GOOD OLD BOAT™

The sailing magazine for the rest of us!

www.goodoldboat.com

Issue 107 March/April 2016

8^{00} (Canada 8^{00}_{CDN})

04

0 62825 97035 7

PLEASE DON'T STEAL OUR FILES!

We make our living selling good content to fellow sailors. If you give our files to others, you are stealing that content from Good Old Boat. Don't think of it as "sharing." It is theft.

We try to be fair and honest in all things we do on your behalf. We hope you'll treat us fairly and honestly in return.

Our issues are copyrighted. Please respect that.

7340 Niagara Ln N • Maple Grove, MN 55311-2655 • 701-952-9433 • www.goodoldboat.com

THE VERY BEST IN WATERBASED BOTTOM PAINT!

PETTIT

Neptune5
Hard Hybrid Thin Film Antifouling
Durable, smooth, thin-film finish resists build up. Easy to apply and safer to use. Simple soap and water clean up. Compatible over all bottom paints.

PETTIT

Hydrocoat
Ablative Antifouling Finish
Environmentally-responsive, easy-to-apply, solvent-based product uses water to efficiently transfer the paint to your boat. The end result is a durable finish with easy clean-up and minimal odor.

PETTIT

Hydrocoat Eco
Copper-free, Multi-Season Water Based Ablative
Copper-free, self-polishing. Copolymer ablative technology eliminates sanding and paint build-up. Dual-biocides provide outstanding multi-season protection in all conditions.

Double Braid Mooring Pendants

MADE IN THE USA

Spliced and whipped with heavy duty galvanized thimble, soft eye, and polyester chafe guard. Poly nylon, urethane coated for UV protection.

ROCKPOINT ROPE

3/4" x 20'
Order# 173384
$99.99

7/8" x 20'
Order# 173386
$127.99

Many Sizes In Stock!

Mooring Supplies

Inflatable and Hardshell Buoys, Hardware, Chain and More

Polycarbonate Flush Hatches

Beckson

BOMAR

Many Sizes In Stock!

Electrical Panels & Wiring

ANCOR MARINE GRADE™ PRODUCTS A Lasting Solution.

BLUE SEA SYSTEMS

Sani Shield Sanitation Hose

Premium sanitation hose for all head and holding tank connections. Excellent flexibility bend radius. Longest odor-free performance on the market.

Color	I.D.	O.D.	Order#	Foot	50'
Black	1-1/2"	1-55/64"	743560	9.99	409.99
White	1-1/2"	1-55/64"	743561	12.99	499.99

Macerator Pump

JABSCO a xylem brand

Sealed motor housing. Run-Dry protection. 12 GPM. 12 volt. 1-1/2" hose or 1-1/2" NPT and discharge port for 1" hose. 11-3/8"L x 4-3/4"W x 3-5/8"H.

JPA-10-2445301
Order# 165845
$137.99

Bilge Pumps & Switches

rule SEASENSE JOHNSON PUMP

HM MAINE HAMILTON MARINE

BOATERS' STORE™

800-639-2715
hamiltonmarine.com

HAMILTON CAN HELP!

Many Hamilton Marine employees maintain their own boats. And there is no better teacher than hands-on experience. We know and use the products we sell and can tell you what works best for a given application. And, more importantly, what doesn't. If you have questions about a simple repair or a daunting project, come in to any of our five stores along the Maine coast. We can help.

OPEN HOUSE SALE!

Don't miss our annual Open House Sale
Saturday April 2nd - Sunday April 10th

PORTLAND ROCKLAND SEARSPORT SOUTHWEST HARBOR JONESPORT MAINE

Typographical errors are unintentional and subject to correction.

Good Old Boat

CONTENTS

For the love of sailboats

MARCH/APRIL 2016
ISSUE 107

Good Old Boat

CONTENTS

MARCH/APRIL 2016
ISSUE 107

66

77

Just for fun

Learning experience

On the cover . . .
Photographer Charles Scott caught this sunset image on Lake Erie as the crew was anchoring just off Ohio's Middle Bass Island. We think of it as a "mystery boat." If you know the owner or are the owner, we would like to hear from you.

What's more

Best of Both Power and Sail

BAY BRIDGE BOAT SHOW

April 15-17, 2016

Bay Bridge Marina ~ Stevensville, MD

Powerboats of every size and style imaginable!

- Join us for our opening night BBQ Bash- FREE!
- Shop 200+ powerboats including Center Consoles, Trawlers, Express Cruisers, Pontoon Boats, Luxury Cruisers, Jet Skis, Jet Boats, Ski Boats, Bowriders, Bass Boats, Inflatables, Kayaks, SUPs & Canoes
- Visit PropTalk Demo Dock - Try before you buy!
- Enjoy seminars, food & beverages

ANNAPOLIS SPRING SAILBOAT SHOW

April 22-24, 2016

City Dock ~ Annapolis, MD

Featuring Cruisers University April 21-24, 2016

- Climb aboard more than 100+ boats including Catamarans, Monohulls, Family Cruisers, Day Sailors & Blue Water Cruisers
- First Sail Workshop - Learn to sail on First 22, sponsored by Beneteau & American Sailing Association
- Browse 100+ on-land exhibits for sailing equipment, navigation tools, shoes, clothing, & all boating gear

PropTalk MTAM Maritime Trades Association of Maryland FAWCETT BOAT SUPPLIES SINCE 1948 CRUISING WORLD SpinSheet

BUY TICKETS ONLINE!

For more info: AnnapolisBoatShows.com 410-268-8828

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
timb@goodoldboat.com
ASSOCIATE EDITOR
Pat Morris
RESEARCH EDITOR
Dan Spurr
CONTRIBUTING EDITORS
David Lynn | Rob Mazza | Cliff Moore
Gregg Nestor | Allen Penticoff
Tom Wells | Ed Zacko
DESIGN DIRECTOR
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

107 – VOLUME 19, NUMBER 2
GOOD OLD BOAT (ISSN 1099-6354; USPS 019327)
PUBLISHED BIMONTHLY BY
Partnership for Excellence, Inc.
EDITORIAL OFFICE:
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
Phone: 701-952-9433 | Fax: 701-952-9434
www.goodoldboat.com

Periodicals postage paid at Osseo, MN 55369,
AND AT ADDITIONAL MAILING OFFICES.
POSTMASTER: SEND ADDRESS CHANGES TO:
Good Old Boat
8810 27th Street Ct. N.
Lake Elmo, MN 55042-9473

SUBSCRIPTION RATES (1, 2, 3 YEARS):
U.S. AND CANADA – $39.95 / $74.95 / $110 US
OVERSEAS – $49.95 / $95.95 US

Find us on Facebook
www.facebook.com/goodoldboat
Follow us on Twitter @GoodOldBoat

MMPA
Minnesota Magazine & Publications Association

News from our websites

GoodOldBoat.com

Cabin fever got you down?

If you're in need of reading material, you've come to the right place! Every book review we've ever published since 1998 is posted at www.goodoldboat.com/reader_services/book_reviews. You're sure to be inspired by a review or two. Now may be a good time to add a few volumes to your boat's bookshelf for summer reading.

Some of the articles we've published over the years are available online also. Here's where to find them: www.goodoldboat.com/reader_services/articles/index.php.

Happy reading! Spring will soon be here.

AudioSeaStories.com

Boat reviews galore

If you'll be buying a boat this year, or even if you're just dreaming, wouldn't it be nice to have a collection of boat reviews in one handy place? On Good Old Boat's Archive eXtractions page, our reviews are organized by size: 25 to 27 feet, 28 to 30 feet, and 31 to 36 feet. Click on www.audioseastories.com and download any one or all three for just $25 each.

We'll read the newsletter to you

Of course you know we publish a bimonthly newsletter so you won't miss us too much between magazine issues. Did you know we'll read that newsletter to you so you can listen to it while you drive to work or to the boat? Producers Michael and Patty Facius insert humor and a couple of podcast extras as well. Note that our downloads site is www.audioseastories.com, but our podcast can be found at www.audioseastories.net . . . or search for it and sign up through iTunes.

Good Old Boat's
line of T-shirts
Sailorisms

SLEEVE DETAIL

SLEEVE DETAIL

OFTEN WRONG
. . . ALWAYS CONFIDENT

100% COTTON
S, M, L, XL, XXL
$18.00 EACH

EACH SHIRT IS AVAILABLE IN SAND OR SKY BLUE

NAVIGO ERGO SUM
I SAIL THEREFORE I AM

NEW!

Denim

Khaki

OUR CLASSIC FAVORITE
DENIM BALL CAP
IS NOW AVAILABLE IN **KHAKI**

$16.75

To order, call 701-952-9433, or visit
www.goodoldboat.com/books_&_gear/clothing.php
For more Good Old Boat gear, see pages 54 and 55

Double your pleasure

PHOTO BY TOM WELLS

Two-boat-itis arouses ambivalence

BY KAREN LARSON

It *is* possible to have too much of a good thing. We discovered this in the summer of 2015, the year we had two boats in the water. At once. In two different states. Talk about being conflicted! You might call it an embarrassment of riches, but we called it stress. Our fellow sailors, however, failed to show any sympathy when I complained.

We launched *Sunflower*, the C&C Mega 30 trailerable boat, in a city lake within 20 miles of home so we could sail her for another season before her first over-the-road excursion this spring. We wanted to adjust the rigging, tune the rig (so the main will come down reliably without sticking at the spreaders), learn the ropes (all led aft to a spaghetti bowl in the cockpit), and determine what we like and don't like about the original jibs before having new ones made.

But we'd spent the previous summer so focused on *Sunflower* that we'd agreed not to launch *Mystic*, our beloved C&C 30. We weren't going to let *that* happen two years in a row. In the spring of 2015, we launched her in the Twin Ports (Duluth/Superior) of Lake Superior and delivered her to her home slip in the Apostle Islands, about 75 miles to the northeast (see "There's No Place Like Home," September 2015).

How does one sail both? We kept two lists of projects to be done: which boat needs to have the deck washed (necessitating that we bring along the pressure washer on the next visit)? Which one is out of paper towels or sunscreen or WD-40? In one room, we had a season-long pile of supplies and equipment we had to remember to take along on our next trip to *Mystic*. A pile of similar size accumulated in another room for *Sunflower*.

Then there was the mental "reset button" problem. These are two entirely different sailboats. The only thing they have in common is the combination we selected for the locks on their companionway hatches. When transitioning from one to the other, we had to think carefully about the steps involved for raising each boat's mainsail. Since their rigging could not be more different, stepping from one to the other required that we breathe deeply and empty our minds of all thoughts of the other boat. Time to reef? We had to first ask, "Which boat is this?" and then think through the steps involved. From one boat to the other we didn't even reef the same sail first. To de-power *Sunflower* we first reef the main, but for the same result aboard *Mystic*, we start with the jib.

By far, the worst part of a two-boat lifestyle is the guilt. If we took a week to sail *Mystic*, we were neglecting *Sunflower*. Spiderwebs billowed accusingly from bow to stern as if demanding to know where we had been. Oh, right! This is the one in need of the deck wash. The next week belonged to *Sunflower*, but *Mystic* was neglected. Spiderwebs gathered about *her* lifelines and pulpit clearly indicating that no one had been aboard lately.

> "Still not feeling my pain? At the end of the season there were two boats to haul out and winterize."

Somewhere between the boat jobs and sailing times there was also a house to maintain, a yard with needs of its own, and a magazine or two to put to bed. It was a busy summer. Still not feeling my pain? At the end of the season there were two boats to haul out and winterize.

Except for the year we lived aboard and cruised full-time for a summer, we've never sailed so much. If we were not sailing one boat, we were sailing the other. Perhaps that's why no one was feeling sorry for us.

Youth at the helm, Ranger 33

Youth at the helm

We brought an additional crewman along on a recent monthly race outing. Tor Solgard is 15 years old and has Down syndrome. He participates in the local youth sailing program and has been on daysails before, but this was his first race on a big boat. He is the son of one of my regular guys, Tony (far left in the photo). I am by the backstay, ready to lend a hand if needed. Later in the race, when I was steering, the helm started developing a heavy feel. I was puzzled until I looked over and discovered Tor had a helping hand on the wheel.

–John Churchill, Sanibel, Fla.

Like-new Ranger 33

After racing on and against Ranger 33s in the early 1970s (but never owning one), I was determined to own one someday. Finally, I received a 1976 Ranger 33 project boat as a special birthday present last year from my wife. To bring her back to new/racing quality, we had the topsides and bottom faired and painted, renewed all the running and standing rigging, repowered her with a diesel, and added new sails and winches. Her debut event was the San Diego Yacht Club's "Hot Rum" Series, where she placed first out of 135 boats. Not bad for a 47-year-old design.

–Jim Madden, Newport Beach, Calif.

Southern Cross Owners Association

The Southern Cross Owners Association (SCOA) is looking for owners of Southern Cross sailboats with whom we have lost contact and also for owners who may not know about SCOA. We have overhauled our website to improve the process of joining and renewing. We assemble a newsletter, host a rendezvous and annual meetings, and generally do what we can to help owners connect and share their experiences updating, maintaining, and sailing these beloved vessels.

Joining SCOA gives you access to past newsletters, plans and diagrams, and a directory of members so you can contact other owners. Minimally, join our open (free) forum under the new website, www.southerncross-boats.com, where you can also contact me with any questions.

You may also want to follow SCOA member and circumnavigator Donna Lange, who is currently undertaking a nonstop solo circumnavigation on board a Southern Cross 28: www.donna-lange.com/20152016nonstopcirc.php.

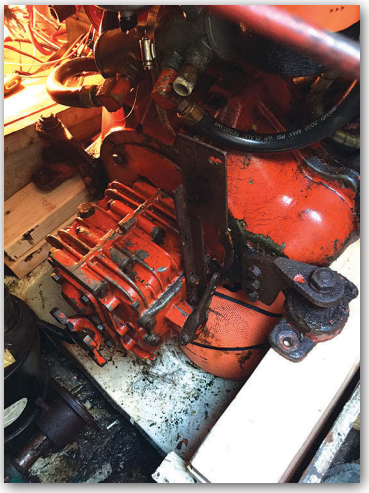
–Bill Duggan, Concord, Mass.

Windlass remote

The timing of Darren Bos' article about the anchor windlass remote in the November 2015 issue was serendipitous. We were in the process of installing a new windlass on *Raven*, our new-to-us wooden powerboat, and we really didn't want to pay $290 for the manufacturer's wireless remote (but really wanted a wireless remote!). So we ordered the same one mentioned in the article from Amazon for $30 (including expedited shipping) and it works great. Thanks!

