of line tightly and neatly around the mast working upward. I put a small dab of glue on each revolution and secured the end to the mast and the

Resources

Kool Seal Elastomeric Roof Coating
www.koolseal.com for data sheet;
www.amazon.com to purchase

Liquid Rubber Highbuild S-200 Waterproofing
www.liquidrubber.ca

Duram 195 Waterproofing Membrane
www.duram.com.au

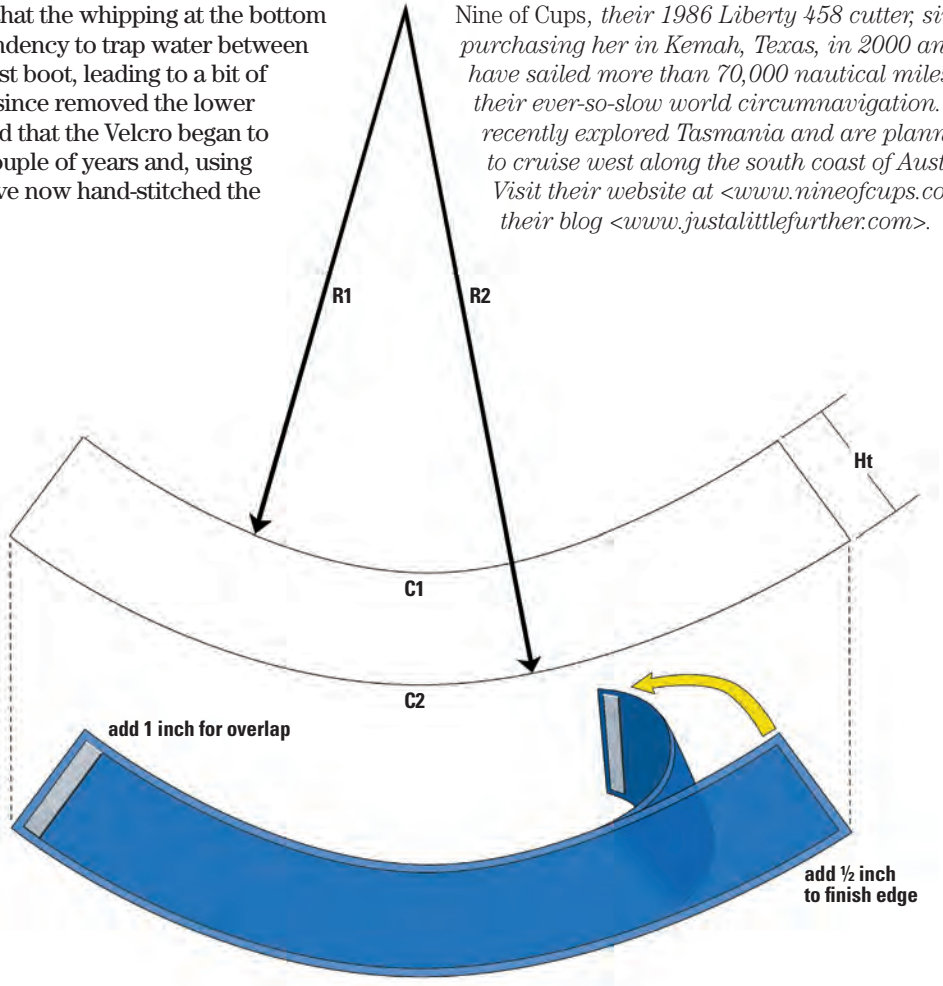
Liquid Rubber EPDM
www.liquid-roof.com

wrap just below it with another dab of glue. Using the same process, I also added a whipping at the bottom around the mast collar. The end result looks nice and I can remove it quite easily when necessary.

This mast boot has been in place for more than two years. It has been exposed to heavy seas and cold temperatures in the waters of southern New Zealand and Tasmania as well as the more tropical temperatures of Vanuatu and Fiji. So far it has shown no sign of leaking. I did find that the whipping at the bottom of the cover had a tendency to trap water between the cover and the mast boot, leading to a bit of mold growth. I have since removed the lower whipping. I also found that the Velcro began to lose its grip after a couple of years and, using a curved needle, I have now hand-stitched the Sunbrella in place.

I have also learned that the manufacturers of some of these products do not recommend its use on stainless steel because it will not adhere well. This should not be a problem in this application. If the mast collar is stainless steel, the membrane will form a tight flexible boot over it, shedding water downward.

David Lynn is Good Old Boat*'s newest contributing editor. He and his wife, Marcie, have lived aboard* Nine of Cups*, their 1986 Liberty 458 cutter, since purchasing her in Kemah, Texas, in 2000 and have sailed more than 70,000 nautical miles in their ever-so-slow world circumnavigation. They recently explored Tasmania and are planning to cruise west along the south coast of Australia. Visit their website at <www.nineofcups.com> or their blog <www.justalittlefurther.com>.*



The taper from the mast collar to the top of the mast boot means that the canvas cover must be made as the base of a cone. David used this simple way to calculate the dimensions (see the formulas on page 37).

Replacing rudder bearings

Simple original construction means a simple repair

by Jim Craighead

I should have paid more attention to my loose rudder bearing when I put the boat in the water, but it didn't seem any worse than in previous years. Weeks later, during a day of sailing in strong winds, my friend yelled up at me from the cabin, "Hey, you've got water down here!"

After pulling into the slip and pumping the bilge, I followed a small trickle of water back to my lower rudder bearing. The four lag screws fastening it to a block glassed into the hull had rusted away to tiny brown spikes. This, combined with the wooden block absorbing water and rotting, had caused it to work its way up the rudder post until it no longer provided a seal against the cold Lake Superior water.

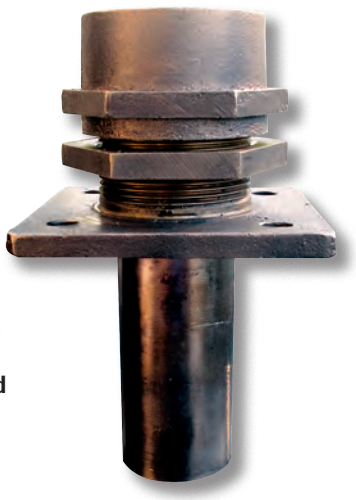
I needed to do a quick fix for the leak until the boat could be pulled, so I smeared beeswax from a toilet ring — it sticks to anything — between the bearing flange and the rotted block and pushed the bearing against the block with small jacks made from bolts and coupling nuts. The leak slowed to a drip. That was good enough until the boat could be pulled later in the week. When he pulled the boat, the owner and operator of our marina thoughtfully placed it at the edge of his pullout dock so I could drop the rudder without first digging a hole.

The lag screws that secured the bearing to its block had corroded, allowing the bearing to rise up the rudder stock, above. The weldment is for the rudder stops. After removing the block, Jim prepped the hull for the replacement, below.

Disassembly

Before unbolting the quadrant and stop collar from the rudder stock, I fastened a rope sling under the rudder. Together with the solid stainless-steel stock, the rudder assembly probably weighed 150 pounds. I could imagine it dropping into the mud below as I loosened the last bolt, but the sling held it in place. After all the hardware was removed, I lowered the rudder assembly with the sling and laid it on the dock.

Using an angle grinder and an old chisel, I cut through the fiberglass covering the rotted bearing block and removed it. I was careful to keep it intact as it would be my template for the new one. I cleaned up the remaining fiberglass and the hull around it to provide a clean surface for mounting the new block.



Jim cut out the new block for the lower bearing on his band saw, at left, and epoxied studs into it to receive the bearing, above. The bronze bearing and shaft-seal assembly, at right, is a readily available stock item.

Fabricating new parts

I selected white oak for my new bearing block, not only because it resists rot but also because I happened to have a piece thick enough to do the job. I cut the rough shape on my band saw, sanded it to its finished shape, and machined a hole in the block to accept the bronze bearing.

Instead of using lag screws to secure the bronze bearing, as in the original installation, I chose to epoxy stainless-steel bolts into the block. I then coated the entire block with several layers of epoxy. To help the epoxy penetrate the oak, I heated the block before I applied the first coat. As it cooled, it drew the epoxy into pores and crevices.

The upper bearing appeared to be getting sloppy as well, so I decided to replace it too. The old upper bearing was nothing more than a block of wood with a plastic bushing. I fabricated a new one from aluminum with an acetal (Delrin) insert.

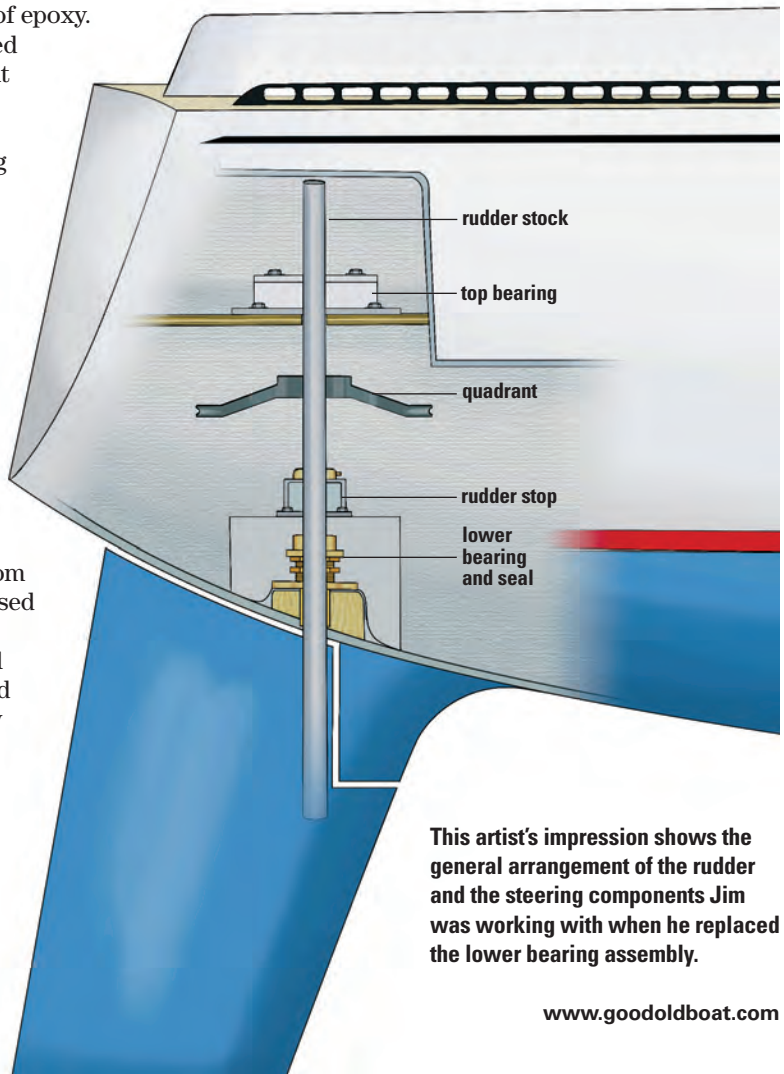
Reassembly

To help align everything during reassembly, I used a length of pipe the same diameter as my rudder stock. I bolted the upper bearing in place and fitted the bronze bearing into the oak block. After applying Johnson Paste Wax to the temporary stock to prevent it from becoming permanently glued in place, I passed it through the upper bearing, lower bearing, and hull, and glued the oak block to the hull with a thin paste of epoxy mixed with milled glass. I checked the position of the block by making sure the pipe ran parallel with the skeg below the hull.