–Jim Heumann and Karen Sullivan, Port Townsend, Wash.

resurgent, and basketball jack



Basketball jack

We are currently repowering our Tartan 37, and removing the old diesel required lifting it up so the bell housing would clear when hauling it forward. There was no room at the aft end for a bottle jack or scissors jack, and low-profile air bladder jacks can cost several hundred dollars. We remembered an article by Jerry Powlas titled "Basketball Engine Jack" (November 2002) and that is how we did the lift! It was quick, easy, and inexpensive. No wonder we love *Good Old Boat*!

–Tom and Sandy Wells, Columbia, Mo.

An anniversary 50 years in the making

In June 2016, boats built by Bristol Yachts will be sailing home to the port of their birth to celebrate the 50th anniversary of the founding of Bristol Yachts. If you own or have owned a boat built by Bristol Yachts, or if you are just interested, you're invited to attend this once-in-a-lifetime event being held from June 23 to 26.

This celebration will be in Bristol, Rhode Island, with events at the famous Herreshoff Marine Museum, the Bristol Yacht Club, and Colt State Park. Honored guests attending the event include Bristol Yachts founder Clinton Pearson and designers Halsey Herreshoff and Dieter Empacher. For further information, search for Bristol Yachts 50th Anniversary on Facebook or use the following link: http://tinyurl.com/Bristol50thINFO.

–Dan Stadtlander, West Hartford, Conn.

Forespar LED combination deck/steaming lights

Last season, I completed the retrofit of all the 12-volt lights/bulbs on our boat to LED, including the existing Forespar ML-2 combination deck/steaming light (see Product Launchings, January 2016). Obviously, I did not make the change to this light for the power savings, as the bow light is only on when the engine is running and the deck light is used very infrequently. I did it for improved operation in the physical vibration environment and because of the inherent failure of incandescent bulb filaments. I am not anticipating trips up the mast to replace bulbs for many years!

The identifiers follow, as readers may want to do the same if they have such a unit on their boats. I reference Defender for pricing (total cost less than half of a new ML-2), but I'm sure there are other sources.

Deck light – (bottom bulb): Forespar #132335, Dr. LED #8001832, Defender #701607 (~$30).

Steaming/bow light – (top bulb): Forespar #132325, Dr. LED #9000241, Defender #701606 (~$22).

–Bill Wolfe, Wayzata, Minn.

Reconnecting wires for mast lights

Many of us have LED anchor light and combination steaming/deck lights that we have upgraded on our old boats. A cost-effective solution for reconnecting the mast-light wires (usually two from the anchor and three from the combo) is to use a 5-flat-pin trailer wiring harness. They usually come with 18-gauge wire, but the low amps pulled make it feasible over the length involved. Kits are available for around $14 to $15 in any auto store. Use 16-gauge tinned wiring for the long runs in the mast and in the boat to the DC accessory panel. After you align the wires, connect and crimp them, then wrap them with heat-shrink. (Don't forget to put a little silicone gel at the ends before applying the heat.) You can waterproof the connectors by wrapping them in electrical putty. (Make sure that water can drain out of your mast when it's stepped.)

–Bob Daniell, Elkton, Md.

continued on page 68

Just another day on Lake Superior! Red flasher number 4 at Red Cliff Point in the Apostle Islands is a favorite of founding editors Karen Larson and Jerry Powlas. Send your high-resolution buoy photos to karen@goodoldboat.com. You'll receive a Good Old Boat T-shirt or ball cap if yours is selected for publication. (Karen already has all the good old shirts and caps she needs!)

Catalina 25

A ubiquitous trailerable cruising sailboat

BY MIKE NELSON

Catalina Yachts of Woodland Hills, California, produced the Catalina 25 from 1978 to 1990 from a design by the company's founder and president, Frank Butler, and chief designer, Gerry Douglas. More than 5,000 of the boats were made, backing up the builder's reputation for offering well-designed boats at a reasonable price. Catalina has a good reputation for customer service, even for discontinued models. (For a history of Catalina Yachts see "Catalina Yachts: One Big Family," in the January 2001 issue, and for insights into trailerable boats, see "Trailer-Sailer Choices," January 2014.)

The first Catalina 25 I inspected for this review was Bill Bennett's 1989 model, *Mañana*, but winds were so light our test sail was not very helpful. I was later able to get aboard and sail a number of different boats, and those boats and their owners are mentioned in the "Under Sail" section of this article.

Design

Over the years, the Catalina 25 underwent several design changes. The first boats had a cast-iron swing keel. That was followed by cast-iron and cast-lead fixed fin keels and eventually a wing keel. The 25 was also offered in standard- and tall-rig versions.

As with most Catalinas, the 25 is intended to be a decent, uncomplicated, all-around family boat that behaves well. Even the tall-rig version has a sail area/displacement ratio of just 17, which is fairly tame. The displacement/LWL ratio is somewhat light at 186, so the boat will not be a dog.

The flat sheer, while not classic in style, helps maximize interior space within the given length, as does the vertical transom. The raked bow is typical of the design era. A feature common to Catalinas is the sloped aft cabin face that makes it more comfortable to sit in the cockpit with your back against the bulkhead.

The swing-keel Catalina 25 weighs 4,150 pounds, the fin-keel version weighs 4,550 pounds, and the wing-keel version weighs 4,400 pounds. If you add around 1,500 pounds for a trailer and items stored on the boat, you end up towing at least 6,000 pounds, although one owner I interviewed weighed his boat and trailer at 7,800 pounds, including outboard motor, gear, and some provisions. Owners I spoke to said the boat tows nicely with a ½-ton pickup or a large SUV, such as a Chevrolet Suburban.

Construction

Catalina used heavy, hand-laminated, single-skin roving-and-mat hulls with fiberglass liners. The hull liner incorporates the berth flats and other furniture and, bonded to the hull, helps distribute loads. As a result, the bulkheads do not bear chainplate loads. An overhead deck liner has a smooth, easy-to-clean surface. The deck has a plywood core. The shoebox-type hull-to-deck joint is fastened with self-tapping screws.

Thanks to periodic updating, the later Catalina 25s, like our 1989 review boat, Bill Bennett's *Mañana*, at top, kept up with contemporary styling. That said, John Clement's *Taranui*, at left, a 1987 wing-keel model, still looks handsome at anchor in MacBean Harbor in the North Channel.

Most owners commented that their boats have held up well, but with a few problem areas. Several said the old aluminum-frame windows eventually leak. Some fixed the leaks with sealant and others obtained replacement kits from Catalina. A few mentioned hull blisters and gelcoat cracks and others mentioned replacing the original glassed-in through-hulls. The turnbuckles and spreader brackets on older models reportedly were prone to corrosion and should be replaced. Some of the wiring was buried under fiberglass and difficult to troubleshoot.

Owners who reported these problems also noted that, between Catalina Yachts' service department and an active owners association, they were able to find solutions and replacement parts as well as encouragement.

On deck

The Catalina 25's cockpit is nearly 8 feet long, so it will comfortably seat four people under sail. Six can fit, but any more than that and someone would be in the way of the tiller.

The sidedecks are 7 inches wide, one of the compromises made between on-deck convenience and interior space. They work for careful movement from cockpit to foredeck, although some owners found them to be a bit too narrow for comfort. If the dodger is much wider than the companionway, it is a bit tricky to get around. Running halyards back to the cockpit helps.

The anchor well in the bow is too small to hold anything but a Danforth-type anchor. Some owners have added mounts on the bow pulpit for alternative anchors.

Belowdecks

The full fiberglass hull liner makes it easy to keep the interior clean, but it can get in the way when owners want to make repairs or modifications. The boat was offered with two layouts, one with a dinette in the saloon and the other with two settees. The boat was extensively redesigned in 1987 with an updated deck and less teak inside.

A pop-top was an option up to 1987 and standard thereafter. With the pop-top down, headroom is limited to 5 feet 6 inches. With it up, standing headroom in the main cabin area is 6 feet 4 inches and, with a canvas skirt, it can be left up while at anchor, a nice plus for cruising. The pop-top is heavy, however, and several owners said they never raised it for that reason.

The main cabin can seat four comfortably for dining. A small galley is located at the aft end of the cabin. It has a small sink and an area for a small cooktop, but not much prep space. I've cooked a few times on this boat and found it necessary to use the table as a prep area. I also noted in a 1988 model that the cabintop slopes down enough over the galley that I could bump my head if I wasn't careful. Some owners said the icebox did not hold ice very long until they added more insulation. Catalina reportedly improved the insulation in models built after 1983. Some owners said they use a large freestanding ice chest to supplement the built-in icebox.

Opinions on the V-berth range from "cramped" to "tight but usable." I suspect these comments are related to owner width and height. A few said they filled in the space between the saloon settees with plywood to create a single large berth. Several owners said the quarter berth was only really usable for a child.

The head compartment, located at the forward end of the cabin aft of the V-berth, provides reasonable privacy when closed off from the saloon.

The amount of storage space is good for a boat of this size, especially if the quarter berth is used. Several owners use plastic baskets to organize their quarter berth storage. Those who sleep on the settees are able to take advantage of the V-berth for additional storage. Space under the settees on some boats is taken up with holding tanks and freshwater tanks.

A table mounted on the forward bulkhead, at top, can be folded away to open up the saloon for sleeping or just hanging out. The compact galley, above, has space for a two-burner cooktop and not much else. A few drawers, a cubby overhead, and shelves on the seatbacks are provided for storing dishes, cookware, and utensils.

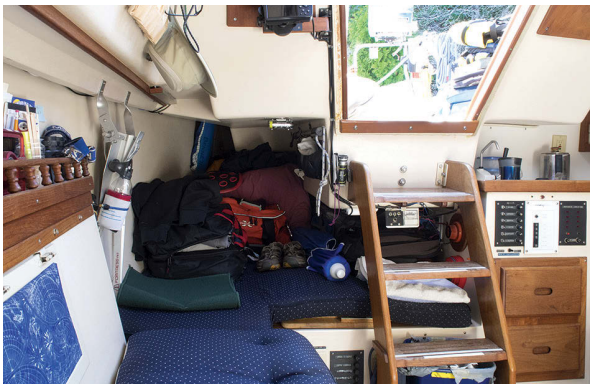
Under sail

With a PHRF rating of 228 for the standard rig and 222 for the tall rig, the Catalina 25 is not especially fast for its size, but it is more than adequate for cruising. For comparison, the aging Cal 25 and Pearson 26 outboard models

Resources

Catalina owners can find forums support, and parts online.

http://catalina.sailboatowners.com
www.catalina-capri-25s.org
www.catalinadirect.com



Many owners report using the quarter berth mostly for storage, at right. The head compartment, far right, can be closed off for privacy.

also rate 222 seconds per mile, while a J/24 rates 171 in many fleets.

Motoring speed with a 6-horsepower outboard is about 5.5 knots. Upgrading to an 8- to 10-horsepower outboard will increase speed to about 6 knots. Most of the Catalina 25s I have seen use a long-shaft outboard to reduce prop cavitation in rough water.

Several owners commented that handling the outboard is much easier if the controls are brought inboard. Otherwise, one has to reach through the transom and down to grasp them. Some owners have yoked the outboard motor to the rudder to provide a single steering control via the tiller. I've watched Catalina 25s rigged this way back down to anchor near shore and the combination of inboard controls and yoked outboard makes it look like a piece of cake to perform this otherwise awkward maneuver.

The mainsheet traveler on the stern does not have a lot of range. Some owners said it is adequate in combination with a good boom vang. A few have moved the sheet to mid-boom for more off-the-wind control.

I had test sails on *Ripples III*, a 1984 swing-keel model with the tall mast owned by John Reuteman of Ohio; *Taranui*, a 1987 wing-keel model owned by John Clement of Ontario; and *Belladona*, a 1985 wing-keel model owned by Mike Forbes of Indiana.

Our sail on *Belladona* was in flat water and very light air ranging from 0 to 5 knots. Even in the light air, *Belladona* tacked nicely, albeit slowly, under full mainsail and a 110 percent jib. Upwind, we ghosted along at 1 to 3 knots on a close reach, accelerating in the puffs. In this light air, *Belladona* sailed very flat.

Our sail on *Taranui* was just ahead of an approaching thunderstorm. Under a headsail rolled in to about 100 percent and full main, we zoomed to windward at around 6 knots in 10 knots or more of wind, sailing relatively flat in lumpy water. In those conditions, pointing about 50 degrees off the wind, *Taranui* tacked quickly and easily. As the wind built, gusts caused us to heel to around 15 degrees. With the sky rapidly turning black, we dropped sails and headed to the nearest anchorage. *Taranui* held her nose nicely into the wind while we dropped sails. After we dropped anchor, *Taranui* backed down with no noticeable prop walk.

Our sail on *Ripples III* was the most exciting, as we had 8 to 15 knots of wind on all points of sail with a 150 percent genoa and full mainsail.

Comments from owners of the Catalina 25

"We have found the C25 to be a sturdy, solidly built boat. The hull cuts through waves better than our previous (more flat-bottomed) boats. We feel confident taking on reasonable winds and waves. We have experienced 40+ knots and 5- to 6-foot waves, without feeling insecure."

–**John Clement**, Aurora, Ontario

"The swing-keel model is *not* suitable for bigger seas. I moved the boat to Lake Michigan for one summer. The cast-iron keel on my boat could not be locked down. In any kind of seas the keel would swing freely and bang the keel trunk. It scared me to death."

–**Bill Walker**, Pentwater, Michigan

"Spacious anchor locker, large lazarette in cockpit, easily accessible rope locker and coaming boxes, sturdy stern rail and bow pulpit. There is little or no weather helm, tracks well. Replacement parts are readily available through Catalina Direct. The swing keel allows us to get into shallow water, but the rudder does not kick up. The V-berth is spacious and comfortable for two people, but a little awkward to climb in and out of."

–**Debbie Bell**, Slippery Rock, Pennsylvania

"The tall rig overpowers the boat past 15 knots, with serious weather helm. But it also makes for a great light-air boat."

–**Cameron and Shirley Cook**, St. Louis, Missouri

"The thing that I like the least about my boat is that you can't sail it with a Bimini. The boom on the tall rig is a bit low in the cockpit. A Bimini can be used when sitting still."

–**Donnie Robison**, Jefferson City, Tennessee

Due to its draft (2 feet 10 inches), the wing-keel version of the Catalina 25 often requires a trailer tongue extension to get the boat far enough down a typical ramp to float off the trailer, at left. Some mechanical advantage is needed when raising and lowering the mast. On *Mañana*, Bill Bennett uses the common arrangement of an A-frame and side-to-side bridles, at right.

My notes showed we sailed close-hauled at 3.6 knots with an apparent wind of 8 knots, accelerating nicely in the puffs. At 10 knots apparent wind, we reached 4.7 to 5 knots and were heeled over at about 30 degrees. John said he has heeled as much as 40 degrees in a stiff breeze when he hasn't hanked on a smaller jib. On a beam reach in around 6 to 7 knots apparent wind, we sailed fairly flat at 3.5 knots. Sailing in 5 knots apparent wind on a broad reach, we hit about 5 knots speed over the ground. Dead downwind in 1.4 knots apparent wind, we reached about 3.4 knots SOG. *Ripples III* tacked and jibed smartly on all points of sail.

With the engine controls brought inboard, *Ripples III* backed nicely out of her slip. In the slip with the swing keel up, she was very tender, but she was more stable with the keel down. Both wing-keel models were less tender at anchor or in a slip. Lowering the swing keel was relatively easy. However, raising it took considerably more effort, even with the mechanical advantage provided by the hand crank.

Setting up and launching

At most boat ramps, because of its draft, the fin-keel version generally requires a trailer tongue extension in order to get the boat far enough into the water to float free. Owners with swing-keel boats can usually launch without the need for an extension.

The mast is tall and heavy enough that mechanical advantage is recommended to raise it. A-frame rigs attached to the toerails are frequently employed to raise and lower the mast, along with bridles for side-to-side support. The A-frame is attached to a masthead halyard and to a 4:1 block and tackle at the bow that is led back to a cockpit winch. It's easiest to raise or lower the mast if one person is in the cockpit cranking while another watches for snags and keeps the jib and furler in line with the mast. Once the mast is all the way up, the stays can be reattached.

Setting-up time will depend on how much of the rigging has been detached for trailering. Including the time taken to install the outboard and load cruising supplies, it can take a couple of hours, so it's unlikely that one would daysail this boat from the trailer. On a cruise, a few hours for setup and takedown is not very much.

Conclusion

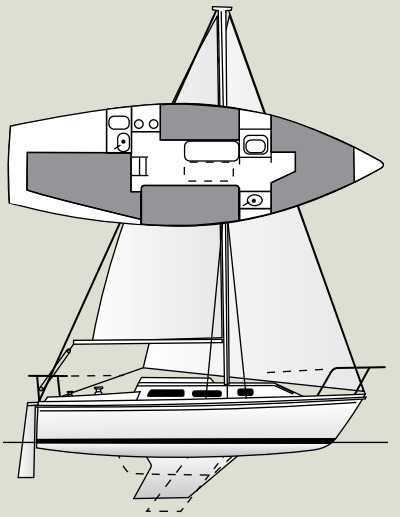
Prices on the Catalina 25 range from around $5,000 to $10,000 depending on age, condition, and equipment. Prospective buyers should check the hull for blistering, the keel bolts, the swing-keel's cable and winch, and the rudder connections They should also look for turnbuckle cracks, and any evidence of window or hatch leaks.

One owner summed this boat up well by saying that it is reasonable in every significant regard: reasonably spacious, reasonably well-built, sails reasonably well, and is reasonably priced.

Mike Nelson is a retired engineering psychologist and the past president of the Trailer/Sailors Association. He and his wife, Diana, sail Eventide*, a Pacific Seacraft Flicka.*

Catalina 25

LOA:	25 feet 0 inches
LWL:	22 feet 2 inches
Beam:	8 feet 0 inches
Draft (fin keel):	4 foot 0 inches
Draft (wing keel):	2 feet 10 inches
Draft (swing keel up):	2 feet 8 inches
Draft (swing keel down):	5 feet 0 inches
Ballast (fin keel):	1,900 pounds
Ballast (wing keel):	1,750 pounds
Ballast (swing keel):	1,500 pounds
Displacement (fin keel):	4,550 pounds
Displacement (wing keel):	4,400 pounds
Displacement (swing keel):	4,150 pounds
Sail area (standard rig):	270 square feet
Sail area (tall rig):	295 square feet
Disp./LWL ratio (fin keel):	186
Sail area/disp. ratio (fin keel, std rig):	15.7



Weather maps

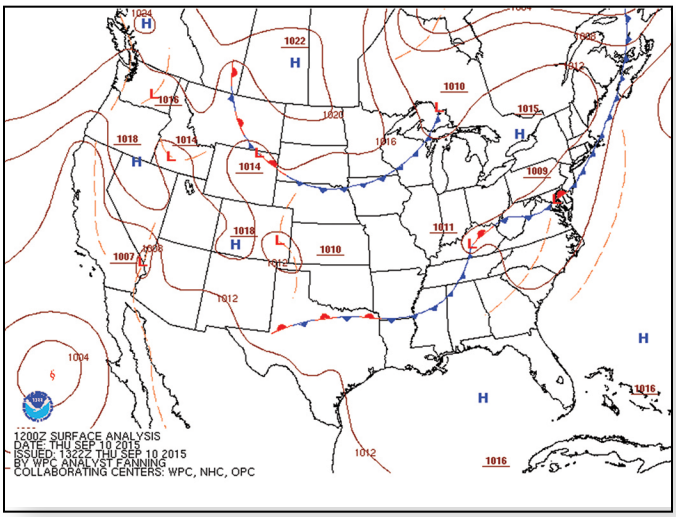
Surface weather maps, part 1

BY MARK THORNTON

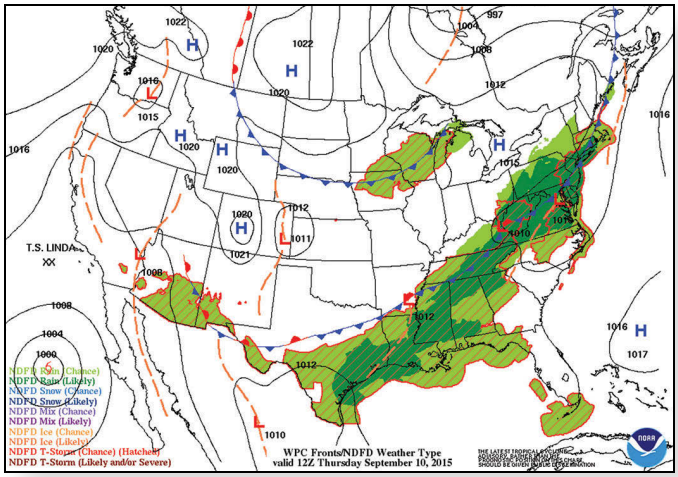
Surface weather maps offer a wealth of information to the weather-savvy mariner. The key to unlocking the information displayed on these maps is understanding the terminology and symbols meteorologists use to portray weather patterns. Let's start with surface maps, key terminology, meteorological time systems, and barometric pressure.

Two types of surface maps

Surface weather maps come in two varieties: analyses and forecasts. They are similar in appearance but are far from interchangeable. Analyses show recent surface weather observations and features and are published every three hours by NOAA's Weather Prediction Center (WPC). The observations used to prepare these analyses, such as temperature, dew point, barometric pressure, and wind speed/direction, are collected by thousands of automated weather stations across the country that comprise the Automated Surface Observing System (ASOS).



A surface weather analysis map shows data observations.



A surface weather forecast map shows predicted conditions.

While analyses display past weather data, surface forecast maps predict weather patterns at a specific time in the future. Interestingly, the same observational data used to create surface analysis maps also serve as the initial input for the computer models that guide the staff of the WPC as they produce their forecasts. No data is wasted at NOAA!

A brief explanation of time

In order to coordinate weather observations and forecasts, the world's meteorological organizations, including the National Weather Service (NWS), publish their observations and forecasts using time-keeping systems based upon Greenwich Mean Time (GMT), a 24-hour clock system based on the local time on the prime meridian, which is located in Greenwich, England. For example, 1 a.m. in Greenwich is 0100 GMT, noon is 1200 GMT, and 5 p.m. is 1700 GMT.

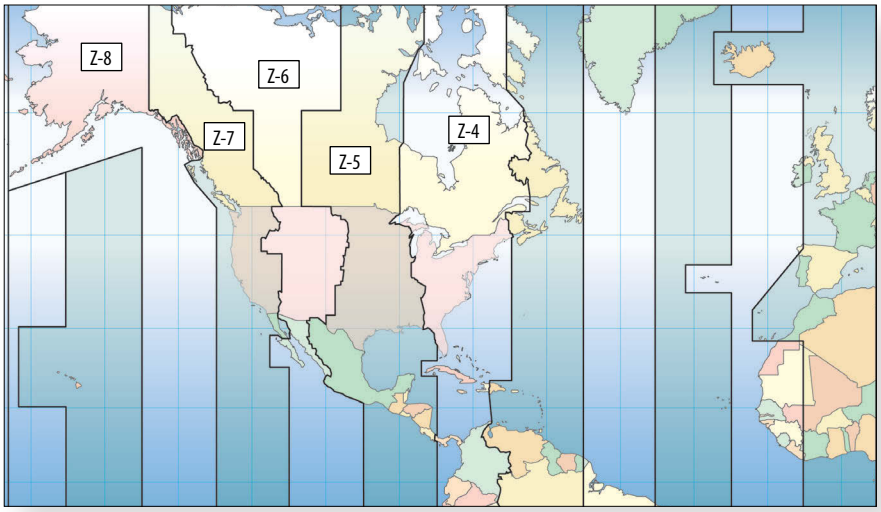
The NWS's version of GMT is Zulu, abbreviated as "Z" on its maps. In order to apply NWS forecast graphics to your area, you'll need to convert from Zulu to your local time. The conversion is easy once you know the time difference (time zone offset) between your location and Greenwich. (See the chart on page 15.) When daylight saving time is in effect, if you sail in the Eastern time zone, subtract four hours from Zulu to arrive at your local time. Pacific time zone sailors must subtract seven hours. For example, 1200Z is 8 a.m. Eastern and 5 a.m. Pacific time. During the winter months when daylight saving time is not in effect, subtract an additional hour to convert to local time (1200Z is 7 a.m. Eastern). Refer to the table for Zulu to local time conversions for the four time zones in the continental United States.

Issued and valid: what's the difference?

The analyses and forecasts produced by the NWS contain the date and time the map was "issued," or published. In addition to the issued information, NWS maps contain the "valid" date and time. For a surface analysis, valid indicates the date and time the observations were collected by the ASOS network. For example, the surface analysis (at upper left) was issued at 1322Z on Thursday, September 10, 2015, and displayed observations gathered at 1200Z on the same day.

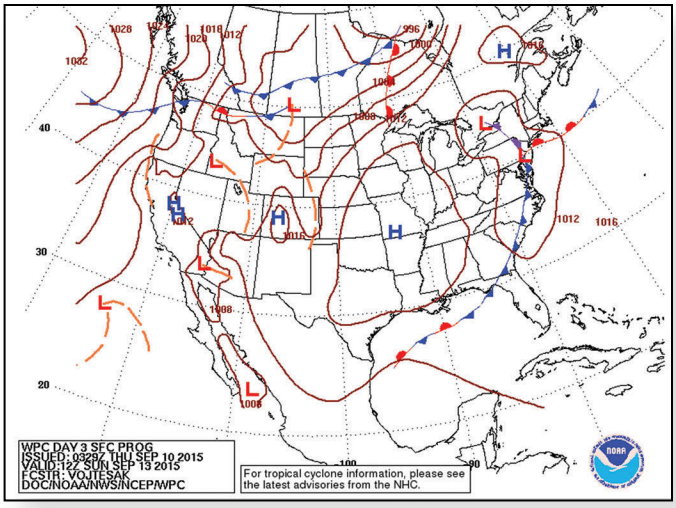
Forecast maps display the predicted state of the atmosphere (barometric pressure, frontal boundaries, precipitation, and so on) at a specific date and time in the future. This future date and time is when the forecast is considered valid. For example, the WPC surface forecast shown in the surface forecast map (at left) was valid at 12Z on Thursday,

LAYOUT AND ILLUSTRATIONS BY TED TOLLEFSON



The time zone offsets applied to Zulu to obtain local time during daylight saving time in North America, at left, correspond to the yellow columns in the conversion table, below. The offsets in the white columns apply during winter.

Zulu/GMT to local time conversion table								
	Eastern time zone		Central time zone		Mountain time zone		Pacific time zone	
Zulu/GMT	(Zulu minus 4 hours)	(Zulu minus 5 hours)	(Zulu minus 5 hours)	(Zulu minus 6 hours)	(Zulu minus 6 hours)	(Zulu minus 7 hours)	(Zulu minus 7 hours)	(Zulu minus 8 hours)
0000Z	8:00 pm	7:00 pm	7:00 pm	6:00 pm	6:00 pm	5:00 pm	5:00 pm	4:00 pm
0300Z	11:00 pm	10:00 pm	10:00 pm	9:00 pm	9:00 pm	8:00 pm	8:00 pm	7:00 pm
0600Z	2:00 am	1:00 am	1:00 am	12:00 am	12:00 am	11:00 pm	11:00 pm	10:00 pm
0900Z	5:00 am	4:00 am	4:00 am	3:00 am	3:00 am	2:00 am	2:00 am	1:00 am
1200Z	8:00 am	7:00 am	7:00 am	6:00 am	6:00 am	5:00 am	5:00 am	4:00 am
1500Z	11:00 am	10:00 am	10:00 am	9:00 am	9:00 am	8:00 am	8:00 am	7:00 am
1800Z	2:00 pm	1:00 am	1:00 am	12:00 pm	12:00 pm	11:00 pm	11:00 pm	10:00 am
2100Z	5:00 pm	4:00 am	4:00 am	3:00 pm	3:00 pm	2:00 pm	2:00 pm	1:00 am



A day 3 map shows predicted conditions 72 hours into the future.

September 10, 2015. The longer-range forecasts issued by the WPC, such as the Day 3 map (above), contain both the issued and valid times to remind users that it is a forecast for 72 hours into the future.

Barometric pressure

While our focus has been on surface weather patterns, the dynamics that produce weather occur within a deep layer of our atmosphere called the troposphere. The overall height of the troposphere varies by latitude, but on average it reaches approximately six miles above the Earth's surface. The weight of the air molecules within this layer exert a force on the surface that we know as barometric pressure. A 1-inch by 1-inch column of air extending from the Earth's surface to the top of the troposphere weighs nearly 15 pounds.

Barometric pressure observations are plotted on surface maps to help meteorologists identify highs, lows, and their associated features such as cold fronts, warm fronts, troughs, and ridges. Barometric pressure patterns plotted on NWS surface maps are adjusted to sea level.

Since barometric pressure is the weight of the air molecules above a particular location, the altitude of the weather station has a dramatic effect on barometric pressure observations. Imagine the perpetual low-pressure system that would exist near Denver simply because the thickness of the troposphere is nearly 5,000 feet less due to the city's lofty altitude. Adjusting pressure observations based upon the altitude of the station eliminates this awkward situation and makes surface weather maps much easier to interpret.