After setting the epoxy with the help of a hair dryer, I laid up several layers of 10-ounce fiberglass roving, adding extra layers in the corners to create fillets.

When the fiberglass had set up hard, I applied a liberal coating of 3M 5200 and bolted the bronze bearing in place. Once again, I used the temporary stock to assure that everything lined up.

To finish the job, I had to lift the rudder and fit the stock into the hull, through the bearings, quadrant, and rudder stop. The top of the stock had a slot for an emergency tiller. I drilled a hole though the stock at a right angle to the slot and pressed a short piece of rod into the hole. This created a means of attaching a rope to the stock. I then dropped a length of rope through



FRITZ SEEGERS

This artist's impression shows the general arrangement of the rudder and the steering components Jim was working with when he replaced the lower bearing assembly.

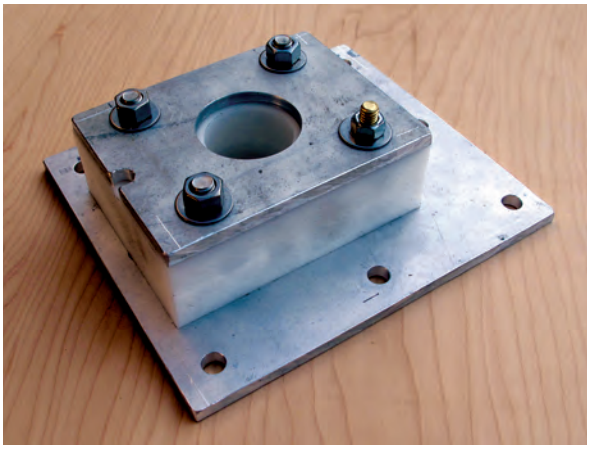
the upper bearing, quadrant, stop collar, and the hull. After tying the rope to the stock, I stood the rudder up and used the mainsheet tackle to pull it into the hull.

Hindsight

I should have examined the problem as soon as I noticed the looseness in my rudder during my preparation for spring launch, but it's so hard to be patient after waiting all winter. I would have saved myself from a wet boat and mid-season haulout fees and my downtime would have been during the marginal weather of early spring instead of the warm weather of summer.

From now on, you can expect me to make a thorough inspection of everything on the boat that will become inaccessible once it's in the water . . . and *then* I'll rush to put it in!

Jim Craighead and his wife, Annie, sailed their first boat, a 26-foot Chrysler, on Minnesota's Lake Pepin for three seasons, learning how to sail and how to sink money and time into a good old boat. After towing the Chrysler up to Bayfield, Wisconsin, they learned that bigger waters called for bigger boats. They now use their S2 9.2A for weekend island-hopping in the Apostle Islands.



The upper bearing, above left, was a plastic bushing in a wooden block and was getting worn. Jim fabricated a new one out of Delrin sandwiched between aluminum plates, above right. Jim glassed the block for the lower bearing to the hull after aligning it with a pipe, at left, then assembled the bearing and shaft seal to it using 3M 5200 as the sealant, below left. Once everything was back together, Jim's steering system was as good as new, or even better in parts, below.

Maximizing stowage

Creative solutions for hard-to-use spaces

by Petrea McCarthy

In a smallish galley it's hard to justify the space taken up by an oven. I removed the oven in my 31-foot ketch, *Talisman*, replaced it with a two-burner stovetop with a broiler, and used the area beneath it for storage.

I made the shelves with 5/16-inch marine plywood and used some 3/16-inch I had on hand for the front and doors. Had I been buying the plywood, 1/4-inch would have sufficed for both.

My initial idea was to keep vegetables in there, so I cut ventilation holes in the doors, but I found a better place for those. Instead, I now store packaged food in this readily accessible area.

My stovetop isn't gimbaled — that's another space saver. Since I have used my boat mainly for gunkholing, cooking at sea is a low priority. The extra stowage space was more than worth the inconvenience of occasionally heaving-to to cook under way.

Easy cleaning is important to me, so the stovetop is fastened in place with two 1/4-inch bolts with wingnuts. I can lift the stovetop unit out in seconds to wipe down the recess.

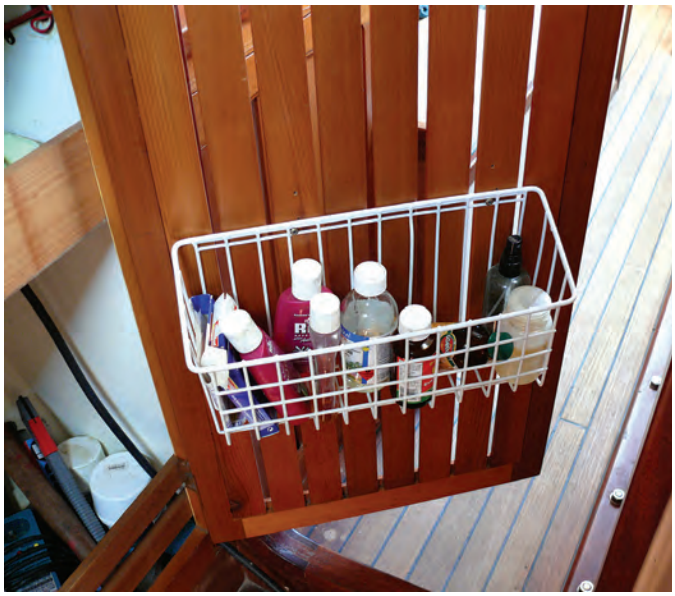
Reclaim dead space

I turned the wasted space under the galley sink into convenient storage for fruit and vegetables by fitting wooden rails for baskets to slide on. The rails are simply screwed to 3/4-inch square-section softwood that is in turn screwed to the plywood locker sides.

The baskets were easy to find — they came from the storage section in one of our discount hardware stores. When I slide the baskets completely out, I still have access to the cavernous area under the cockpit floor.

I hung wire baskets — another hardware-store find — on the inside of the door, and use them for ready-use items like spices, hand soap, and so on. These plastic-coated mild-steel baskets last about six to eight years and can be easily replaced.

In a small galley, lockers are more useful than an oven, above. Petrea made the most of the space under her galley counter, at left below, with inexpensive plastic baskets that slide on rails. Cheap wire baskets can be fitted nearly anywhere, below at right.



Another way to increase storage space, and add a design element to the décor, is to mount a ready-made cabinet on a bulkhead, at left. Petrea used brass angle to attach her cabinet to the bulkhead, at right.

Another way to add storage capacity is to buy a ready-made cupboard to mount on a bulkhead. The cabinet can be whatever suits your boat. The fastenings for *Talisman*'s cedar cabinet were cut from a piece of brass angle from the hardware store.

Extend the capacity of shelves

Builders of production yachts tread a fine line between making them look spacious and providing enough stowage. That's why you find dinky, shallow shelves above V-berths. These can be enlarged quickly and cheaply by fitting clear acrylic sheets inside the original shelf fronts. Measure the overall length and desired height and attach the new pieces inside the existing front using mirror tape, a strong type of double-sided tape available in hardware stores. Be sure to leave room above the extensions to allow easy access to items stowed there.

Petrea McCarthy is an Australian freelance writer, long-term live-aboard cruising sailor, and former yacht rigger. She has been sailing for 45 years, circumnavigated the Australian continent, crossed the Tasman and Coral Seas, built two yachts from bare hulls and decks, and fitted out several others. Her idea of a mid-life change is racing a Laser on a freshwater lake near her home in north Queensland where she is also a sailing instructor.

Working with acrylic sheet

Acrylic sheet can be purchased from plastics suppliers in clear and tinted shades. Buy it already cut to size or shape it yourself. To avoid scratching it, leave its protective paper covering in place while working with it.

Acrylic can be cut by hand or with a saber saw, but is easiest to cut with a table saw using a blade with a high number of teeth per inch. To reduce splintering, place a scrap of plywood under the acrylic and cut through both. The cut edges of this plastic sheet can be very sharp. Smooth them with fine sandpaper (300 grit or higher), taking care not to scratch the shiny surface. When drilling holes in it, use a blunt drill bit to avoid cracking the acrylic.

To make useful containers for small items, acrylic can be cut then joined with acrylic adhesive. A small tube of glue will last indefinitely if capped and kept refrigerated. After cutting the pieces, wipe away any dust and lay a thin bead of glue along the center of each joint. Hold or clamp the pieces together. The glue bonds in minutes but takes about 12 hours to achieve full strength.

Weather in pictures

Satellite radio delivers data and images to the cockpit

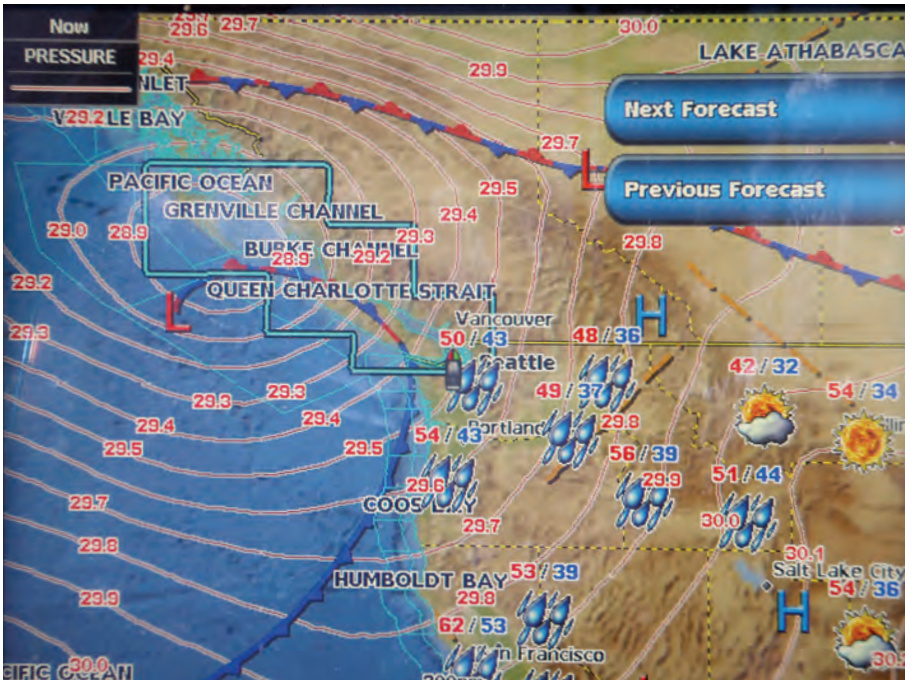
by Durkee Richards

It seemed almost magical. I was in the cockpit of our J/32 on Sequim Bay in western Washington state, yet displayed on the chart plotter mounted at the binnacle were the isobars and frontal boundaries associated with Hurricane Sandy as it was coming ashore in New Jersey. I was also able to check the latest buoy reports from the weather buoys moored along the Eastern Seaboard.

This was possible because of the satellite-weather capability I had just installed. I could "see" all the weather, rather than listening through weather-radio broadcast loops that gave me a "view" of only part of the weather.

Several times during recent cruises along the central coast of British Columbia and the west coast of Vancouver Island I had wished for better or easier-to-use weather information. While listening to the latest weather-radio broadcasts, I really missed being able to see a surface-analysis chart showing the locations of major frontal boundaries and isobars. I often thought how nice it would be to simply click on a display and pull up the conditions and forecast for a particular region. Another click might take me to a report from a strategically located weather buoy or to a surface-analysis chart that would help me understand the current conditions. All of this could be possible with the XM WX Satellite Weather service.

More online . . . For more details about the installation as it applied in Durkee's case and may apply to your boat as well, please see our More Online addition to this article. The description includes mounting and wiring the new chart plotter, installing the NMEA 2000 backbone, replacing the NMEA 0183 network, and installing the new antennas. Go to: www.goodoldboat.com/reader_services/more_online/wxweather.php.



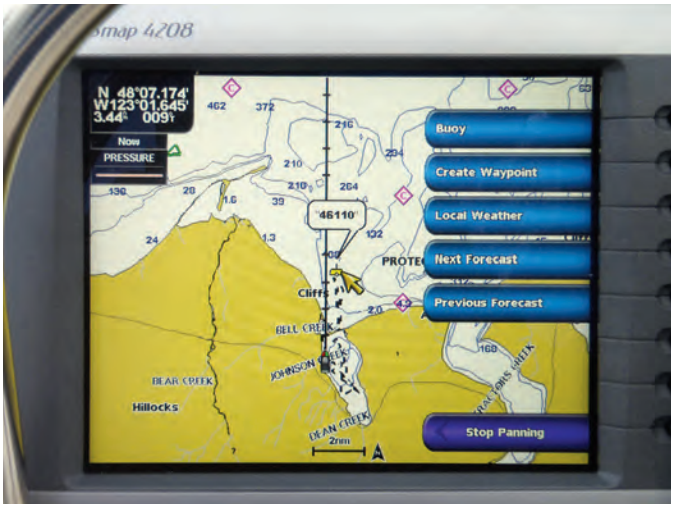
The beginnings of a plan

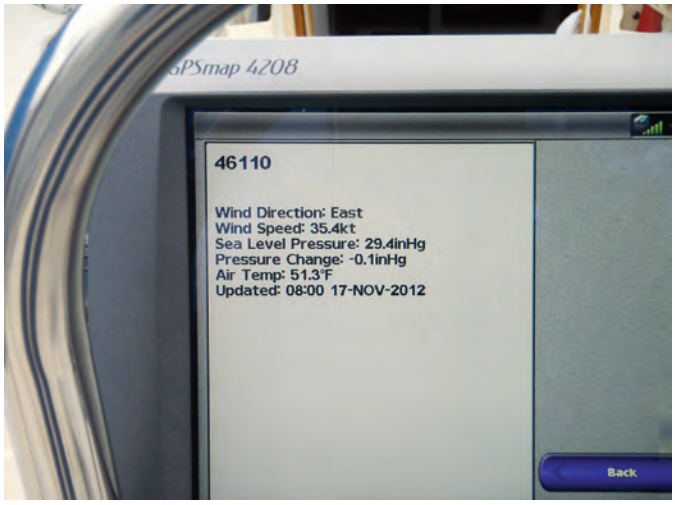
I had followed the blog *Good Old Boat* editors Karen Larson and Jerry Powlas posted during their three-month exploration of Lake Superior in 2011. Their positive references to WxWorx satellite weather finally triggered action on my part. It was time for a plan.

On their C&C 30, *Mystic*, Karen and Jerry displayed weather information on a laptop computer. Our electronic navigation capability aboard *Sirius* is based on a chart plotter, so it was appropriate to add satellite weather as an overlay on the chart plotter display. The first decision was easy. We had a Garmin GPSMAP 3206 chart plotter installed on the binnacle guard. Garmin sells a satellite receiver (GXM 51) that can receive the weather data broadcast by XM WX Satellite Weather and send it to the chart plotter. (Many other hardware solutions are described on the XM WX Satellite Weather website.) Using the Garmin receiver would assure full compatibility with our Garmin chart plotter.

However, I had to overcome an immediate technical challenge. The GXM 51 is designed to use the new network standard, NMEA 2000. Our GPSMAP 3206 has ports only for NMEA 0183, the older network standard. These were being used to communicate with our VHF radio, AIS receiver, autopilot, and TackTick sailing instruments.

I expect that most of the satellite weather solutions available today will require an NMEA 2000 network. It is also likely that most good old boaters have the NMEA 0183 network aboard if they do have a network installed. This networking issue may impact many readers who are interested in having satellite weather aboard. A quick comparison between these two marine network standards is worthwhile. They're quite different in their physical and logical characteristics.





A surface-analysis map, facing page, shows the low pressure and frontal system responsible for a windy Saturday morning. A chart view, at left, shows the location of a weather buoy outside Sequim Bay, Washington. Selecting the buoy brings up the data generated by the buoy, at right.

Another approach

by Jerry Powlas

Although Durkee was inspired by our access to satellite weather, he chose XM WX Satellite Weather while we have been using WxWorx. Both are offered by Baron Services and are based on their WxWorx division weather data. XM WX includes Canadian weather. WxWorx does not. Like Durkee, we sail on both sides of the boundary with Canada (he in the Pacific Northwest and we on Lake Superior). We wish we could receive Canadian forecasts and consider that information a significant improvement over WxWorx.

The difference between these products is the least of it. The way each of us has set up our system derives from substantial differences in the philosophy of how we run our boats, the way our boats were set up to begin with, and our cruising areas.

Although I occasionally singlehand, I sail with my wife, Karen Larson, most of the time, so there usually are two of us to do the work. My personal philosophy of sailing is that the helmsman should not be in sensory overload. His job is to steer the course and to be on lookout for other vessels and hazards. For this he needs a compass, a depth sounder, and engine controls. He needs to have his eyes and mind maybe 10 to 100 boat lengths out in front of the bow. If he has his head down and his mind deep in his electronics, he can become distracted from the primary watchkeeping and piloting jobs.

Electronic devices are important to us, but Karen and I don't want them networked together. Just about every electronic device aboard our boat has failed in the 20-plus years we have cruised aboard her. We don't want one device to bring down another.

Our chart plotter runs on a laptop in the cabin. When we added the WxWorx service, we added it to our laptop. It is not overlaid on the chart plotter. It operates independently. As a result, our setup was simpler. A satellite antenna on the pushpit rail connects to a receiver that connects to our laptop with a USB cable. That's it. The laptop is a Mac, and we run either GPSNavX or MacEnc as our chart plotter. Since the WxWorx program runs only on Windows, we run a Windows emulator application called Parallels.

It should be noted that even if the laptop fails, we know how to operate without it. We have paper charts and tools at the ready and we can survive without weather feedback. We like satellite weather updates and electronic chart plotters very much, but we don't stake our lives or our boat on them.

Because the laptop remains in the cabin, we go below to view the weather. We generally check the weather each morning and any time the weather seems volatile. Most of the time, WxWorx is turned off and we run the chart plotter only. On long sails across open water, we often have both turned off to save on power consumption. Electronic devices can be hungry beasts.

I have a mate and I want her involved. Although we reverse roles frequently, Karen's the primary navigator and I'm the primary helmsman. She spends a lot of time in the cockpit and runs up and down checking our navigation. Except for long passages when we're alternating watches, we work the boat together. On overnight passages in open water, the helmsman can set the autopilot and go below to navigate and look at the weather (when need be) while popping up regularly to look around.

Our philosophy is to keep it simple.

Karen points out that another approach is evolving that involves the use of iPads and other handheld devices. These operate primarily when you sail within range of cell towers. But this field is developing so rapidly that satellite weather may already be available on an iPad. Chart plotters are already flourishing on devices that have built-in GPS receivers. If they don't have satellite reception yet, can it be far behind?

Lecture vs. discussion

NMEA 0183 was designed around the transmission of data "sentences" from one "talker" to multiple "listeners." This is a one-way communication and the devices must be hardwired together. To accommodate multiple "talkers" you need separate networks and separate ports in the chart plotter or computer. It is possible to buy a multiplexer that can combine the sentences from two or more talkers into a single data stream. The standard baud rate for NMEA 0183 is 4,800. However, a high-speed standard using 38,400 baud also exists for use with AIS data.

NMEA 2000 is based on Controller Area Network technology originally developed for use in the auto industry. It is designed to be plug-and-play and to accommodate multiple talkers and listeners. The standard provides for the devices to negotiate for access and thus avoid conflicts between talkers.

Physically, an NMEA 2000 network is implemented using a long five-wire cable with 120-ohm terminators at each end. This is referred to as a backbone. Tees inserted into the backbone are used to inject power and to connect each device to the network. The drop cables used to connect a device to a tee in the backbone can be up to 6 meters long. Most devices are powered from the backbone, although a manufacturer might make separate power provisions for a device that needs more power than the network can supply. The design of the message structures ensures that data gets reliably from a talker to the appropriate listeners along the shared backbone. The data rate along the backbone is 250 kbit/sec.

A mediator

On the Internet, I found a possible solution for dealing with the two NMEA network standards. I would need a bridge device that could translate the NMEA 2000 message packets into NMEA 0183 sentences. Then, I would need a multiplexer to combine the output from the bridge with the output of our NMEA 0183-based AIS receiver. These devices are available from several manufacturers. However, they are not inexpensive. They also contain a lot of firmware, and it appeared that I would need to configure them for my specific application. Reading the manuals I downloaded from the Actisense website, I realized that, in order to perform this configuration step, I would need to connect the devices to a computer running an appropriate version of Windows operating system. As I am a long-time Mac user, this would create an additional challenge.

This led me to consider an alternate path: upgrading the chart plotter. The Garmin GPSMAP 4208 was the next step up from our current unit. It incorporates NMEA 0183 and NMEA 2000 ports, so no bridge or multiplexer would be required. (Incorporating both network standards in chart plotters seems to be a common practice in the industry now.) This would make it easier to accommodate future upgrades of other electronic

NMEA 2000-compatible devices on board. It would also allow the weather data to be brought in at the NMEA 2000 data rate, rather than throttling it down to the NMEA 0183 high-speed standard. The downside was higher overall cost and, as I soon realized, running anew all those pesky fine wires used with NMEA 0183. By the time I was finished with the installation, I had developed a very high regard for the plug-and-play nature of NMEA 2000!