Looking ahead

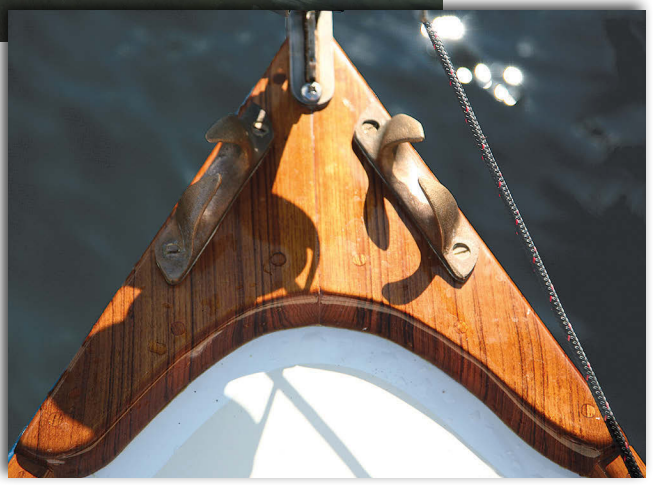
In part 2, in the May issue,we'll examine the symbols and meteorological shorthand used on surface weather maps.

Mark Thornton has been sailing on the Great Lakes for more than 20 years and currently owns Osprey, *a C&C 35. His company, LakeErieWX, provides marine weather education seminars, case studies, and forecasting resources to recreational boaters. His website is located at www.LakeErieWX.com.*

Ms Lynne G, a Sea Sprite 23

Restored to order, she's a daysailing delight

BY BILL JACOBS



While essentially a simple boat, the Sea Sprite 23 does have some classic details, like the toerails and stem plate, which Tim Lackey faithfully reproduced when he restored *Ms Lynne G*.

"Bill, you really ought to come over to Yacht Works this morning. There's a sleek, small boat being rigged right now and her owner is from New York," said my friend Bob, whose beautiful Pacific Seacraft 34, *Dalliance*, was featured in *Good Old Boat*'s September 2012 issue.

That brief description was all I had when I pulled into the yard in Sister Bay. On the face of it, this is not such an unusual event, but when the sailor hails from Saugerties, New York, along the banks of the Hudson River, it's a bit of a stretch. Why launch here on the shores of Wisconsin's Green Bay?

The mast had just been lowered into the hull, which looked brand-new even though it was obvious the boat had been designed in another era. Moments later, I was joined on the dock by her proud owner, Joel Schuman.

"She's an Alberg design, you know," he said.

"I thought she was," I replied, "but what class?"

"Well, she's not a Pearson Commander, which is what I was looking for."

The fairy's tale

You might say the story really began in 1900, the year Carl Alberg was born in Gothenberg, Sweden. Before moving to the United States in 1925, he studied yacht design for two years. He first took a job as a rigger, and was then hired by the John Alden firm as a designer. Over the next 60 years, he designed 47 boats, including the Pearson Triton, the Alberg 30, the Ensign, and most of the Cape Dory line . . . all extremely successful designs. Among his earliest designs was the Sea Sprite 23. She was first produced by the American Boat Building Company and offered in two versions, the Daysailer and the Weekender. The hull and rig dimensions are identical.

The Daysailer has a large non-self-bailing cockpit and a small cuddy cabin with two bunks. The Weekender, the subject boat here, has a self-bailing cockpit, a larger cabin trunk, a V-berth, two quarter berths, a small galley, and a space for a head under the forward berth. Both have a built-in well for an outboard motor located to starboard of the rudder below the aft deck.

A number of small boatbuilders in the Bristol, Rhode Island, area continued to produce the Sea Sprite 23 for the next 25 years. The final builder was Clarke E. Ryder, who acquired the rights to the design in 1974 and built new molds for the boat that encapsulated a lead keel, created a new

Although they live in New York, Joel and Lynne Schuman, above, keep *Ms Lynne G*, at left, in Door County, Wisconsin, and sail her there during their summer visits.

self-bailing cockpit, and introduced a full interior liner. According to records kept by the Sea Sprite Association, C.E. Ryder built hull numbers 525 to 768, including *Ms Lynne G*.

A family of sailors

Joel grew up on the East Coast and learned to sail in a 14-foot wooden Aykroyd dinghy while in summer camp in Canada. He loved sailing and actively raced during his high-school and college years in the Lightning and Flying Dutchman class one-design fleets. He met and married his wife, Lynne, and they settled in Saugerties to raise their family. Business and other interests precluded boat ownership, but the family regularly spent vacations in the winter months on charter boats in the British Virgin Islands.

Lynne's family has a summer home in Ephraim, Wisconsin, so each summer they spent time there with the children, who enrolled in summer sail-training classes at the Ephraim Yacht Club. After the kids left home, Lynne and Joel continued to go to Wisconsin, where they became involved in sailing and racing Flying Scots at the club. They purchased their own boat and sailed it actively for 10 years in Wisconsin and New York. While on the East Coast, they raced on an inland lake with a fleet of Flying Scots after first sailing their boat on the Hudson River. "Too much traffic, too much current, and not enough water," says Joel.

On one of their summer trips, the Schumans chartered an Alberg 35 and enjoyed the traditional appearance and performance of the classic cruising boat. One of Joel's business associates sailed a Pearson Commander, another Alberg design. Joel crewed on the Commander several times and thought it might be an ideal daysailing boat for the two of them. They decided to sell the Flying Scot and look for a Commander in good shape or one they could consider restoring.

They searched the Internet for several seasons and, failing to find a desirable Commander, Joel decided to search for boat restorers. After several phone interviews, he called Northern Yacht Restorations in Whitefield, Maine (see *Good Old Boat*, January 2006). Tim Lackey, the owner, answered the phone — no surprise since he works alone. Tim started the business in 2004 and works on only one boat at a time. After the initial conversation, Joel knew he had found his man.

Simple also describes the Sea Sprite's interior, which Joel and Lynne simplified even further by removing cruising clutter. *Ms Lynne G* has a V-berth, at left, and a pair of settees, at right. Bronze opening ports, below, replaced plastic deadlights.

An alternative Alberg

Tim told Joel he could probably find a Commander, but suggested he come to Maine and look at a 1975 Sea Sprite 23, also designed by Alberg. In August 2014, Joel and Lynne did just that. The Sea Sprite had been brought in for restoration earlier that year, but the owner developed health problems and couldn't complete the project. Joel and Tim signed an agreement scheduling delivery for the spring of 2015. Two weeks later, Tim called Joel to say he had a sudden cancellation. The new completion date would be December of 2014. The project was under way.

An extremely detailed log on Tim's website records each step in the renovation of *Ms Lynne G* (see "Resources" on page 19). The project began on August 21, 2014, and was completed on November 13. It involved more than 300 hours of labor. A study of Tim's website would help anyone interested in restoring his or her own boat or hiring a professional to do so. It offers great insight into what's involved in a complete restoration.

Simplify and beautify

Although some preliminary cosmetic work had already been done for the boat's prior owner, Joel and Lynne had a different vision for the finished project: they wanted the ultimate daysailer for two people with an occasional guest. Hence the decision was made to start the renovation by removing much cruising-oriented equipment, such as unnecessary instruments and cooking facilities. They concentrated on improving the overall quality of the boat, simplifying systems, replacing fittings, and redoing all the finishes.

Some of the major projects included removing all the deck hardware, a total redo of the hull-to-deck joint, a new wooden toerail, and new cockpit coamings and handrails. Tim also refinished the spars and replaced all the running and standing rigging. He removed all the plastic through-hulls and replaced them with bronze fittings. The bottom was sanded down to the gelcoat, re-faired, primed, and painted.

Joel did not like the original deadlights with their plastic frames, so they were replaced with new bronze opening ports from Spartan Marine. Tim constructed an entirely new motor well to house a new Torqeedo Travel 103 long-shaft electric outboard. Finally, the hull was refinished with AlexSeal Topcoat Flag Blue. Joel had a new main and jib made by Dorsal Sails, a local Wisconsin sailmaker.

Following her refit, *Ms Lynne G* was towed to Door County and launched in the spring of 2015. Joel and Lynne spend about four weeks each summer in Door County and keep their boat on a mooring in Eagle Harbor.

***Ms Lynne G* is an ideal daysailer: easy to rig, easy to sail, easy to steer, and easy on the eye.**

A delightful sailer

By the end of the first full sailing season, they were delighted with the

Modern technology has its place in the form of a silent-running Torqueedo electric outboard in a custom-built well, at left.

sailing characteristics of their small yacht. I photographed her on a clear day in a northwest wind when the bay was kicking up a lively chop. As the sails filled on a new tack, she heeled quickly to rail down, then stiffened up, cutting cleanly through the inland sea. With a crew of three sitting comfortably in the generous cockpit, there appeared to be little pressure on the helm and plenty of smiles as she sped by.

A few weeks later, Lynne and Joel sailed her back to the marina in a very stiff breeze. I had driven over to see them off and watched them as they rounded up into Sister Bay. The boat shook off the gusts and kept her hull firmly planted as they rolled the jib and doused the main. Then, powered by her Torqeedo, *Ms Lynne G* motored silently into the still waters of Yacht Works for a long winter's rest.

With the obvious quality and care she has had in restoration and her planned short seasons, I predict that *Ms Lynne G* is destined to become a family heirloom and to lead a long and serendipitous life.

Bill Jacobs has been racing and cruising for 50 years and writing about boats for the last 10. He currently sails a Cape Dory Typhoon in Baileys Harbor, Wisconsin, and spends winters in Sarasota, Florida, sailing a 55-year-old wooden Luzier 27.

Resources

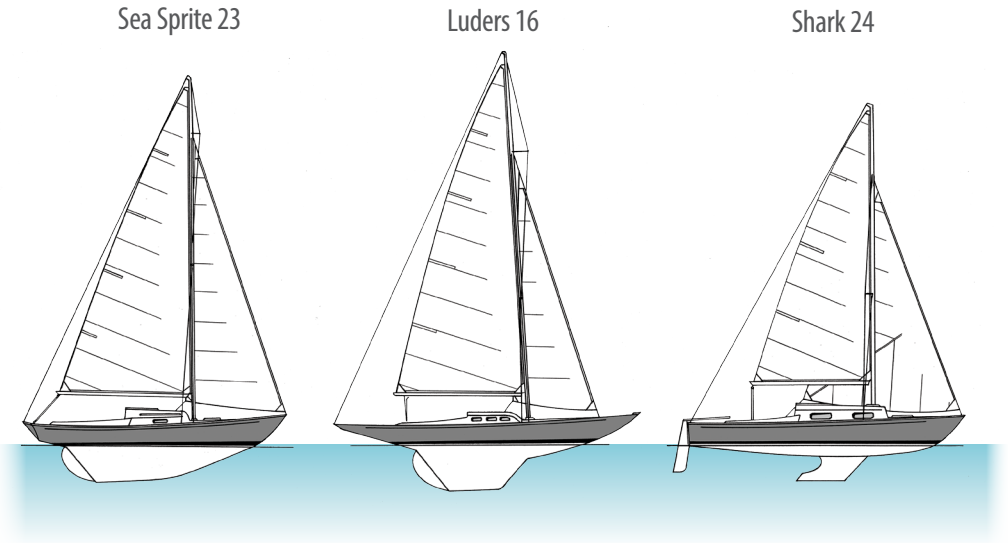
The Sea Sprite Association is very active. It has members all over the U.S. and posts technical and other resources on its website.
www.seaspriteassociation.com

Tim Lackey at Northern Yacht Restorations has restored a great many old boats of all types, power and sail. He posts detailed logs of his restorations on his website.
www.lackeysailing.com

The Sea Sprite 23 . . .

. . . and two very different daysailers

BY ROB MAZZA



Carl Alberg established his reputation as a designer with the Pearson Triton in 1958, the same year he designed the Sea Sprite 23. He used the same design concept in the equally successful Elektra and Ensign, as well as the Alberg 35 for Pearson and the Alberg 30 and 37 built by Whitby Boatworks. He also had a long and successful design relationship with Cape Dory. Over his long career, he didn't change his design "model" at all. His boats all had full keels, moderate draft, heavier displacement, narrow beam, and attractive sheers with moderate overhangs.

What exactly constitutes a "great" yacht designer . . . or great artist for that matter? Is it doing one thing well over and over again, or is it evolving, innovating, and constantly reinventing oneself and expanding the envelope? The recent biography of C. Raymond Hunt, *A Genius at His Trade*, indicates the latter, but Carl Alberg undeniably left his mark on the sport of sailing, albeit a similar mark each time.

While thinking of "innovation," let's look at two boats that bridge the Sea Sprite 23 in time and concept. The first is the exceptionally beautiful Luders 16 (26 feet 4 inches) that dates back to 1933 but made the transition to fiberglass in the 1960s. The "16" relates to the LWL rather than the LOA used today to designate boat models. I remember as a child seeing a Luders 16 at Queen City Yacht Club in Toronto and thinking then, as I still do, that it was one of the prettiest boats I had ever seen. Its exceptionally long overhangs and narrow beam hark back to another era.

The second comparison boat is the Shark 24, designed and built by George Hinterhoeller. Although introduced only a year after the Sea Sprite, it represented a quantum shift in design thinking and heralded a new era of yacht design. The underwater configurations in the three drawings appear to show, from left to right, a logical transition in the development of a separate keel . . . until you realize that the second boat, the Luders 16, predates the Sea Sprite 23 by 25 years!