Weather subscription

Once the new system was fully functional, I called Sirius XM WX Satellite Weather to initiate service. Their customer service agent helped me set up an account to be charged against a credit card. I provided the ID number for our receiver so the system would recognize it and provide the data package I selected. They currently offer four weather packages. The monthly prices climb in proportion to the range of weather information included. The company allows boaters to stop and start the service again if they use their boats only seasonally. Within 15 minutes of placing the call, my system noted that a subscription was in effect and was beginning to download weather data.

Our local sail fleet continues to race every other Saturday through the winter. I used this winter sailing schedule to get more familiar with the weather services provided and check their reliability before my wife and I head out for an extended cruise this summer

So far, the buoy reports and the surface analysis charts have been the most useful, followed by the forecast for sea state and surface winds out in the Strait of Juan de Fuca. I can also see how the NEXRAD radar overlays would be useful for boaters in areas where strong thunderstorms or squall lines are of concern. Based on my experience so far, I'm confident that, during our next extended cruise, we will find the benefits of this addition well worth the effort and expense.

Resources

Satellite Weather
http://xmwxweather.com
www.wxworx.com

Actisense
www.actisense.com

Blue Heron Marine
Retails Actisense NMEA 0183 mutiplexers. Click on NMEA 0183 under "Categories."
www.blueheronmarine.com

Durkee Richards learned to sail in the Sea Scouts on the Columbia River. His first date with Mary Jeanne, his wife, was on a 15-foot 6-inch Snipe. During their last 10 years in Minnesota, they cruised Lake Superior on chartered boats until they bought their lightly used J/32 in 1999. After retirement, they moved to Washington's Olympic Peninsula. They have now sailed their J/32 more than 16,000 nautical miles while exploring the coast of British Columbia out as far as Haida Gwaii and along the west coast of Vancouver Island.

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GOOD OLD BOAT GEAR

MacGregor 26X

A versatile trailerable that's as divisive as it is popular

by Allen Penticoff

Perhaps there will never be a more controversial sailboat to appear on the pages of *Good Old Boat* than the MacGregor 26X. It's a love-it-or-hate-it boat. Those who own them seem to love them; they say the boat fills their needs and they can overlook the its shortcomings. Other sailors are put off by its powerboat aesthetic and what they perceive as a lack of quality. The MacGregor 26X certainly does not look like the typical sailing yacht.

John and Pam Cappitelli of Rockford, Illinois, purchased their 1999 26X in Iowa. John immediately towed it to Fort Myers, Florida, where he obtained a slip in the municipal marina. And that's where it stayed the first winter, serving as a floating home while John wintered in Florida and Pam commuted back and forth from Illinois when she could get away from work. At the end of the season, John towed it home behind his medium-sized SUV. The following year found them owners of a condo in a high-rise with a slip on the Caloosahatchee River near downtown Fort Myers.

When I met with John in Fort Myers, he had yet to sail the MacGregor 26X. He had previous sailed as crew aboard other boats, but setting up and sailing the MacGregor was a new experience for him. I helped him rig it and get out sailing.

Their slip is near the mouth of the river where it is wide enough to sail all the way out to the Gulf of Mexico. With its 50-horsepower outboard motor, the MacGregor can quickly motor into a stiff breeze or against a strong current for an easy run back. This is the kind of sailing that John and Pam like to do.They have no need for a boat that can take on the roughest conditions because they simply won't go sailing on very windy days. Nonetheless, the MacGregor 26X can handle much

For John and Pam Cappitelli, the sheltered Caloosahatchee River on Florida's west coast is an ideal cruising ground to explore in their MacGregor 26X.

The aft end of the cockpit, which incorporates the helmsman's seat, lifts up on a hinge to provide access to the outboard motor and swim platform, at left. Unusual for a general-purpose boat like the MacGregor are its twin rudders, at right, that are retractable and linked together in the steering system. All 26X models have pedestal steering with a small, powerboat-style wheel, below. Long turns at the helm can be tiring.

more in the way of weather than what John and Pam put it through. But their use highlights the pleasure of inshore sailing that is all many sailors care to do, and for whom comfort, low overall expense, and ease of maintenance mean much more than offshore capability or performance. Their experience is typical of many MacGregor 26X owners.

History

Roger MacGregor famously wrote his master's of business administration thesis at Stanford University on boat-building, and soon after, in 1964, founded MacGregor Yacht Corporation. In his business model, employees specialize in one area and do the same task every day. They do not need to be skilled craftsmen to get the job done. Also, there is little variation on a given model. The tasks are repetitive and quickly accomplished. Joinerwork slowly disappeared from the boats and "improvements" in a model often resulted from manufacturing efficiencies and reduced parts costs, such as adopting water ballast tanks in lieu of iron swing keels. MacGregor makes nearly every part in-house, including stainless-steel pulpits and the trailers.

Much of the low cost comes from building just one boat model at a time and purchasing quality materials in very large quantities. Production, from in-house design to tooling, is geared toward labor-saving construction. Consequently, new MacGregors have a very low initial cost. All leave the Costa Mesa, California, factory minimally equipped, although most boats are loaded later with the most popular options by the dealers. Still, MacGregors are best considered kit boats; each one you come across is uniquely customized by the dealer and owners.

MacGregor's models have ranged from 15- and 36-foot catamarans to the present 70-foot monohull ULDB (ultra-light displacement boat). Early designs were sold under the Venture name. That label was abandoned in 1980, but models such as the Venture 21 continued under the MacGregor Yacht Corp. name. Total production numbers are not readily available, but it is safe to say that no other builder has come close to building as many sailboats of this size. MacGregor estimates 40,000 boats have been produced. Presently, the company is building only the MacGregor 26M (built at the rate of one every four hours) and the new MacGregor 70.

Design

The MacGregor 26X is a scaled up version of the MacGregor 19 water-ballasted powersailer. Both the 19 and 26X are considered hybrids. When it was introduced in 1995, orders so swamped the company that it stopped production of the MacGregor 65 to devote its production space to the MacGregor 26X. Through 2003, MacGregor built about 5,000 26Xs.

It is an unusual design in that it has the volume and general shape of a small power cruiser with a mast, twin rudders, and a centerboard added to make it a sailboat. When lightly loaded, it can attain speeds of 20 knots with a 50-horsepower outboard motor (less than 10 knots with the water-ballast tank full). A minimum draft of 9 inches means it can be launched just about anywhere. Gunkholing possibilities are endless. The un-weighted centerboard extends the draft to 5 feet 6 inches, providing adequate lift for sailing to windward.

Its twin kick-up rudders, something not commonly found on trailerable boats, are easily raised from the transom swim platform (another feature that's unusual on small sailboats of the same era). The rudders need to be raised along with the centerboard for high-speed motoring. Before sailing, a large gate valve on the transom must be opened to let in the water ballast. When powering without sails up, the ballast water will drain out if the valve is opened while

The spacious cabin in the MacGregor 26X has 6-foot headroom, at left, and provides perfectly adequate amenities for gunkholing. Thanks to the molded overhead liner and furniture pan, to clean the interior you could simply remove the cushions and hose it down. The compact galley has space for a portable stove, at right. A small sink is molded into the pan and a small stowage area is provided beneath it.

the boat is making about 6 knots. All MacGregor 26Xs have wheel steering on a pedestal connected to the rudders and outboard motor by a push-pull cable.

Construction

The hull is hand-laid fiberglass cloth, woven roving, and mat set in polyester resin. There is no core. The hull-to-deck joint is shoebox style, sealed with adhesive and reinforced with stainless-steel 3⁄16-inch bolts on 4-inch centers, covered with an extruded aluminum and rubber

Comments from MacGregor 26X owners

We requested input from owners of MacGregor 26Xs and here are some of the responses.

I owned a 1997 MacGregor 26X. Although it's a trailer boat, I found it difficult to rig and launch every weekend, and kept it at a slip for convenience. The MacGregor 26X isn't really an ideal sailboat or an ideal motorboat, but a little of both. Her sailing characteristics were unsteady when compared to a full-keel boat, but the water ballast plus retractable centerboard did work — as long as winds weren't too heavy. She wasn't very fast, but I enjoyed being able to sail all day in one direction, and then power back for the ride home. When storms threatened, our exit was much faster than most sailboats.

Once, one of the rudders wasn't properly secured during transport, and we ground away about 2 inches off the bottom of it on the roadway. After that episode I installed a pin in the rudder to secure it when in the up position.

–Glenn Hipp,
Lake Grapevine, Texas

"We purchased a 1997 model last spring after about a year of research. We wanted to keep the whole family interested in the boating scene and the hybrid nature of a power-sailer seemed to fit the bill. Kids easily get bored bobbing around for hours at a time, but when you can fire up the 50-horsepower outboard and pull a tube or even ski behind the boat, all of a sudden things get interesting again. I hear a lot of people say water-ballasted boats are tender or heel easily but that really hasn't bothered me or my crew. The MacGregor has the lightest trailer weight of any 26-foot boat and I would much rather be able to tow a boat anywhere in the country than be stuck on one lake with a "stable" boat."

–Mark Putnam,
Belton, Missouri

"These boats are like a blank slate when delivered, sailable but nothing fancy. The MacGregor sales video claims that it will pull a water skier and they even show it happening, but if you look closely it is apparent they have stripped all possible weight from the boat to do it. Ours is probably 500 to 600 pounds too heavy for that.

"But it is also a camper that sails! It's super easy to launch as it sits so low on the trailer, but the high freeboard, which translates to good headroom below, can make retrieving difficult in a crosswind. One sailing characteristic I did not like was the tendency to round up when pushed too hard on the wind."

–Dave Mason,
Crescent Valley, British Columbia

"It is probably the easiest sailboat over 16 feet to trailer/launch/rig. It isn't a Flicka or a Pacific Seacraft 25. It is homely at best and lightly built. But it doesn't seem to break and will leave both in its wake under most sailing conditions. It can live outside all winter and only needs a wash and a wax in the spring. No topside brightwork to varnish. No balsa core in the deck to rot. And with a trailer upgrade, it tows like it isn't there behind a medium-sized SUV."

–Ferd Johns,
Oak Harbor, Washington

cap/rubrail. The deck is cored with plywood for stiffness. Inside, there's a fiberglass molding overhead and a molded furniture pan. There is no bilge. However, sufficient foam is strategically placed in cavities throughout to keep the boat from sinking — a huge plus for a small boat. The 1,400 pounds of water ballast creates enough righting moment for the boat to recover from a 90-degree knockdown.

The nature of MacGregor's construction often comes under criticism. Inexpensive but sturdy hardware is used, often the same part in many different places. There is little wood inside or out, which some owners consider a blessing, and the exterior and cabin appear somewhat cold and sterile. Black acrylic is used in many locations for panels, doors, and windows.

Deck

The MacGregor 26X has no sidedecks. The wide flat cabintop has excellent non-skid except in the forward area where it slopes down to the foredeck. Forward, there is a small anchor locker. Single lifelines run from the bow to stern quarter rails. Only the forward hatch and the companionway hatch open for ventilation. The companionway is very large. A one-step (on early boats) or two-step ladder (on later boats) leads down into the cabin. The dropboard for the companionway is one large piece of fiberglass. While this is quite waterproof, it is somewhat unwieldy to handle, and usually ends up being stowed on the large berth just below the cockpit. Many owners add a clear or screened panel to fit in this large opening.

Since the bridge deck is nearly non-existent, the boat needs to be stored so rainwater can drain aft out of the footwell, which opens to the transom. Both cockpit seats are long and comfortable for sitting and napping, but too far apart for bracing while heeled under sail. The hinged helmsman's seat has a curved rise to place the helmsman in a comfortable position to steer while level or heeled. With a large outboard in place, the swim platform is very cluttered with hardware, but can be accessed with the optional swim ladder. There is no stowage under the seats except for the two open lockers for 9-gallon fuel tanks. The line to retract the centerboard is atop the cabin near the companionway.

Rig

The fractional sloop rig has single aft-swept spreaders, upper shrouds, and inner lowers. The backstay fastens to the starboard side to accommodate passage through the transom. MacGregor uses adjuster plates on the shrouds and backstay; the only turnbuckle is on the forestay. This has proven sturdy and trouble-free. The chainplates are bolted to the hull via a slot in the deck. The mast is deck-stepped in a short tabernacle. Optional rigging includes a gin pole and blocks to make mast-raising a one-person operation at the dock or for passage under bridges. When lowered, the mast rides on the bow pulpit and on a tubular strut that mounts in a hole in the steering pedestal.

A mainsail and 100 percent hanked-on jib were supplied as standard but few boats were sold without an optional genoa, and most also have CDI roller furling. The halyards lead simply to horn cleats mounted on the mast, an arrangement that achieves insufficient tension on the sails' luffs. Two standard winches are mounted, one each side of the companionway. The mainsheet is attached to the top of the steering pedestal grab bar where the helmsman can easily reach it.

Accommodations

Belowdecks, the MacGregor 26X shines; it is light and airy with 6-foot standing headroom.

An enclosed head is to starboard of the cabin entrance. To port is a small galley area with storage under. Aft is a huge cave known as the master berth. While it's more than king-sized, getting in and out of it takes some agility. John and Pam presently use the aft berth as the main storage area for everything large. The stock cushions are thin and soft — adequate, but just barely.

Forward to starboard is a dinette with a drop-down table to form another double berth. The tabletop is covered in clear acrylic and doubles as a chart table. The settees are high enough to allow a comfortable view through the wraparound cabin windows. A 48-quart cooler resides under the aft dinette settee. Opposite the dinette is a short settee. The V-berth is wide and long enough to be comfortable for two adults and is often the berth of choice for a cruising couple because of its accessibility and good ventilation.

MacGregors have underdeveloped electrical systems; a simple fuse-switch panel is mounted near the battery with no battery switch. You get a cabin light, running lights, and a steaming light; after that you're on your own for improvements.

Under way

As might be expected, getting under way with a big outboard is a simple matter. John leaves the rudders down for slow-speed maneuvering as this adds even more control when docking, which you need owing to the boat's considerable windage. If the water depth is questionable, the rudders can be retracted without affecting the handling much.

MacGregor 26X

Designer: Roger MacGregor
LOA: 25 feet 10 inches
LWL: 23 feet 0 inches
Beam: 7 feet 10 inches
Draft (c/b up): 9 inches
Draft (c/b down): 5 feet 6 inches
Displacement: 2,350 pounds (without water ballast)
Ballast: 1,400 pounds
Sail area: 281 square feet (main & jib)
Disp./LWL ratio: 138
Sail area/disp. ratio: 18.6
Water tankage: 10 gallons
Fuel tankage: 18 gallons (not built in)

While the MacGregor 26X can be motored without its water-ballast as long as no sail is hoisted, some owners add ballast for motoring when the going gets rough.

One nice thing about sailing a boat with a centerboard and retractable rudders is that, should you run aground, just raising the centerboard will usually get you free.

Some say the 26X is tender, but I don't find that to be so, except in windy conditions when over-canvassed. With its hard-chine hull form, the MacGregor 26X is initially stiff The water ballast plays its part once the boat is well heeled.

With only two persons on board, the cavernous berth under the cockpit often ends up the repository for duffel bags, loose gear, and the somewhat unwieldy companionway dropboard.

Despite how it looks to purist sailors, the 26X sails within 45 degrees of the wind and tacks quickly without need of backwinding the jib to get around. Off the wind it sails quite level, with little tendency to wallow due to its shallow deadrise bottom. Hull speed is in the 6-knot range under sail, but one owner reports that he'd hit 12.9 knots sailing downwind in a blow (he was surfing!).

Resources

A number of websites provide support for MacGregor owners:
www.macgregorsailboats.com
http://macgregor.sailboatowners.com
www.macgregorSailors.com
www.macgregorowners.org.uk
If you call MacGregor Yacht Corp. for parts for older boats, they refer you to Blue Water Yachts:
www.bwyachts.com

Others report the boat is likely to pound in chop and to roll in larger waves.

The steering system has little feedback because of the push-pull cable, and steering with the small wheel requires some effort and can be tiring after a long spell. When the wind pipes up, the weather helm can be quite substantial. If the mainsail is not sufficiently eased or reefed, the boat may run out of rudder, stall, and round up — with the usual ensuing chaos.

The 26X is not a popular racer and the few PHRF ratings are all over the place, from 216 to 273 seconds per mile. For comparison, a Hunter 26 rates 207 and a Beneteau 26 rates 198.

Conclusion

In some respects, the potential speed of the MacGregor 26X under power makes it a safer boat than your average sailboat; should a medical emergency arise, for example, it can go three to four times faster. And long narrow bodies of water can become a joy to sail if you don't have to beat your way up them. Children enjoy being towed behind on inflatable water toys.

A lot of MacGregor 26Xs were sold and owners don't readily give up on them. When buying one, condition and equipment are everything. A few owners fit too-powerful motors to attain even higher speeds, and I'd be leery of those boats. The newer M model can accommodate 60 horsepower. Prices range from $11,000 to $22,000 with $14,000 the average.

Overall maintenance issues are few. Early boats had rudder brackets that cracked but most have been replaced with improved versions. Simplicity breeds reliability. Despite an air of flimsiness, these boats don't break. I would look for mishandling damage. Owners are often novices, and they tend to hit things.

The MacGregor 26X is a true hybrid. Along with having the advantages of trailerability and shoal draft, it can do a lot of things well. It does some things not so well, but any boat has its compromises — this one just has a longer list of them by being two boats in one.

Allen Penticoff is a Good Old Boat *contributing editor. He has trailersailed on every Great Lake and on many inland waters and has sailed keelboats on fresh and salt water. He presently owns an American 14.5, a MacGregor 26D, and a 1955 Beister 42-foot steel cutter that he's restoring.*

Mast-raising magic

Persistence pays off with a solo solution

by Rob Mazza

Almost every boat manufacturer eventually tries its hand at designing a mast-raising system, with varying degrees of success. While I was with C&C, I was project manager on the Mega 30 and, while with Hunter, I headed the design team under Warren Luhrs that produced the Hunter 23.5 and 26 water-ballasted trailerables. All three of these boats were built with self-contained mast-raising systems.

The goal of every deck-stepped mast-raising operation is that it be self-contained, safe, and easily operated by a small number of people.

These operations always involve two components. One is the mechanism for raising and lowering the mast and the other is a system for stabilizing the mast to prevent it from oscillating from side to side during the process.

As it's being raised or lowered, the mast rotates around a pin in the mast step or tabernacle. Leverage is provided by a gin pole or by an A-frame pivoting at the deck at a point in line with the mast step or chainplates. Either of these systems is operated by a block and tackle (often the mainsheet tackle) attached at the bow or a line led forward around a block at the stemhead and aft to a cockpit winch. The connection from the gin pole or A-frame to the masthead is inevitably the jib halyard.

Because the pivot point at the mast step is almost always higher than the chainplate pins — due either to the crown of the deck or the mast being stepped on a deckhouse top — the shrouds themselves cannot be used to provide the required transverse support unless the chainplate pins are raised to be perfectly in line with, and on the same axis as, the mast-heel pivot pin. Some boat owners have actually added stainless-steel chainplate structures to achieve this, but the most common solution is to mount lifeline stanchions in line with the mast-heel pivot pin and weld eyes to those stanchions in line with the pivot-pin axis. To these eyes are attached the bottom ends of transverse support wires led to attachment points on the lower section of the spar at a height easily reached from deck once the mast is raised so that it can be disconnected and removed.

When visiting my old friend Danny Klacko at Klacko Spars in Oakville, Ontario, recently, I was intrigued when he said, "While you're here, I want to show you something on my C&C 27. I've been working on mast-raising systems for more than 40 years, and I think I've finally developed the absolute best solution for any existing boat with a deck-stepped mast of virtually any size."

Resources

Danny Klacko will quote on systems for non-DIY boat owners:
klackospars@bellnet.ca
www.klackospars.com

Two A-frames share common pivot points at the deck and are connected by a wire between their apexes. The forward one provides the raising lever and the after one lateral support for the mast.

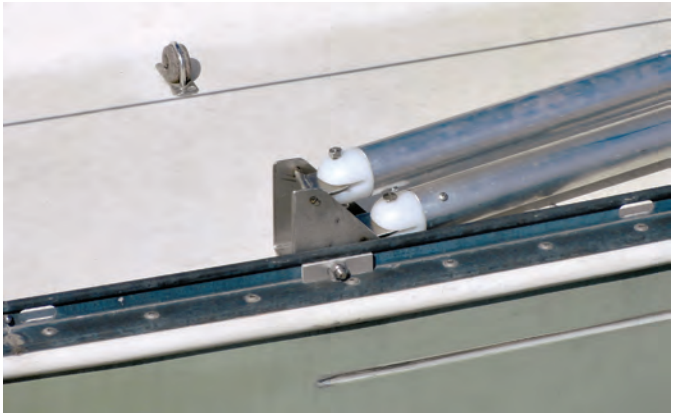
The pivot point of the A-frames is not level with that of the mast, but the apex of the after A-frame, attached to the spinnaker-pole car, accommodates the offset by rising up the mast as the mast is being raised.

When the mast reaches its fully vertical position, it remains supported by the A-frame while the shrouds are connected to the chainplates.

The apex of the after A-frame attaches to the ring on the spinnaker-pole car with a snapshackle. The stainless-steel wire leading forward connects it to the forward A-frame.

After the mast has been lowered and the after A-frame disconnected from the mast, both frames can be rotated forward so they can be stowed on deck or removed. Once disconnected from the deck, the A-frames "scissor" together for ease of storage.

A custom-made stainless-steel tabernacle allows the mast to pivot and also serves as the mast step.



The deck pivot is designed to allow the A-frames to stow one on top of the other when folded down. The toggle connections allow freedom of movement. The bracket is bolted to the toerail so it can be easily removed when not needed.

"The key to this system is the use of a spinnaker-pole track with a freely moving car."

His boat was sitting behind the shop on her trailer with the mast lowered. At the word from Danny, the young man on board started cranking on the cockpit winch and the mast rose from the horizontal to the vertical in less than a minute. At a nod from Danny, the line on the winch was eased, and the mast reversed its trajectory. At all times the mast was completely under control with no evidence of sideways oscillation as it went through its arc.