	Sea Sprite 23	Luders 16	Shark 24
LOA	22' 6"	26' 4"	24' 0"
LWL	16' 3"	16' 4"	20' 2"
Beam	7' 0"	5' 9"	6' 10"
Draft	3' 10"	4' 0"	3' 2"
Displacement	3,350 lb	2,950 lb	2,200 lb
Ballast	1,400 lb	1,600 lb	675 lb
LOA/LWL	1.38	1.61	1.19
Beam/LWL	0.43	0.35	0.34
Disp./LWL	349	302	123
Bal./Disp.	.42	.54	.31
Sail Area (100%)	247 sq. ft.	224 sq. ft.	190 sq. ft.
SA/Disp.	17.6	17.4	18.0
Capsize Number	1.9	1.6	2.1
Comfort Ratio	21	22.9	12.4
Year introduced	1958	1933	1959
Designer	Carl Alberg	Alfred E. (Bill) Luders	George Hinterhoeller
Builder	C.E. Ryder/ Sailstar Boats/ Seasprite Co.	Easterly Yachts	Hinterhoeller

When we look at the numbers, we see that the waterline lengths of the more "traditional" Luders and Sea Sprite are almost identical at 16 feet 4 inches and 16 feet 3 inches, respectively. However, the displacement of the "newer" Sea Sprite is 400 pounds greater, while its ballast is 200 pounds lighter. This results in a pretty hefty displacement/length (D/L) ratio of 349 for the Sea Sprite and a

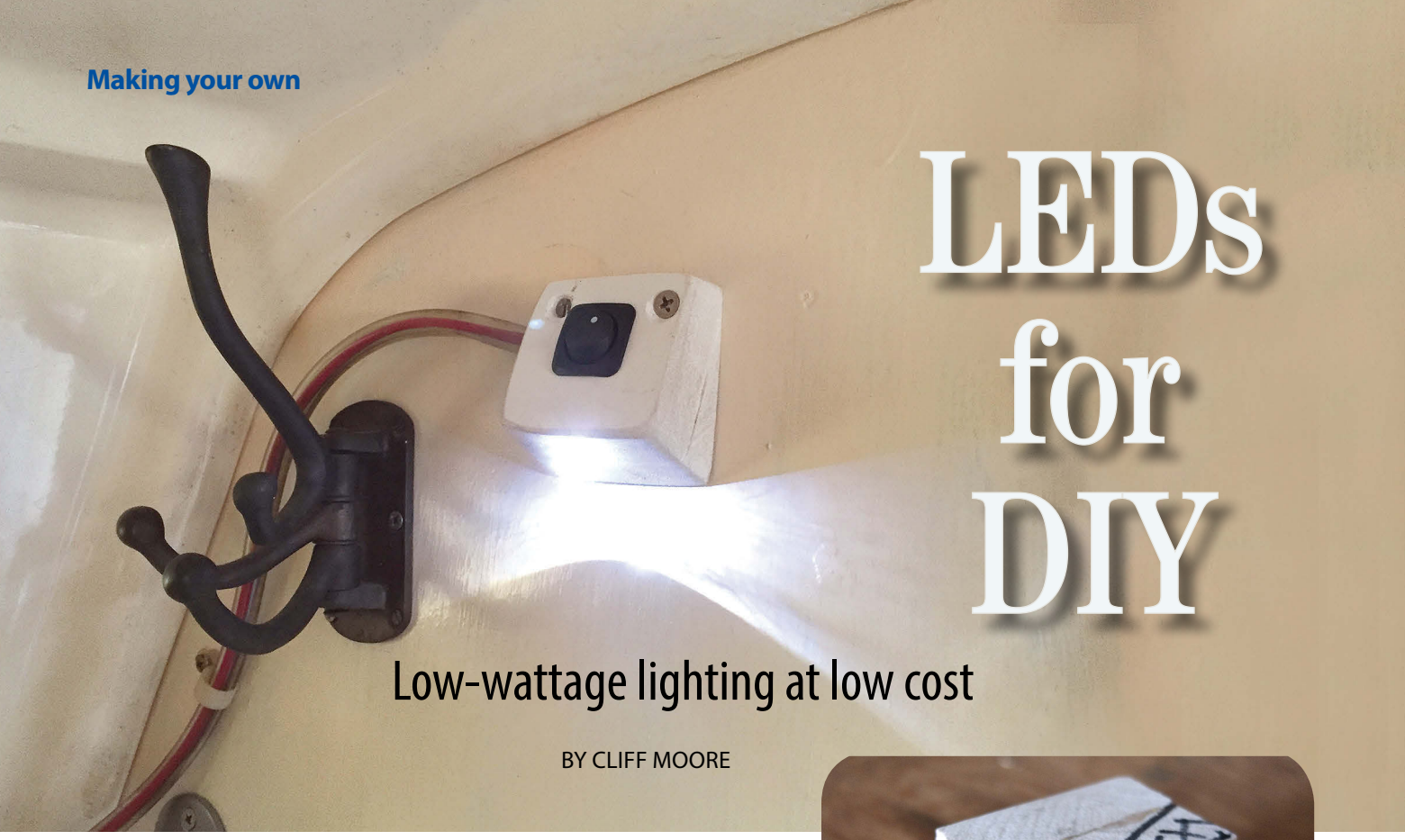
more moderate 302 for the Luders, as well as a respectable 42 percent ballast ratio for the Sea Sprite and a substantial 54 percent for the Luders. The sail areas for each of these two boats are also similar at 247 and 224, resulting in almost identical sail area/displacement (SA/D) ratios of 17.6 and 17.4. So the 25 years separating these designs have not produced any marked improvements. If anything, the older Luders has the more competitive D/L ratio and the higher ballast ratio, which it needs to make up for its narrower beam.

With the Shark, George Hinterhoeller introduced a whole new concept of light-displacement yacht design. The waterline on the 24-foot Shark is 20 feet, almost 4 feet longer than the "older" boats, while it displaces 750 pounds less than the Luders. Yet at 2,200 pounds, it is a full 1,150 pounds lighter than the "newer" Sea Sprite. Granted, the majority of this reduction in displacement is due to the ballast being 1,000 pounds lighter, resulting in a low 31 percent ballast ratio. The triangular bulb on the keel would go a long way to lowering the ballast CG, but probably not enough to completely make up for a 10-inch-shallower draft.

This longer waterline and lighter displacement results in a very performance-oriented D/L ratio of 123 and a slightly higher SA/D ratio of 18, despite the sail area being only 190 square feet. What the Shark *could* do was get up and plane, something it did very well on reaches and runs, often outsailing 50-footers boat for boat. Neither of the "older" boats could do that!

While the Sea Sprite 23 represents a pretty, but "conservative" design, new materials and design concepts were about to make sailing a lot more exciting, as exemplified by the Shark. Keep in mind that a couple and their 2-year-old sailed a Shark from Canada to Australia, so the seakeeping abilities weren't bad either, despite the capsize number creeping just above 2. This is due to the light displacement but is partially compensated for by the narrow beam. The Shark's lighter displacement results in a comfort ratio of 12.4, indicating the rapid motion you'd expect with light weight.

Rob Mazza *is a* Good Old Boat *contributing editor who, in his long career with C&C and in other design offices, designed many boats that are now good and old. He has thus contributed enormously to the enjoyment of those who sail and own them today.*



LEDs for DIY

Low-wattage lighting at low cost

BY CLIFF MOORE

One of the best things that has come along for boaters (and homeowners) lately has been LEDs for lighting. They're cooler in operation, seemingly last forever, and use very little electricity. Boaters find that instead of burning 15 or 20 watts (1 to 2 amps) per bulb, they burn maybe 3 or 4 watts. Five of these use as much power as one of the old-style incandescent bulbs and they last as close to forever as I'll ever hope for.

Unfortunately, one of the worst things about them is their price. Even when shopping online, you'll find that a replacement twin-pin 12-volt bulb costs $8 or $10. On top of that, the lamp itself can run more than $100. But why spend that if you can make your own lamp — bulb and all — for less than $10?

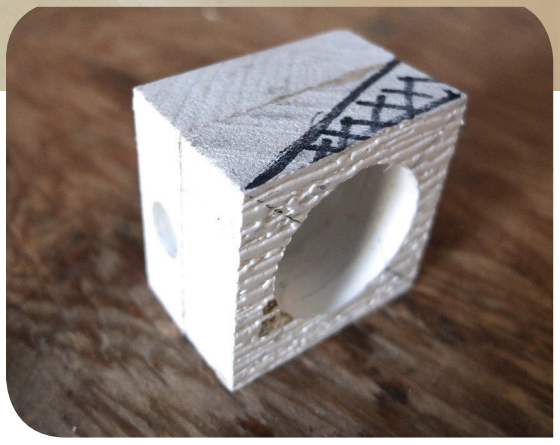
With a little research, it's possible to cherry-pick the LED itself and make the lamp meet your special purpose. In my case, I needed a lamp that wasn't too bright so it would just illuminate the toilet in the head without ruining my night vision.

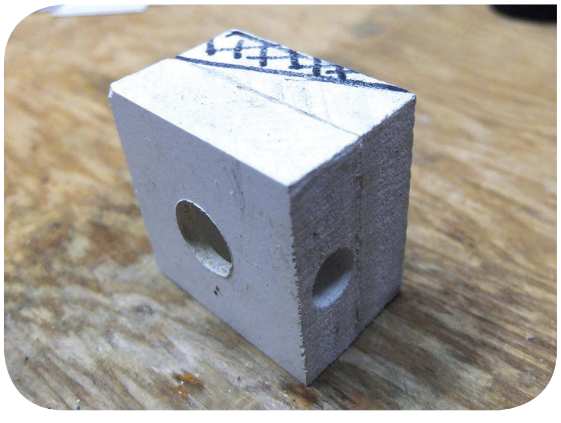
In the past, night-vision bulbs were always red, and it's no problem to find a red LED if that's what you prefer. However, red light makes it difficult to read charts; any red ink on a chart disappears in red light. So, I've come to prefer white LEDs.

A few years ago I made a lamp with a base fashioned from the top of a peanut butter jar. That bulb, however, pointed in the wrong direction, was too dim, and was blocked by a towel rack.

Targeted lighting

This time, I made the base by cutting it out of two pieces of ¾-inch plastic. I had to cut one piece at a 15-degree angle so, instead of pointing down or straight out, the LED would point directly at the toilet. I glued the two resulting pieces together and, when the glue dried, hollowed out the base with Forstner bits at my drill press. I had to drill a hole just big enough to hold the glued LED in place with enough space behind it to hold the wires. Also, there had to be a hole in the front for the switch. I like the look of rocker switches, so that's what I used. Some might prefer a toggle switch, but I thought that might get toggled accidentally. The result is a nice clean design.





Cliff's small light, aimed at the object of interest in the head, sheds enough light for its purpose without impairing his night vision, main photo. To make his LED lamp, Cliff glued two pieces of plastic together. The big hole on the back, upper above, houses the wiring; the small hole is for the LED. Another view of the base shows the hole on the top for the switch, above. The cross-hatched area is to be cut off. Cliff says it's best to do that after drilling the holes.

Assembling components

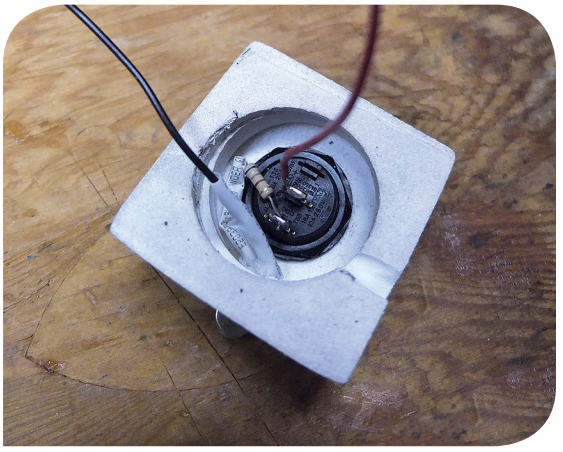
Before it went belly-up, I used to go to the local RadioShack and rummage through the parts bins until I found the bits and pieces I needed, such as an LED with the right specs. For this lamp, I used RadioShack part #276-0005, Ultra High Brightness 10mm White LED, 2.85 candles, 10-degree viewing angle, pulling 20mA.

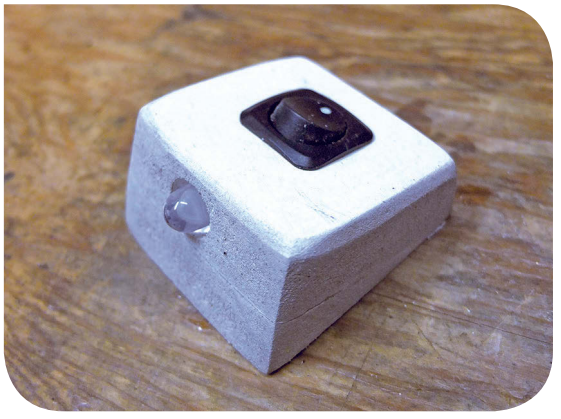
There has to be a resistor in line to limit current. If you just hooked up an LED to a 12-volt battery, it would go off with a single bright flash and leave nothing but a burnt smell in the air . . . which is why they invented resistors.

My favorite uncle, a merchant marine ship's radio officer, made a crude attempt at teaching me Ohm's Law, but it didn't stick. Happily, there are online Ohm's Law converters (see "Resources" below). You feed in the voltage, input the current demanded by the LED, and it tells you the size of the resistor. If you happen to have a 24- or 32-volt system, then use whatever resistor turns up in the converter. You can find the color code of the resistor online (see "Resources"). You can go blind trying to read the color codes on resistors so I just try them all with a multimeter.

Although the website told me to use a 600-ohm resistor, in most cases I just use a 470 ohm. Whatever. If you need a lot of light, you can use as many LEDs in the same fixtures as you like, wired in parallel, but each LED should have its own resistor. You also need a switch. But that's all.

I always solder the components, something I also learned from my uncle. The proper technique was featured in a recent article in *Good Old Boat* (see "Electrical Soldering," May 2015). Heat the wires and let the solder flow. Try to get a heat-shrink tube over the parts so they don't short out when you jam them into the base.





The large hole in the back of the lamp is deep enough to accommodate the nut on the base of the rocker switch as well as the wiring, at top. White heat-shrink tubing protects the connections to the LED to prevent short circuits. The LED is a press-fit in the housing and held firm with a drop of glue, above. Cliff chose the rocker switch for its low profile. He has not yet drilled the holes for the mounting screws, which will go through the thinner side of the block (see main photo).

I used a length of #16 red wire — red for positive (+) — first to the switch, then red from the switch to the resistor. The current draw is so small that almost any common marine-grade wire will get 12 volts to the light without dropping the voltage more than 3 percent.

The resistor is soldered directly to the long lead of the LED. The short arm is soldered to a length of black wire, which goes to ground (-) at the battery. The wires can be any length you like but will be connected, either by soldering or press fitting, to the house-current lead.

There should also be a fuse somewhere in the circuit. My lamp is wired to a #14 house-current pair used only for lighting with a 2-amp fuse at the fuse panel, which is enough to handle all of my LED lights at the same time. The wires can lead out through the back of the lamp into the bulkhead or out the side, as I have done. Either way works.

After a summer's use, I can say this has been a perfect project and should outlast the boat.

Cliff Moore is a contributing editor for Good Old Boat. *His first boat was a Kool cigarettes foam dinghy with no rudder or sail. Many years and many boats later, he's sailing a 26-foot AMF Paceship 26 he acquired and rebuilt after Hurricane Bob trashed it in 1991. He is the editor of a community newspaper.*

Resources

Good news! RadioShack is up and running online:
www.radioshack.com

Online calculators
www.ohmslawcalculator.com/ohms-law-calculator
www.hobby-hour.com/electronics/resistorcalculator.php

Tracing

Track down trouble using logic and the right tools

BY DAVID LYNN

Electrical wiring on a typical good old boat has a tough life. The combination of salt, water, copper wire, and electricity inevitably leads to poor connections, faulty circuits, and corrosion. However, with a little time and persistence, some basic tools, and a plan of attack, it is usually not that difficult to ferret out and correct those pesky electrical problems.