Articulating A-frames

The unique feature of the Klacko system is the use of two connected A-frames mounted on common deckplates port and starboard, with the apex of the aft pair attached to the car on the spinnaker-pole track with a snapshackle.

The aft A-frame supports the spar laterally, independently of the shrouds. The apex of the forward A-frame is connected to the apex of the aft frame with a stainless-steel wire. The lifting force is applied with a line led through a block on the stemhead and directly aft to a cockpit winch. When the mast is down, the aft frame is almost horizontal and the forward frame is vertical. As the mast is raised, the frames rotate as well, with the forward frame becoming horizontal and the aft frame vertical when the mast is up.

Once the mast has been raised and the forestay hooked up, the the aft A-frame can be quickly disconnected from the spinnaker pole car and the A-frames folded for storage.

The key to this system is the use of a spinnaker-pole track with a freely moving car. Since the mast and the aft A-frame rotate around different pivot points, the car must be able to move along the track as the mast rotates about its pivot. For sailors who don't have a spinnaker-pole track and don't want to install one, a bridle around the mast or even a 12-inch-long link plate between the apex of the A-frame and the fixed point on the mast would work, but neither system offers the same amount of transverse fixity that the spinnaker-pole track and car provide. Mounting a short length of track and a car, even if the boat is not equipped with a spinnaker, is still the best solution.

Danny Klacko, after 40 years of development, freely shares this concept with anyone who would like to copy it.

Rob Mazza is a Good Old Boat *contributing editor. A sailor by passion and yacht designer by vocation, his long career around sailboats began at C&C Yachts back when now good old C&Cs were cutting-edge new.*

Poor man's vacuum bag

Applying the principle without the cost

by Ben Zartman

It's impossible to build with fiberglass for very long without having occasion to think that a vacuum-bagging setup would be convenient. The industry magazines at the fiberglass supply stores advertise them; they're in pictures and even spoken of casually on composite-related websites. But unless you're in serious production, the cost is hard to justify. While building *Ganymede*, a Cape George 31 cutter, I came up with a cheaper alternative.

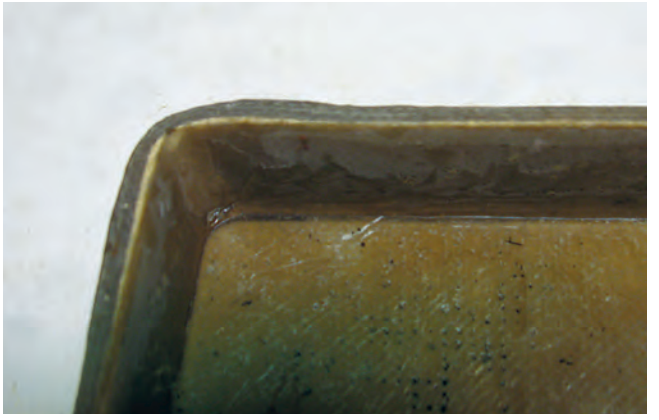
Call it the poor man's vacuum bag. It involved, essentially, laying up whatever small item I was building — say a hatch cover — over its sacrificial plywood mold, putting the whole thing in a black plastic garbage bag, and sucking out all the air with a Shop-Vac. While not as fancy as the systems that pull resin through a dry layup, my substitute process is good enough to make 24-ounce roving take a sharp outside corner without its usual problem of lifting off and creating a bubble in the layup.

All this was easy enough to begin with but, after several unsuccessful tries at hermetically sealing the bag once the Shop-Vac was turned off, I found it better to eschew the vacuum and just smooth the bag down firmly over the piece by hand, thereby squeezing out excess resin, then gather the loose bag ends underneath and tape them down firmly.

From there, variations followed as needs dictated. When I wanted some U-channel for companionway hatch slides, I made a mandrel by sheathing a piece of 2 x 4 in Saran Wrap (my favorite mold-release). A fiberglass layup went over that, wrapped tightly again in Saran Wrap and tape. Once it all cured, I had a fiberglass box-section with a 2 x 4 inside. After splitting it lengthwise in two with a table saw, I easily lifted the remaining wood out of the two fiberglass U-channels thus created. Not as nice, perhaps, as the pultruded fiberglass or G-10 shapes you can buy, but it's a lot cheaper and lets you make exactly the dimensions you need. The resulting surface usually needs to be ground and faired, since the plastic wrapping leaves lots of little wrinkles, but it's a small price to pay for a tight, bubble-free layup. Another successful project was a gaff saddle, made from carbon fiber and epoxy with a paint can as a mandrel.

The uses for this are limited only by the imagination. If you can find or fabricate a male mold for any shape required, a good tight plastic wrapping can ensure perfect corners and a consistent bubble-free wet-out, all without using more resin than is necessary.

Ben's plastic-bag technique over a male mold results in tight outside corners. The layout doesn't lift or form bubbles and fairs easily.



Laid up over the plywood male mold, the inside corners of the hatch cover were relatively smooth — easy to finish and nice to look at.

Ben made his fiberglass companionway-hatch slides in one piece using a 2 x 4 as a mandrel, then cut them apart with a table saw.

Ben Zartman and his wife, Danielle, set sail in their early 20s in an Irwin 27. They now live with their three young daughters aboard Ganymede, *the Cape George 31 cutter they built from a bare hull. Their book,* We Who Pass Like Foam, *is available on Amazon for Kindle.*

Shrouds in hosiery

Old socks for laid-up standing rigging

by Marilyn Kinsey

We remove our boat's mast every year when we lay her up and store her for the winter. When we're doing the annual haulout, I have some old socks and short lengths of light line at the ready. As soon as we disconnect a shroud from its chainplate, I slip a sock over the turnbuckle and tie it in place. The socks serve as cushions to keep the shroud hardware from dinging the deck, brightwork, and portlights. They also serve as slipcovers to keep the turnbuckle threads clean and out of the dirt and gravel when the mast is on mast stands and being prepared for winter storage.

During the winter, we clean and re-lubricate the turnbuckles and slip new clean socks over them. These socks protect the turnbuckles until we're ready to reinstall the mast and shrouds for the coming sailing season.

Old socks protect Marilyn's brightwork and gelcoat from dings from the turnbuckles and the turnbuckles from dirt.

Marilyn Kinsey has been sailing for 60 years, the first 30 without motors. A 16-foot wooden sloop was followed by a Lido 14, Lightning, C&C 24, Cape Dory 28, and a Pretorien 35. After a spell with a Jarvis Newman trawler, she and her husband, Glen Brown, resumed sailing with a Bristol 35.5C and a "delightful" Expo Solar Sailer.

Hatch covers

They block out heat, light, and prying eyes

by Gregg Nestor

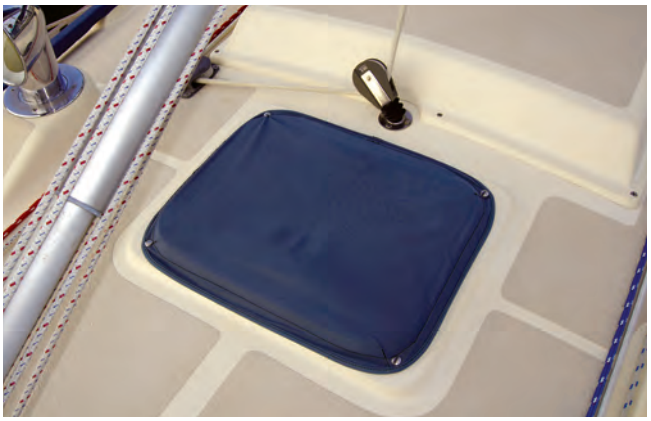
When searching for our current boat, we developed a list of "must haves." In addition to opening ports, we wanted more than one or two overhead hatches. Our Caliber 35 has 11 opening ports and five hatches. Even with the cross-ventilation from these openings, however, the temperature rises when the sun shines through the hatches. Since we plan to take the boat south, we needed to address this.

Our first line of defense was to fabricate and install external acrylic fabric (Sunbrella) hatch covers. These work very well, are easily installed with snap fasteners and, in addition to reducing the interior temperature, address several other issues. They add privacy and, by blocking out much of the sunlight, slow the crazing of the hatch lenses and fading of the interior fabrics caused by UV light.

While the fabric hatch covers are effective, we felt that we could do better. I went to the auto department of a big-box store and picked up a foldable windshield sun screen for less than $5. When fitted in a vehicle's windshield, this lightweight, silver-backed material reflects sunlight and helps keep the vehicle's interior cooler. I cut the sun screen to fit each of the hatch openings and placed the pieces between the hatches and their screens. Had the hatches not been fitted with screens, I could have laid the sun screen beneath the exterior fabric covers. I tested both installations and both worked equally well.

What an improvement! The temperature reduction was significant: more than 20 degrees. I'm sure the air conditioner works more efficiently now. Best of all, because I cut the sun screen to fit snugly, early morning sunlight no longer peeks through the V-berth hatch to wake us up.

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.*



Deck hatches let in daylight but also let in unwelcome UV and heat. Gregg's Sunbrella covers protect the boat's interior from both, at left. Gregg further cut down the heat entering the boat by fitting reflective panels he cut from an automobile windshield sun screen, at right.

continued from page 9

Thirty-year rebuild cycle

I ordered two "We ain't leanin' till someone's screamin'!" T-shirts last summer for a father-daughter (Joan Effinger) trip to Desolation Sound (see photo).

My old boat is a 26-foot San Juan built in 1976. I ordered it as a bare hull and installed a custom interior. Then I rebuilt her in 2009 to 2011. That refit started as an engine replacement. My other half mentioned that the galley looked a little shabby . . . so it went to the transfer station. That allowed a real look at the electrical system . . . it ended up at the transfer station too. By then, enough was ripped up to make me decide to replace all the tanks and the plumbing. At that point, I said, "Yikes, where did my boat go?"

She is now powered by a twin-cylinder Volvo with a saildrive and has a new galley with a three-burner stovetop, a modern electrical system, a new electric head, four new tanks, and a Tillerpilot. She should be good for another 30 years. She's generally kept on a trailer and I can rig her, launch her, and retrieve her singlehanded.

–Bob Morrison, Port Angeles, Wash.

Trucks and bucks for trailersailing?

As a trailersailor, I enjoyed the March 2013 issue article by Rob Hoffman, "Establishing a French Connection." However, the author left out two important items: what was his total budget, including travel, to buy and finish this boat, and how large a Peterbilt truck does he use to tow it?

Budget and tow vehicle are very important items to us out here.

–Dennis Olmstead, Portland, Ore.

A pickup and boat-sale proceeds

Dennis, thank you for your comment and suggestions. Thankfully, no Peterbilt required!

We had no actual "budget" in mind when we entered into the project as budgets and boats don't seem to work out all that well for us. Of course, we knew the asking price of the boat going in, which was 39,000 Euros (six years ago) and she was certainly usable (over there) the moment we purchased her. We bought her primarily for her design

features and construction quality that we felt were particularly well suited to our vision for a large and very capable trailer-based sailboat.