Test equipment

Some electrical problems can be found just by observation; a green corroded terminal or a broken wire, for example, are usually easy to spot. Most electrical faults, however, will require at least a basic inventory of test equipment. My list of test equipment ranges from the simple to the more specialized.

Test lamp – This is the most basic fault-finding tool. A test lamp is quick and easy to use and will help find blown fuses, broken wires, or defective breakers. Connect one wire to the circuit and the other wire to ground and, if the bulb lights, a voltage is present. A test lamp typically costs a few dollars, or one can be easily made by soldering wires to a bulb or bulb socket. If buying a test lamp make sure it is intended for DC circuits — most test lamps sold at hardware stores are designed for household AC circuits and won't light up when connected to 12- or 24VDC.

Inexpensive multimeter – For a few dollars more, typically between $10 and $35, you can purchase a basic multimeter, and no boat should be without one. A multimeter allows you not only to determine whether a voltage is present, but to quantify it as well. For example, is the voltage at the positive power terminal of that flaky VHF 10.5 volts or 12.5 volts? It will also measure DC currents up to about 10 amps and make resistance measurements.

High-end multimeter – The next step up is a multimeter with a DC current clamp. An inexpensive multimeter can measure small DC currents, but the multimeter must be in series with the circuit to do so. For example, if I want to measure the amount of current my refrigerator compressor is drawing, I must remove one of the power wires, then connect one lead of the meter to the wire and the other lead to the terminal. If the current is more than 10 amps, the internal fuse of the meter will blow.

To measure the same current using a multimeter with a current clamp, all you have to do is clamp the current probes over one of the power wires and set the meter to measure DC current. The current clamp is easy to use and will typically measure currents exceeding 400 amps — more than adequate for the circuits on a typical boat. Prices for multimeters with a DC current clamp range from about $40 to $250.

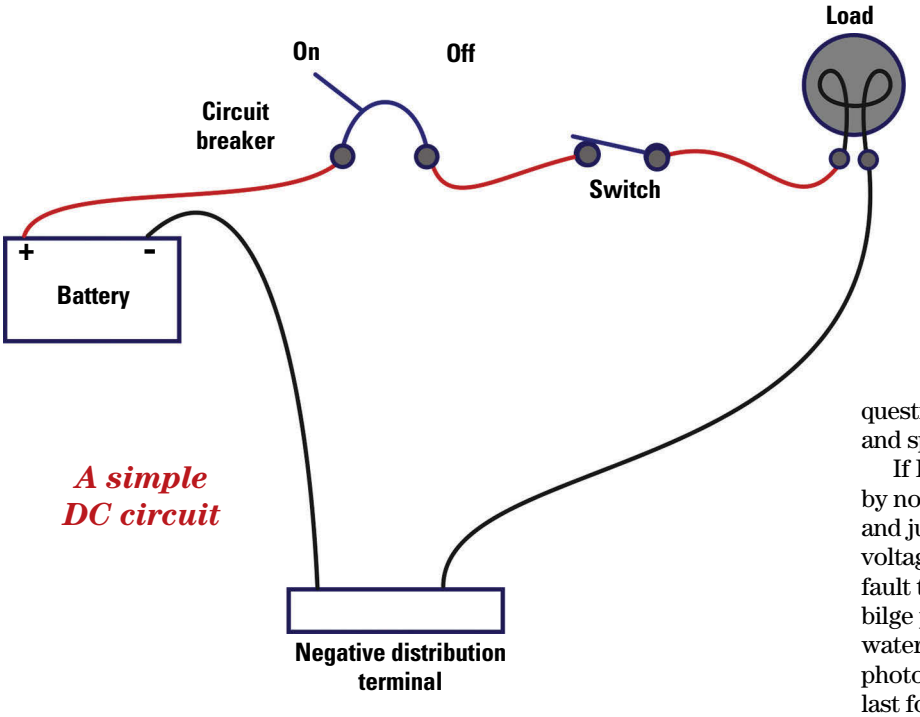
Circuit tracer – This instrument makes it easy to trace wires. It consists of two parts, a tone generator and a probe. The tone generator, when connected to one end of a wire, injects a signal onto the wire that can be detected by the probe. The probe can detect the injected signal anywhere along the wire when it's simply placed close to the wire. It is very handy when trying to trace wires that disappear behind bulkheads or headers or are inside the mast. The instrument can also be used to check the continuity of cables.

The cost of a good, but basic, circuit tracer is around $75. If you decide to buy one, make sure to get a model intended for identifying wire pairs and cable conductors. Most circuit tracers are designed for identifying breakers in household circuits and aren't suitable for shipboard DC use.

Jumper wires – I keep a cache of jumper wires of various lengths, each terminated with alligator clips. The shortest are about 6 inches long, while the longest is about 30 feet.

David measures voltage with a multimeter, top of page. The one he's using has a current clamp that allows him to measure current without disconnecting wires.

DC electrical faults



A simple DC circuit

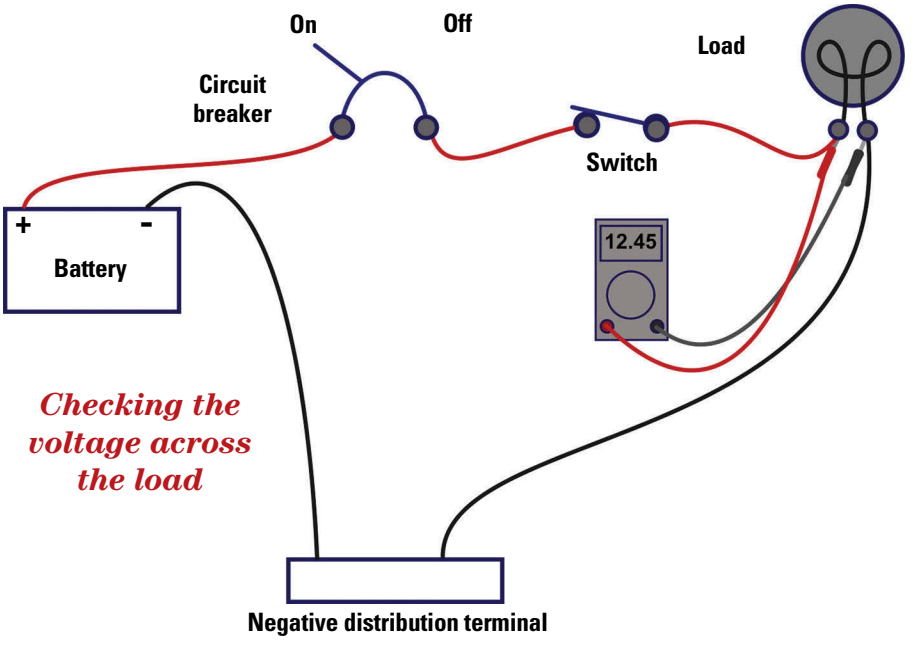
Finding and correcting faults

The diagram above shows a basic DC circuit aboard a boat. A wire leads from the battery's positive terminal, through a circuit-protection device (usually a fuse or breaker), through a switch, and then on to the load, whether it is a lamp, a windlass, or any other electrical device. A return wire completes the circuit from the load back to the negative distribution terminal and then to the battery's negative terminal. In a normal circuit in good condition, when the circuit breaker is turned on and the switch is closed, current flows to the load and the lamp lights up.

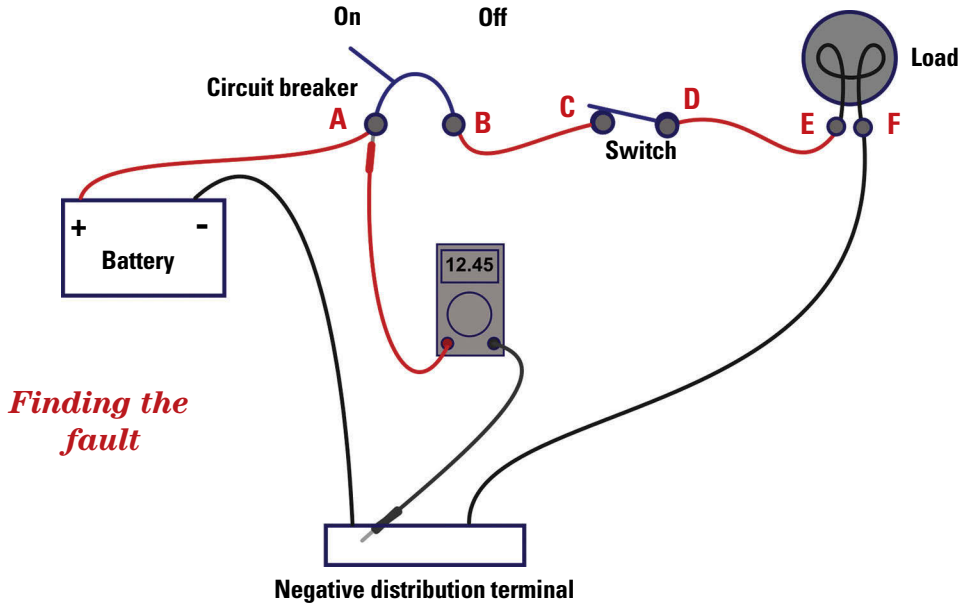
If the lamp doesn't light or the windlass doesn't turn, I have a number of steps I follow to determine the cause of the problem. Before diving in, however, I first think about any clues there might be. Was something recently changed? Have I modified a circuit or added a new one? Do some parts of the circuit work while others don't? I can recall more than one instance when I modified a circuit to add some new gear and inadvertently disconnected something else in the process. Often, the newly introduced problem didn't become apparent until weeks later.

I next check for obvious problems. Is the breaker on? Are there any fuses in the circuit and, if so, are they blown? Are any of the connections corroded or questionable? Do the terminal blocks and splices look good?

If I haven't discovered the problem by now, I get out my trusty multimeter and jumper wires and start checking voltages. A very likely place for the fault to occur is in the load itself . . . the bilge pump has pumped its last drop of water, the LED light has emitted its last photon, or the windlass has hoisted its last foot of chain. I set the multimeter to DC volts and to the appropriate range. Once all the switches and breakers in the circuit are in the "On" position, I measure the voltage across the load as shown in the diagram below. If I measure a voltage close to the battery voltage, then the problem lies in the load.



Checking the voltage across the load



If the problem lies elsewhere, I methodically work my way through the circuit until I find it. The diagram above illustrates the same DC circuit with several test points added. My plan of attack is to check the voltage at each point until I find the fault.

Using jumpers as necessary, I attach the negative lead of the multimeter to either the negative distribution terminal or the negative terminal of the house battery, whichever is easier to access. Starting with point A, I check the voltage between each point and the negative distribution terminal. If I measure a voltage close to the battery voltage at point A, but not point B, I know there is a problem with the breaker. If I see the correct voltage at point B, but not point C, I know the fault lies in the wiring between the breaker and the switch. I continue working my way through the circuit until I find the problem. The only point I shouldn't see a voltage is at point F. If there is a voltage at point F, I know a break exists in the return wire.

Probing the less obvious

In a perfect world, the fault will be readily apparent. If there is no voltage at point D, for example, the switch is defective. A voltage at point D and not point E indicates a broken wire between the two. Sometimes, however, the problem is more difficult to figure out, especially when wiring is hidden.

Many times, I can't access a particular point to measure the voltage. I sometimes use a sewing needle to pierce the wire to make contact with the conductor, then connect it to the multimeter with a jumper wire. When I'm done making the measurement, I seal the hole with silicone caulk.

In some instances, a problem won't be apparent unless there is a substantial current flowing through the circuit. A windlass, for example, has a very high current draw. If the breaker or foot switch has dirty contacts, voltage measurements taken while the windlass is idle may all appear normal. The same measurements taken while the windlass is energized may show a large difference in voltage. The same is true for any device with a large current draw: a refrigerator compressor, starter motor, autopilot drive, and so on. Make sure you measure the voltage while the load

device is energized. On occasion, this may require the assistance of a helper.

I don't look just for the presence or absence of a voltage. If I see 12.45 VDC at one point, and only 11.20 VDC at the next, I know there is a significant voltage drop between the two points. The usual culprits are corroded terminals or wires, or dirty switch contacts. If it is a new installation, another possibility is that the conductors are too small.

Actual circuits on a boat are often more complicated than the one shown in the illustration. There may be one or more terminal strips or splices in the wire path; there may be additional loads, like lamps and fans, on the same circuit; or there may be more fuses or switches in line with the load. As long as I can trace the wiring and approach the fault-finding logically, I can usually find the problem.

David Lynn and his wife, Marcie, have lived aboard Nine of Cups, *their Liberty 458 cutter, since 2000 when they sold up and sailed off. Since that time, they've put over 80,000 nautical miles under the keel and visited more than 35 countries on five continents. Their philosophy of "just a little further" has taken them from the Caribbean, twice across the Atlantic, around the five Great Southern Capes, and across the Pacific and Indian Oceans with lots of stops to explore along the way. They completed their first circumnavigation at Cape Town in 2015, crossed the Altantic in the fall, and are currently "on leave" from* Nine of Cups, *having left her in Trinidad. They blog daily at www.justalittlefurther.com and maintain a website at www.nineofcups.com.*

Resources

High-end multimeter
Mastech MS2108A 400 AC/DC Current Clamp Meter. This is a reasonably priced (about $40) multimeter with a DC current clamp. It's available through Amazon and other sources.

Circuit tracer
Fluke Pro3000 Tone Generator and Probe Kit. This is a versatile tone generator and kit that can be used for testing wire pairs. It's available through Amazon and other sources.

Boatyard awning

A shady, rain-proof whole-boat shelter

BY SHIRLEY CARTER

A few years ago, I spent a rainy season in Trinidad with my boat hauled out while I did a major refit. As most of the work on my old 25-foot Laurent Giles Vertue involved cladding the wooden hull with fiberglass and epoxy, I needed to keep things dry. Because of the intense heat, shade was also a necessity.

Chaguaramas is a popular place for yachts to spend the hurricane season and the boatyards cater to owners who leave their boats on the hard and fly home for the northern summer. Those who can afford it have their vessels professionally shrink-wrapped to protect them from the torrential rain and tropical heat. I had a careful look at how it was done and decided to adapt the technique to my own requirements and pocket. What I needed to do was protect the boat from the weather in a way that allowed air to circulate and also provided enough sheltered area around the boat for me to work outside through the daily rain showers.

The first step was to construct a sturdy framework capable of supporting a weatherproof tarp that would extend 2 feet beyond the toerail all round the boat. It had to give me enough space to stand on scaffolding so I could reach every part of the hull while under the protection of the canopy.

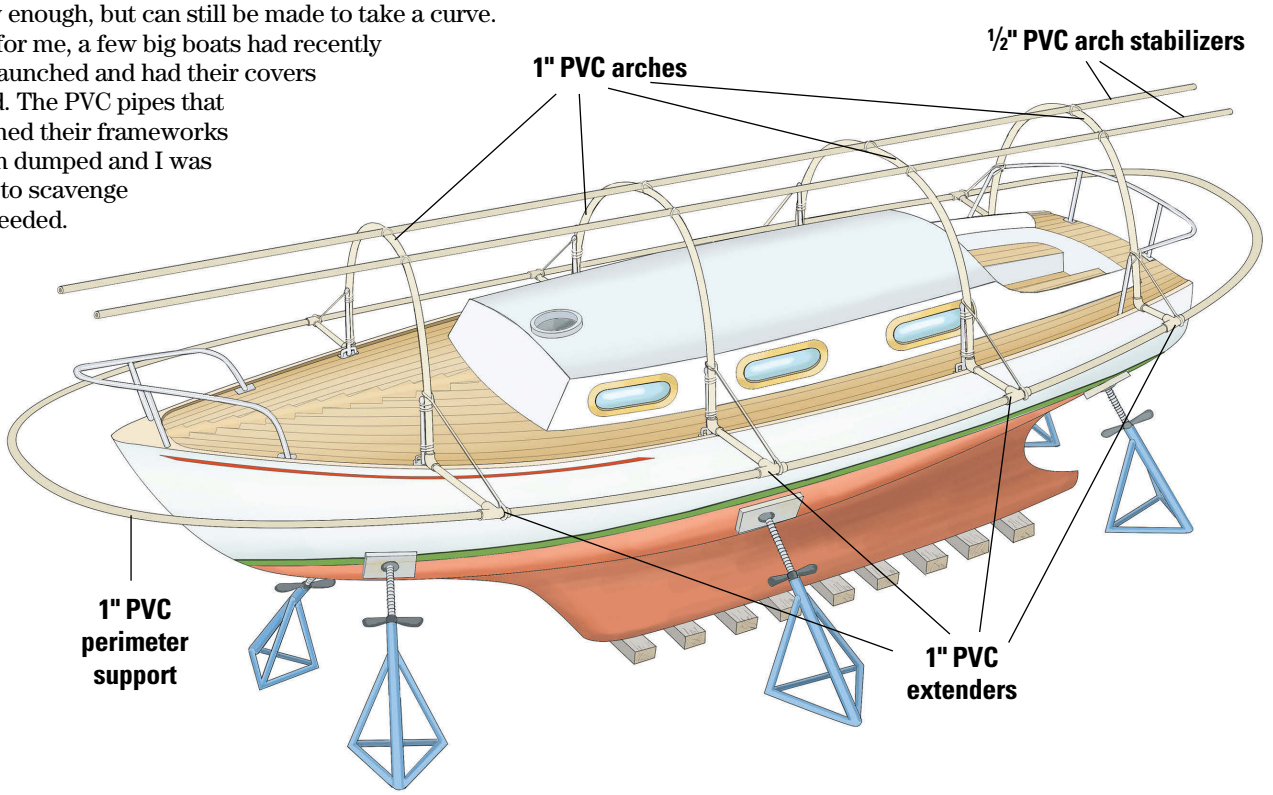
The professionals use PVC plumbing pipe, which is readily available from most hardware stores. The standard 1-inch pipe is sturdy enough, but can still be made to take a curve. Luckily for me, a few big boats had recently been relaunched and had their covers removed. The PVC pipes that had formed their frameworks had been dumped and I was allowed to scavenge what I needed.

An arch design

My 25-foot boat has three strong stanchions on each side. I planned to form an arch of PVC pipe from port to starboard fastened to each pair of stanchions plus an arch at the bow and another at the stern. You could do without an arch at the stern if you have a "goalpost" for solar panels, but you'll still need short uprights for attaching the 2-foot extensions.

I used a salvaged length of ½-inch pipe, which was easier to work with, to form a temporary arch so I could get the height right. From that, I measured how long the thicker pipe would need to be. (On a bigger boat, you may need to join more than one piece of PVC to achieve your desired span.) I used a hacksaw to cut the required lengths and, with some help from a friend, lashed each one first to one stanchion, then formed an arch across the boat and lashed the other end to the matching stanchion on the other side. I used odd bits of line for the lashings, but heavy-duty cable ties might work just as well.

Next, I cut 10 2-foot lengths of pipe (two for each arch), and used 90-degree PVC elbow connectors to attach them at right angles to the hull at the base of each side of the arches. I glued the connectors to the pipes with PVC cement. Ideally, the connectors would rest on the toerail to give them additional support.

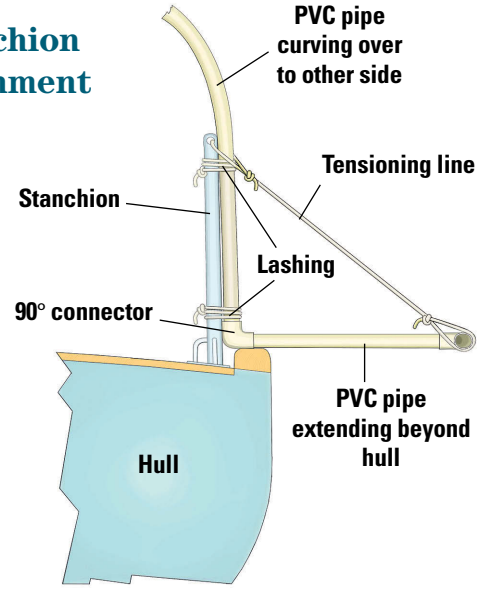


To the outer end of each 2-foot extension pipe I glued a PVC tee, being careful to keep the sockets horizontal. When the glue was dry, I began fitting and cementing the long surrounding pieces of pipe that connected to each of the tees to complete the perimeter support. I found it easiest to measure and cut each one in turn, rather than trying to measure accurately enough to cut them all in advance.

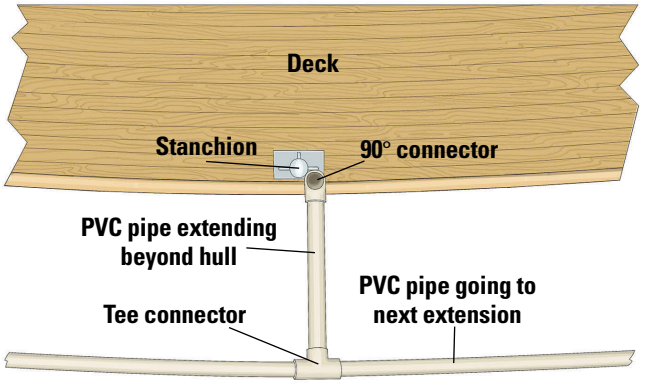
To stabilize the arches and help spread the tarp more effectively, I lashed a length of ½-inch pipe about a third of the way down from the top of the arches on each side, running the full length of the boat. It helped to keep the tarp from drooping between the arches.

ILLUSTRATIONS BY FRITZ SEEGERS

Stanchion attachment



Plan view of stanchion attachment



The water jugs weighing down Shirley's tarp look a bit makeshift, above, but they did their job when the wind blew. The extension created enough room for her to work on the entire hull, below.

Coverup

I could now unfold the tarp and spread it over the framework. If the boat had been standing on unpaved ground, I might have been able to use rope and tent pegs to hold it down and stop it from blowing away. Since it was on a concrete platform, I used string to suspend a 1-gallon plastic container filled with water from each grommet hole along the bottom of the tarp. This, very effectively, kept everything in place, even in strong winds. If you need more than one tarp to cover the framework, you will have to overlap and tape them together to keep things watertight. It's possible to find special tarp tape to do the job, but ordinary duct tape works quite well and is much cheaper.

In the illustration on the facing page, the mast is out, but my mast was actually still up, so I had to cut a hole for it and tape it snugly closed. I also had to accommodate the standing rigging, and that took some patience. This is where the more expensive tape might be worth the investment.

When the boatyard needed to move *Speedwell*, above, workers were able to transport her, awning and all, on the hydraulic trailer. Shirley also transformed *Speedwell* with a junk rig, at right.

I found that, with the heavy water jugs weighing down the tarp, the outer part of the framework sagged too much. To counteract this, I tied a piece of line around each outer tee with a bowline and took it back to the head of the stanchion at that point to tension it. This solved the problem. I left the covering open at both bow and stern to allow for some airflow, but made sure there was sufficient overhang for me to close it if the wind started blowing rain inside. If you're planning a job that will take more than three months, buy the best-quality tarp you can afford, as the cheap variety tends to suffer from UV degradation and starts to fall apart after this time.

Quick and convenient

It took one helper and me only two days to build this awning and it made working under very difficult conditions quite pleasant. As I was living aboard without air-conditioning while doing all this, the awning made a big difference. At one point, when the boatyard management decided to move *Speedwell* to a different spot, it was possible to leave everything just as it was while they used their fancy equipment to transport the whole setup. On another occasion, a very strong wind was forecast as Hurricane Ivan passed fairly close by. All boats in the yard were required to reduce windage by removing awnings. It was a relatively easy job to take down the tarp, leaving the framework intact, and replace it when the danger was over.

Shirley Carter sailed away from Cape Town, South Africa, in March 2002 on Speedwell of Hong Kong, *a 25-foot Laurent Giles Vertue, a wooden boat built in 1952. Two years later, she fiberglassed the hull and converted* Speedwell *to a junk rig. Shirley lives aboard and cruises singlehanded. Her travels have taken her up and down the coasts of North and South America.*

Materials and tools

PVC pipe

- Sufficient 1-inch Schedule 40 pipe in long lengths for the arches and circumference spans.
- To measure for the arches, use a piece of smaller-diameter pipe to make a temporary arch spanning the hull at the right height. You'll need an arch bow and stern and one for each pair of stanchions.
- The length of pipe needed for the surround will be somewhat more than twice the length of your boat. Be generous with your estimate.
- Two 2-foot lengths of matching PVC pipe for the extensions at the base of each arch. (It's possible to buy ready-cut 2-foot lengths, which can save time.)
- Two boat-lengths of ½-inch Schedule 40 PVC pipe to stabilize the arches and support the tarp so it doesn't sag between them.

PVC connectors

- Two 90-degree elbows of the correct size for your pipe for each arch.
- Two tees of the correct size for your pipe for each arch.
- Some in-line couplings for joining pieces to make the right lengths.

Miscellaneous

- PVC cement
- Tarp tape or duct tape for joining tarps together, fitting around standing rigging, and waterproofing the mast.
- Lashing twine or heavy-duty cable ties to attach the pipe arches to the stanchions.
- Extra pieces of line for tensioning the extensions by tying each from its tee connector to the head of its matching stanchion.
- Guy ropes and tent pegs if the boat is on unpaved ground or . . .
- Lots of empty 1-gallon plastic bottles, or similar, to be filled with water and suspended from the tarp's grommet holes.

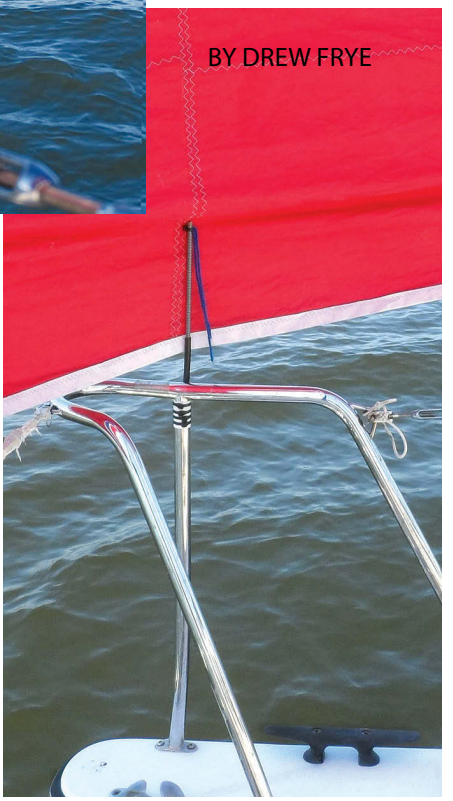
Tools

- Hacksaw
- Scissors
- Tape measure
- Glue brush

AN UNBREAKABLE WIND INDICATOR

As it flies, it defies flailing sheets and flapping sails

BY DREW FRYE



A deck-level windvane can be helpful, far left. The spinnaker rakes back and forth over the vane without damage to either, center. Yarn, plastic tubing, fiberglass tubing, and cable ties are all it takes, above.

A masthead fly is the truest indicator of the apparent wind direction, but it's often obscured by either the Bimini or the sails themselves. Staring up at it, you're distracted from the deck-level view and you'll get a stiff neck into the bargain. Non-sailing crew, in particular, like to see an indicator at deck level while they're hoisting sail or anchoring.

I've tried yarns in the rigging, but they're too close to sails. Commercial vanes mounted on the bow work well on catamarans (either on both bows or under the forestay bridle) and on some monohulls, but they're delicate and prone to breakage. After some trial and error, I arrived at my robust design, which can be buffeted by sails and raked by sheets without harm. Best of all, these wind indicators cost practically nothing.

Five easy steps

1. Cut two lengths of ¼-inch-OD fiberglass tent pole: 8 inches for the upper mast and 5 inches for the support. Aluminum tubing or fiberglass survey wands would do, but tent poles from a kid's discarded tent are best.

2. Cut a 4-inch length of ¼-inch-ID polyethylene airline tubing. Any shorter and it will be prone to kinking when bent over.

3. Press the fiberglass tubing ¾ inch into each end of the airline tubing. If it is not a tight fit, secure it with polyurethane caulk.