We had just sold our cruising catamaran and had that "war chest" to draw on, but I honestly did not know with any degree of accuracy what we might end up spending. The project turned out to be lengthy, covering five or six years, and we and some talented friends invested many personal hours to pull it off.

Travel was not too much of an additional factor in the cost. My wife is German, so we made arrangements to see the two candidate Alubats during one of the regular visits we make to her family in Germany.

The transport to Florida on a DYT cargo vessel cost about $7,000, the cost of the conversion and refit was around the original purchase price of the boat, and the trailer cost $7,500, making our total something a bit over $100,000. Based on what we ended up with, we feel we got good value compared to offerings here in the U.S. of new trailerable boats of comparable size and equipment that do not have the robust construction of the aluminum Alubats.

CanCan weighs 10,500 pounds on her trailer in travel mode. We tow her with a ¾-ton GMC Duramax 4x4 diesel

Ron Nelson with his wife, Darleen, (on the bowsprit) enjoy sailing their Irwin 37, *Southern Drawl*, on the Yeocomico River, a tributary to the Potomac River in Virginia. 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.

pickup truck on a tandem-axle aluminum trailer with electric over hydraulic brakes. The truck is rated for 12,000 pounds towing with an equalizing hitch, which we use. Mileage is around 10 mpg when towing.

Yes, she is at the upper end of what is doable as a true trailer-based boat that an owner couple can tow, rig, launch, and retrieve without outside assistance. We have owned and sailed three smaller trailer-based boats in the past and enjoyed and learned from each one.

Sailboats you can tow come in a wide spectrum of sizes, types, and prices, but all share the marvelous ability to get to remote cruising grounds that we might not otherwise be able to explore and enjoy.

–Rob and Gabi Hoffman, Nashville, Tenn.

Overhead restoration

In your article in the May 2012 issue, "Alberg 35: Love Requited," you mention that Richard Beard restored the yellowed overhead in his boat to its original gleaming white. Do you have any idea how he restored it? Did he paint it or was something more involved? We have the same problem on our Bristol 40 yawl.

–Barklie Zimmerman, Richmond, Va.

Richard's method

Finesse is still sailing and looking as good as ever. With regard to the overhead, I sanded it wet with 600-grit wet-or-dry sandpaper — a long and tedious process. After sanding, I polished it out with a paste-wax auto polish. Any good polish or wax will work. I had a small orbital car polisher with a sheepskin cover on it. It was a slow go but it took off the yellowed film. I would suggest Barklie try a small spot for a trial and see how it works for him. As an alternative, I've seen one boat where the overhead was re-covered with an automotive-grade vinyl headliner material. Again, a slow go, but it looks really nice. Material is available at any auto-upholstery supply store.

–Richard Beard, Friendswood, Texas

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

Boats

Morgan 34
1967. This is your grandfather's boat when it was new. Completely and professionally restored. See article in June 2005 *Good Old Boat*. Boat was stripped and rebuilt; all systems were replaced or upgraded, much new equipment added subsequently. Board-up draft just over 3'. Equipped and ready to cruise in comfort. Maryland. $35,000 (a fraction of rebuild price).
Fred Siesseger
703-851-1838
Rapidefred@verizon.net

Cheoy Lee Clipper 33
1976 ketch by Bill Luders. Fiberglass to Lloyd's Rules. Diesel, full-keel comfort, 12,000 lb disp., 4' draft. Bristol-finish brightwork. Teak decks, cabin, and interior. Wheel, deck-stepped masts. Documented. 30 years in fresh water. Many upgrades, gently preserved, in v.g. cond. Dinghy included. A sweet, well-balanced sailer. Self-tacking except for Yankee. Headway with hardly a ripple. She's beautiful. Syracuse, NY. $35,500.
Michael Perretta
315-351-6119

O'Day 272LE
1987. Boat, trailer, and dinghy. Exc cond. One owner, fresh water only, stored indoors each winter. IB Westerbeke diesel. Custom cockpit enclosure by JT's. Main cabin custom storage cabinets. Full electronics, safety equipment, ground tackle, and spares. 6' headroom. Draws 2'11". ShoreLand'r trailer 7,500 lb capacity, 64 rollers, 2 axles. Achilles dinghy w/Mercury OB. Additional photos available. Fort Wayne, IN. Will deliver. $23,500.
Larry Jansing
260-432-3719
Sailor98@aol.com

Cheoy Lee Bermuda 30
1966 ketch. Truly a "good old boat" project. Completely rebuilt in the last 6+ years w/attention to traditional details as well as contemporary upgrades. 2012 upgrades: new Harken RF, new cabin cushions, and other cabin features. Yanmar 3GM diesel. So. Dartmouth, MA. $38,000.
Edward & Ellen Carlson
508-993-4515
barefoot-girl@comcast.net

Cal 20
1967. 4-stroke 4hp Yamaha. 3-yr-old Doyle main and jib; extra suit of sails, heavy and light air spinnakers, cradle and $150 deposit for indoor cold storage this winter. Currently sailing out of Neff Park in the city of Grosse Pointe, MI. $2,750.
Michael Martin
313-884-1580
mmmaryjean6@gmail.com

O'Day 25
1977. Boat, trailer, motor. Freshwater use past 5 years, covered during winter. Honda 10-hp OB. Trailer has extension for easier launching. Well equipped with genoa, jib, storm sail, fenders, anchors, lots of line, dodger frame and cover, new stereo and speakers, basic lights. Cushions replaced in past 5 years. Head has holding tank. Plumbed for stove and cabin heater. Time for a new skipper. Calgary, Alberta. $10,000.
Barb Reimer
403-690-2331
breimer@nucleus.com

Blackwatch 24
Catboat. Restored cutter rig. Galvanized trailer. 4-hp 4-stroke Yamaha engine. Maine. $15,250.
Alan Boyes
207-633-5341
alan@winterisland.com

C&C 27
1973. New 16-hp Beta diesel engine. Full complement of sails. Hood SeaFurl system. Selling because I bought another boat. British Columbia. $14,000.
Carol Hartwell
780-963-9349
carol_h@telus.net

S2 8.0
1979. *Boots Off* is for sale! Saildrive rebuilt last year. RF genoa and Dutchman flaked main make boat easy to handle in any conditions, singlehanded or crewed. Autopilot. 2 stove options: shorepower or propane. Currently stored at CBYC Toronto and can be seen by appointment. $12,000
Alan Stephenson
416-573-2284
broadbandtech@rogers.com
http://toronto.kijiji.ca/c-cars-vehicles-boats-watercraft-sailboats-S2-8-0meter-W0QQAdIdZ442982813

Catalina 28 Mark II
1991 Tall Rig. Perfect. Maintained to highest standards. Fresh water only. Rigged for solo sailing w/ all lines led aft. Second owner. Draft 3'8", wing keel. 18-hp diesel, VHF, Garmin GPS, like-new sails include asym chute, Harken RF, lazy-jacks. Dodger and Bimini. This easy-to-sail boat provides much more for your money. Continually upgraded to preserve its sailing quality and beautiful appearance. Sodus Point, NY. $29,500.
Bruce Burritt
585-261-5428
bburritt@rochester.rr.com

Ericson 27
1974. Well taken care of freshwater boat. A lot of upgraded equipment. Moving to a bigger boat. Call for more details. Port Clinton, OH. $10,500.
Jerry Griffith
419-783-7658
bgriffith3@roadrunner.com

C&C 27
1973. Classic Mk II. In our yard in good cond. Hull and deck are sound. Sold as is, where is, no warranties given or implied. In need of some work, but is a good representation of the quality boat that C&C represented in 1973. All offers considered. Waukegan, IL. $6,500.

Bill Strzelewicz
773-255-5165
bills@larsenmarine.com
www.yachtworld.com/boats/1973/C-%26-C-27-Mk-II-2564213/IL/United-States

Irwin 34
1985 Citation. A great cruiser and club racer of the last model year. Harken RF with 110 jib, genoa, and mainsail. Centerboard model draws 4' board up, 8' down. PHRF rating is 186 and will sail to her rating w/skipper and crew of one or two. Electronics include VHF, GPS, depth, and AP. Recent interior upgrade. Includes Bimini, dodger w/connector, cockpit cushions, 12V fridge and propane stove/oven. Irvington, VA. $18,500.

Mosby West
804-761-1507
jmwest003@gmail.com

Tartan 34c
1970. Classic Sparkman & Stephens design. Hull #136. Third owner. 3'11" draft with centerboard up. Perfect for exploring shallow bays. 2-yr-old Moyer Marine freshwater-cooled Atomic 4 w/16 hrs, professionally maintained. Deck re-cored by previous owner. Just surveyed; exc cond. New cushions, stove, winches, running rigging, much more. Falmouth, Cape Cod, MA. $24,000.

John Dow
617-379-2569, 617-343-4610
stigdow@aol.com
www.yachtworld.com/boats/1970/Tartan-34-C-2559046/MA/United-States

Southern Cross 31
1980. Tom Gillmer classic built by C.E. Ryder. Well-maintained and lovely to look at. Rare cutter-ketch with flexible sail plan, outboard rudder and tiller combo is easy to singlehand. She's crossed the Gulf Stream twice and deserves reputation as a stout, seakindly ocean-going dreamboat. On the hard until May '13. Now is a good time to inspect bottom and topsides. Equipment list and photos available via email. Long Island Sound (NY). $36,000.

David Jacobs
516-526-4711
gwynpennon@aol.com

Helms 25
1975. Swing-keel sloop w/pop-up cabintop, sleeps 4+. 1996 Mercury 8-hp LS w/new impeller and bracket. Nearly-new Venture dual-axle trailer (book value $3,200). Exterior previously restored including blister repair, Interlux Perfection repaint; in-process interior restoration. Includes all materials/supplies: restored bulkheads, fiberglass-filled and Interlux Perfection-primed and ready for topcoat. Ports re-glazed, new keel brake winch (Fulton), 2 new Johnson bilge pumps, VHF, AM/FM/CD, much more. Email for photos. Westminster, MD. $4,250.

Douglas Kearney
443-540-5332
keardou@comcast.net

Cal 34
1969. *Fandango* is a solid, roomy, clean, and lovingly cared-for Lake Superior boat. Gelcoat, bottom, and topside paint professionally redone in 2003. New dodger, head/holding tank, and radar installed in 2002. Atomic 4, AP, RF. 5' draft. We bought an island cabin and need to downsize to something trailerable. Would consider a trade. Bayfield, WI. $19,900.

Joel Peterson
651-334-5530
drjlpete@gmail.com

Gray Seal 22
Hand-crafted by Jim and Dick Wagner and launched in 1994. *Saturday Morning* is a beautiful example of Iain Oughtred's Gray Seal design. Constructed of Bruynzeel mahogany marine plywood strakes on ash frames. Featured in three *WoodenBoat* magazine articles January-June 1996. See website for details and videos. Includes Iain's Auk 7' mahogany lapstrake dinghy. Lake Minnetonka, MN. $22,500.

Jim Wagner
612-991-5912
jrw2030@mail.com
www.gray-seal.com

Tartan 27
1970. Hull #471. Classic, solid freshwater boat in great cond. Not a fixer-upper, ready to sail away. Loaded w/equipment including sailing dinghy. On trailer south-central PA. Can deliver anywhere. $6,500 with trailer, $5,500 without trailer.

Tom Dulz
814-784-3763
tomdulz@yahoo.com

Irwin 32.5
1972. Center cockpit, aft cabin. New 2011 North Sail NorDac coastal mainsail, full battens and North Sail NorDac genoa. UV leech and foot, rope luff, Dutchman sail-flaking system on mainsail. Harken RF, new Bimini and dodger 2011, 30-hp Atomic 4 gas engine w/new carburetor, reconditioned valves and valve seats. Dinghy davits, cradle, Lowrance GPS, Raymarine AP. Cornucopia, WI. $18,000.

Russ Lindgren
russlindgren@yahoo.com

Quickstep 21
Great trailersailer. Triad trailer. Main, roller jib, and drifter all in good cond. Located in Maine. $8,700

Alan Boyes
207-633-5341
alan@winterisland.com

Offshore 33
1989 cat ketch. Comfortable, safe, fast, bluewater cruiser. Documented vessel. 25-hp Universal diesel. 4' draft. Stack-pack sails. Full galley w/fridge, propane stove and oven. Recently renovated bottom barrier and gelcoats. Well maintained and equipped. Boat stays young; skipper got too old! Must sell. On Hudson River, NY, near Bear Mountain. $23,900

Bernie Jankowsky
201-664-8662

Boats - Cont.

S2 9.2C Deluxe 30
1986. Pristine example of the "Deluxe" model, maintained to the highest standards. More interior teak, CNG stove and oven, shower/bathtub, and other amenities make this the most comfortable of the 9.2s. Vinylester resin in the hull, so no blisters. All new windows and no leaks. Large inventory, many updates and upgrades. Boothbay, ME. $26,950.

Dwight Swisher
207-633-5475
dswish@roadrunner.com
www.yachtworld.com/boats/1985/S2-9.2-Center-Cockpit-2402334/Mid-Coast-Are

Bristol 32
1976. Classic design by Ted Hood with full keel and centerboard. Interior teak/mahogany, green upholstery. Awlgrip '11. Repowered '00 with Yanmar 30-hp diesel. New: stereo, stove, propane locker, head/holding tank, GPS, AP, depth, VHF, whisker pole, headsail furler, 120 North Sails genoa, lazy-jacks and dodger. Refinished sole, repainted non-skid '11. Mainsail '07. Bayville, NJ. $32,000.

Rich DiMinno
732-672-7035
RDMRigging@aol.com

Trinka 10
2006 yacht tender. Near perfect condition, used a handful of times, always under cover. This sailing dinghy has excellent rowing, sailing, and some motoring capabilities. Built to last forever. Includes self bailer, extra towing eye, spar bag, teak bottom skids, custom canvas cover, sails, lines and spars, oars. To buy new today nearly $6K! See photos on website. Willing to deliver anywhere around central Virginia. $3,750.

Edwin Wortham V
804-677-8816
carrell5@yahoo.com
www.trinka.com

Blackwatch 23
1981. Shoal-draft, cutter-rigged, trailerable pocket cruiser. *Moor Patience* draws 24". 22'7" LOA. Exhaustive restoration in '08/09 from masthead to keel. Original gelcoat is magnificent. New RF jib and stays'l, extensive canvas. Airy cabin sleeps 2. All-new teak woodwork. Extensive restoration list available. See YouTube "Moor Patience" for additional pictures. Colorado. $15,500.

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

Ranger 28
1977. *Gilded Lily*. Fully restored. GOB feature boat Sept. '06. Many upgrades. Beautiful, fast, comfortable sailer. Enhanced Atomic 4. New bottom paint. Dinghy, davits. On the hard, Atlanta. $10,500.

Walt Hodge
770-498-1678
walt@wingnwing.com
www.wingnwing.com

Cape Dory 30C
1981. Exceptional example of this well-loved Alberg classic. Continuously upgraded and refurbished over the last 12 years. Teak interior near-new cond. Beautiful exterior varnish. Thoughtfully equipped for distance cruising. True yacht quality at a reasonable price. Menominee, MI. $37,500 OBO.

Kevin LeMans
608-443-6811
Full.Keel@gmail.com

Mystic River Sloop 18
1978. Good cond. 18' LOA, 16' LOD, 7' beam. Classic daysailer by Peter Legnos w/registered trailer. Fiberglass hull, wooden mast, gaff, boom, and bowsprit. Draws so little with the C/B up she'll sail in wet grass. Very stable boat. Electric trolling motor w/new battery as auxiliary. Red Creek, NY. $4,900 OBO.

Will and Kathy MacArther
315-754-8885
rcmac4@localnet.com

Cape Dory 30
1982. Well-loved, fresh water, cutter rigged. North sails, spinnaker, Corian countertops, bronze through-hulls, screens, AP. A great pointing and sailing boat. Full equipment list and photos available by email. Bemidji, MN. $48,500.

Michael Kelsey
Mkelsey47@gmail.com
http://ablboats.com/93415

Boat Sharing

Dickerson 41
1979. Center-cockpit ketch. A rare opportunity to join the longest-established boat partnership in the British Virgin Islands. Two 4-week ownership interests are available in *On Eagles' Wings* (OEW), a professionally maintained classic ketch kept year-round in Tortola. Initial purchase of 4 weeks annual usage is $10,000, with annual operating costs of approx. $6,000.

Art Pearce
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Lot of old charts of New England, New York, Chesapeake Bay, Nova Scotia. 1960s-1970s era. Have been used, are folded, but still in v.g. cond. Good for framed wall art. $25 +$10 shipping. Email for complete list.

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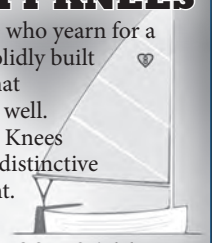

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UltraShade Boat Awning

UltraShade is a new reversible cockpit awning. It arrives in a small box, fits completely in an 8 x 30-inch sack, and weighs less than 6 pounds. In a breeze, some awnings can be a challenge to assemble alone, but the UltraShade awning is easy to put together. The bright white opaque finish does a great job of keeping the interior cool and the black side can be turned to the outside to provide some radiant heat on cooler days. We tested it to see how much wind it could handle: left up at an open mooring in 25 knots of wind, it held up without incident. When it came time to take it down, we learned one thing that's not in the instructions: when removing the segmented fiberglass battens, *push* the segments out. If you pull them, they come apart. This small lightweight package will fit in even the smallest boat. The UltraShade sells for $289. For more information go to <www.crawfordboating.com>

-Chuck Koucky

A glimpse into the future

At the Strictly Sail Chicago boat show we saw the future of safety flares. Some of the features are no expiration date, no dangerous toxic flames, and a 5-hour duration — that's longer than 300 pyrotechnic flares that would cost about $3,000. ODEO (Omni-Directional-Electro-Optical) flares are as easy to use as a flashlight, waterproof, and environmentally safe. Jim O'Meara of North American Laser Flares LLC told us the U.S. Coast Guard is working on revising the SOLAS rules to include this class of products as EVDS (Electronic Visual Distress Signals). The light source of the ODEO Flare is five lasers that are mounted on a rotating head and are visible for at least 3 miles at night. Three AA lithium batteries (included) power the flare for up to five hours. The flare floats and is safe for SAR pilots. ODEO flares cost $239.95 each and are available now at <www.odeoflares.com>

–Michael Facius

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

The last voyage

One more challenge before letting go

by Michael Hoffman

We could have kept sailing. We aren't so old and tired that it's no longer possible. The aches and pains are bad, but not intolerable. My eyes aren't yet a danger. But age diminishes enthusiasm and we began to think of what else we could do with the $3,000 or $4,000 a year it cost us to keep the *Puffin*.

A good test by which to decide whether or not to give up sailing was to imagine ourselves so wealthy that all the work except the actual sailing was done by marina staff. If we had to do nothing but ride the launch to the boat and sail, would we have kept on? Sadly, the answer was, not very often.

But I'm going to miss it. I've often thought that, if Mars had kept enough water and air, Martians might have peered through telescopes and seen Earth's mighty oceans, seas that aren't the ice of Europa or the liquid methane of Titan, but vast planetary reaches of roiling water propagating enormous waves born of wind and infinite fetch. They might have imagined stories of sentient creatures navigating those seas in craft that transmuted the wild winds into governable propulsion. But their fiction could scarcely have been more fantastic than the reality, and even a sailor in a small 21st-century sailboat cruising New England waters within sight of shore is a part of that ancient wonder.

Knowing our June cruise from Salem to Cape Cod would be our last, I decided at the last hour to singlehand on that final delivery (over the objections of Mary Ann, who thought it too risky) to see what last lessons I might learn.

First, I learned that if it all becomes too much — if yelling at the storm, "Go ahead, do your worst!" does no good in the face of the cold, the stinging rain, a flogging mainsail, and all pleasure is overwhelmed — then, as the song goes "turn that boat around, the sea will do no harm" and run for it. Before the wind, with the torrent at my back and the flogging mainsail pacified, I could regroup. Admitting defeat and acting on it gave me as much of a feeling of control as pressing on would have and then, as my inner clouds dissipated, the storm passed and I was back on course.

Second, I learned how good it feels when there's someone to take your lines as you pull up to a slip in the dark, exhausted by the weather and dealing with problems that are easy when you have a shipmate. Friendly, helpful, sympathetic human beings magnify the pleasure of a snug harbor on a stormy night.

One of the world's oldest nautical poems was of a man at sea lamenting the hardships he was confronting and who, when he returned to the sweet comforts of the land, again began dreaming of adventure at sea. The *Puffin* is gone and, as all sailors will understand, there's plenty about owning and sailing a boat I won't miss, but when I see a sailboat now I recall the quiet evenings on our mooring (with a mooring's odd sense of cozy security), our one-pot dinners, our card games by lamplight, the little maintenance projects, the perfect winds that sometimes filled our sails to take us into the harbors of New England, seeing the seaports as our forebears saw them and, if we were lucky, encountering schooners and full-rigged ships on the way as if we had entered a time warp back to the middle of the 19th century. We loved the camaraderie at the marinas, the other sailors all happy to be there. Though we made no bluewater crossings, sailing was as close to high adventure as I'll ever get. It was just plain interesting and it made *me* more interesting.

I feel good that, on this water-planet, I didn't neglect to explore what the world mostly is. I could say to the Martians, "Yes, I know this is a fantastic world. I sailed her waters as best I could."

But now what? It's a hard act to follow.

Michael Hoffman grew up on his family's fleet of old tugs and ferries in Northern California and watched the maritime life of Humboldt Bay from his kitchen window. He never felt drawn to sailboats, but when he tried sailing 40 years later he instantly regretted waiting that long.

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