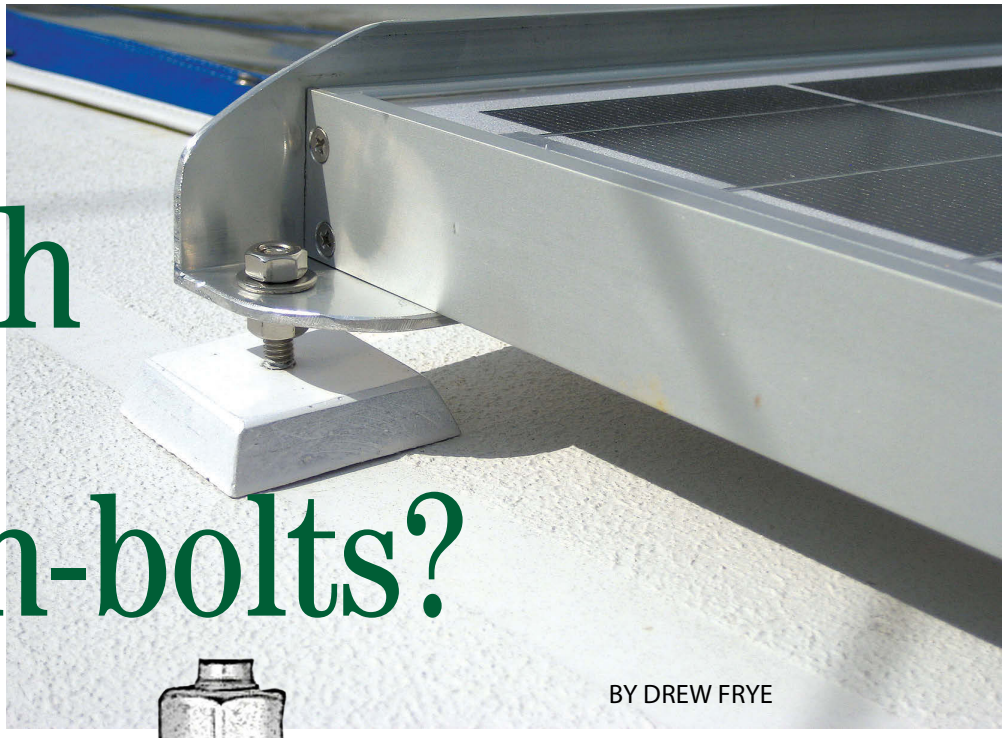
4. Lash or clamp the lower end to the railing or other support. Keep the lower fiberglass tube flush with the top of the railing, or sheets will hang up on this rigid portion. Wrap the railing with athletic tape under the lashing or clamp to add friction and prevent slippage.

5. With a small cable tie or a lashing, secure a 12-inch length of acrylic or polyester yarn to the top, doubled.

We've never broken one of these makeshift windvanes despite 10 years of trying on two boats. We renew the cable ties and yarn from time to time, but the vane has proven unbreakable.

Drew Frye cruises Chesapeake Bay and the mid-Atlantic coast aboard his 34-foot catamaran Shoal Survivor, *searching for out-of-the-way corners known only by locals. A chemical engineer by training, 40-year climber and 30-year sailor by inclination, he brings a mix of experiences to solving boating problems and writing about his solutions.*

Through with through-bolts?



BY DREW FRYE

The gold standard for secure mountings on boats has always been to use through-bolts, with a backing plate if the loads justified it or the skins were thin. But what if the opposite side is not accessible, if it means drilling through the topsides, or if you would simply rather not expose a cored structure to the risk of moisture absorption? The answer can be an engineered glue-on surface mount.

Case 1 – Solar panel mounting

We wanted to mount solar panels on the hard top on our catamaran. The mounting system needed to accommodate the compound curve of the hard top, allow for the panels' easy removal, and provide ventilation beneath the panels. Because the hard top is cored, we really wanted to avoid drilling holes. Our solution was to build four mounting "feet" from precast fiberglass (FRP) sheet and stainless-steel bolts. We also like knowing that, should we ever change panel sizes, we can grind the feet off without leaving holes.

Procedure

Before working with it, scrub the precast FRP with TSP (trisodium phosphate) to remove any amine blush or mold release. Scrub the stud material (bolts or threaded rod) to remove any lubricant. Laminate the FRP to ½-inch thickness, about 2 x 2 inches square, and allow it to cure. We used two layers of ¼-inch plate, since it was what we had. Testing has shown that a ¼-inch bolt will break before stripping the threads in ¼-inch FRP.

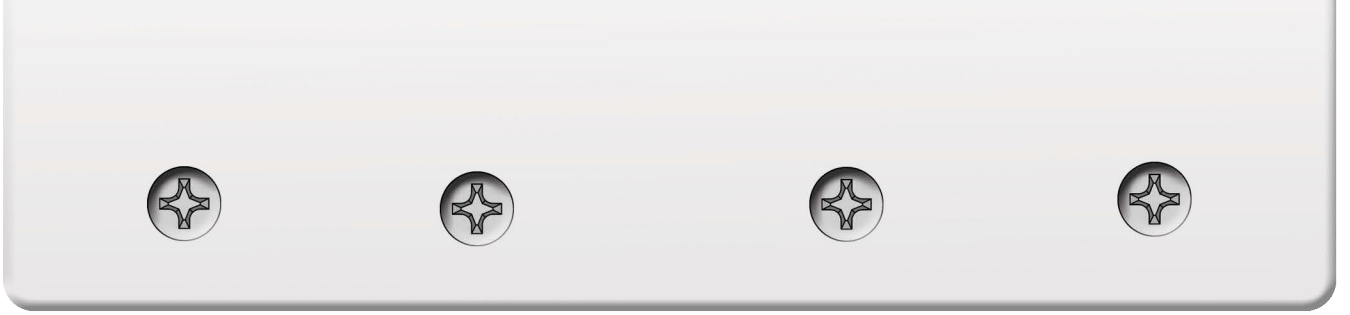
Tap the FRP squares for ¼ x 20 bolts. Epoxy the bolts (heads removed) and thread them into the holes until about ⅛ inch protrudes from the bottom side. Carefully wipe any epoxy from the upper end.

When the epoxy has set, grind the edges of the feet smooth and bevel them to suit your eye. Grind the bolt flush where it protrudes from the bottom. Scrub the feet to remove amine blush, and apply your preferred finish to the surfaces that will be visible.

Attach the mounting feet to the panel frame using double nuts so you can adjust the height. We made a strong, simple frame with two lengths of 2 x 2 x ⅛-inch aluminum angle.

Dry fit the frame with the feet attached, mark and sand the mating areas, then bond the feet in place with thickened epoxy. (We used fumed silica.) The weight of the solar panel provides sufficient clamping pressure but the panel might try to slide off a

The solar panel is fastened to a glued-on pad with an embedded bolt, at top. Over-and-under nuts allow the panel's height to be adjusted. Drew made the pads from precast fiberglass, tapped threads into them for the bolts, middle, then threaded and glued the bolts into the pads and ground them flush on the bottoms, at left.



Surface mounts step in where holes are not welcome

The only place Drew could conveniently mount hooks in *Shoal Survivor*'s sail locker was on the inside of the hull, at left. Not wanting to use through-bolts, he used a glued-on surface mount. Drew has a silica gel filter on the vent to his gasoline tank. He couldn't reach the back side of the bulkhead to use through-bolts so he mounted the filter to an FRP plate and bonded the plate to the bulkhead, at right.

sloping or curved roof, so use spacers or ropes to prevent that.

Case 2 – Rope hooks

We needed hooks in our sail locker to tidy up a mess of sailbags, docklines, and bridles. However, we couldn't drill holes for hooks since there was no reachable bulkhead and we did not want ugly through-bolts in the hull. The hooks needed to be strong enough to hold a sailor, since we sometimes jump into the locker and it's easy to get a foot inside a coil. Again, the solution was a glued-on surface mount.

Procedure

Cut a precast FRP mounting plate to shape, beveling the edges as appropriate, and apply your chosen finish to the visible surfaces. Fabricate hooks from ⅛ x ¾-inch aluminum strip. We bent these around a mandrel formed by two pieces of ½-inch rod clamped in a vise. Bend and radius the edges so ropes can be held securely but sailbags will not catch easily.

Mount the hooks to the plate with screws or through-bolts. We used sheet metal screws and ground the protruding points flush. Drill and countersink holes around the perimeter of the plate. Our hull is thick enough we could use very short screws purely to provide clamping pressure while the epoxy cured — they provided little structural strength. We could have held the plate in place with tape or other clamping means, but short screws made for a neat job that was finished when the last screw went in.

Sand the mating surface and mount the plate with thickened epoxy. If you believe you may remove it someday, use 3M 4200 or Loctite PL S40 polyurethane. Finish as desired.

Case 3 – Filter mounting

This was much like the hook mounting, except we used flat head bolts threaded in from the back side and epoxied in place. We've mounted four filters this way: carbon holding-tank vent, silica gel gasoline-tank vent, AC raw-water intake, and head raw-water intake.

Permanent or temporary

This no-through-bolt technique has countless applications, and most of the fabrication can be done in the shop, which is always an advantage. The keys are to provide sufficient bonding area for the reinforcement plate and for the precast FRP to be thick enough to hold the fasteners. Without making a new hole in your boat, you have added a strong point that will last as long as the boat but can be ground or pried off when it's no longer needed.

Drew Frye's bio can be found on page 31.

Resources

Structural fiberglass sheets are available from McMaster-Carr. A ¼ x 24- x 24-inch sheet (Stock No. 8537K45) lists for $69.
www.mcmaster.com

Higher grades can be used if extreme strength is needed. Garolite G-10, for example, is also sold by McMaster-Carr ($119 for the same size sheet) and other suppliers.

3M 4200 and Loctite PL S40 can be found at home improvement stores.

DINGHY DRAMA

Fatigue, false steps, and a child adrift

BY ALAN LUCAS

A cheap plywood sailing dinghy built on deck in the lagoon at St. Martin gave Ben the knowledge to manage his own small boat, yet an empty aluminum dinghy could have taken his life in the Bahamas.

After four days of the most uncomfortable seas in our entire world circumnavigation, we arrived at the island of Great Inagua, Bahamas, in half a gale of renewed trade wind. It was May 1986. Once we'd anchored in company with our American buddy boat in the open roadstead of Matthew Town, both exhausted crews were obliged to clear customs before catching up on days of lost sleep.

While we were launching our aluminum dinghy and securing it off the stern, our neighbor zoomed over in his big outboard-powered inflatable to suggest we all go ashore with him. His motive was sound. The idea was that more people in one tender would make it easier to quickly carry it ashore after passing through the surf line. Formalities over, my wife, Patricia, our 8-year-old son, Ben, and I returned aboard lightheaded with exhaustion and hit the sack, all of us falling asleep instantly . . . or so we thought.

In our weary haze, we hadn't properly considered the energy of children, nor the urgency with which they need to socialize after periods of isolation. Ben, a normally obedient lad, was tired, but couldn't resist an invitation to play with his newfound mates on the buddy boat. While Patricia and I slept, he left his bunk, jumped into the empty dinghy, and cast off, forgetting that it was without oars, oarlocks, bailer, or any accoutrements whatsoever. He was suddenly alone in an empty shell scudding away with the trade wind.

On waking hours later, the sun by then drowning in a lumpy, gust-torn horizon, we were horrified to find Ben and the dinghy missing. Blind panic gripped us as we immediately started winching in the anchor cable to chase after him while trying not to think of how lonely and abandoned he must feel. Knowing Cuba was only 60 miles downwind offered no comfort to us at all.

With our sails rattling in anticipation of the anchor breaking out, Patricia heard a distant call and — for the first time in our panicked state — we looked across to our buddy boat where four lads were madly waving. The oldest of the three boys there had seen Ben's predicament and went after him in the inflatable. We were weak with relief and gratitude, but managed to mask our concern with a simple thanks and a mild rebuke to Ben for casting off in an empty dinghy. It was a reminder that parents only *think* their advice and warnings about life are seriously considered, forgetting that kids have their own priorities until they begin to absorb and appreciate the wisdom of their elders.

Passage weary

The core problem, of course, was me. I should have equipped the dinghy immediately after launching it or, considering the strong trade wind, hoisted it back aboard before joining our neighbors to clear customs. Exhaustion and an addled mind masked common sense to produce a situation that no parent ever wants to consider.

On our passage from Puerto Rico to Great Inagua, pyramiding waves had thrown *Tientos*, our 16-ton 47-foot ferrocement cutter, every which way for days on end. There was rarely enough wind to hoist any stabilizing sail and the engine had rebelled by shearing off two of its mounting bolts, thus restricting itself to idle speed. Into this mix were added periodic severe thunderstorms that further messed up an already unruly sea. I suspected we might have been on the outer fringes of a major storm system, and even wondered if this was normal when close to the fabled Bermuda Triangle.

Tragically, part of my suspicion proved painfully correct. We later heard that the beautiful American replica, *Pride of Baltimore*, had foundered with the loss of four lives a little

Alan and his family had socialized with the crew of the beautifully maintained and managed replica, *Pride of Baltimore,* in Gibraltar in 1985. She foundered in the weather system that created the uncomfortable conditions Alan and his family encountered on passage to the Bahamas.

more than 200 miles northeast of our route. We had socialized with her crew in Gibraltar the previous October, so the news hit us hard. We found it doubly difficult to believe that such a large well-run sailing ship was really gone forever.

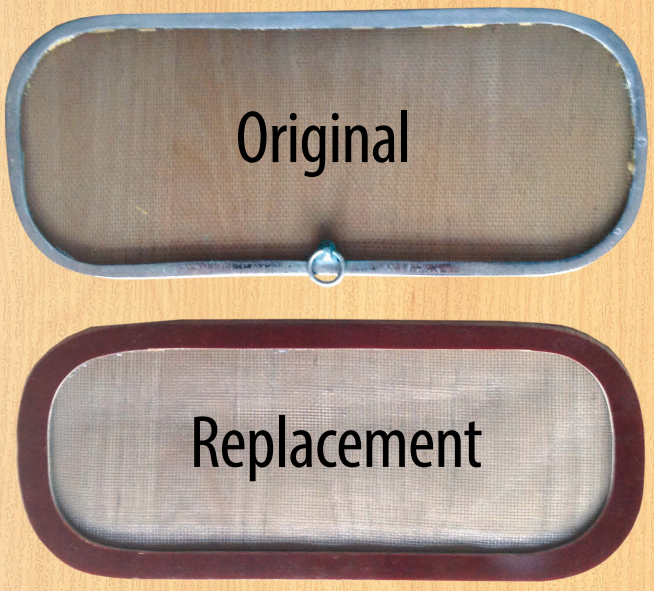
Because the edge of the same storm caused us nothing more than discomfort, we considered ourselves very lucky to have dodged the bullet, and to this day the fate of *Pride of Baltimore* still looms large as a stark reminder of how close we came to losing our son.

Alan Lucas, an Australian from New South Wales, has been cruising for more than 50 years, primarily south of the equator. In addition to many magazine articles, he has written 17 do-it-yourself books and six cruising guides.

Bugs away!

Replacing tired or truant screens in old opening ports

BY ART HALL



Your boat may be fortunate enough to have been built with quality cast-aluminum or, even better, cast-bronze opening ports. The nicest ports have heavy safety glass lenses that stay clear and, short of needing new gaskets from time to time, are just as functional and beautiful as they were when new. It's probably safe to say that, when new, all these ports came with insect screens. By now, those screens are probably torn, damaged beyond repair, or lost.

If you're lucky, replacement screens will still be available from the manufacturer of either the boat or the ports. More likely than not, though, your boat's maker is long gone, along with the maker of the ports, and you must forgo opening your ports on hot and buggy nights. You have little choice then but to make your own new screens. This is a fairly simple project that won't break the bank.

Art's new screen, at top, began as a sheet of Garolite, above left. After tracing and cutting the shape of the original, he fine-tuned the outside edge on a stationary sander, above right, then test-fitted it in the port before cutting the inside edge, at left.

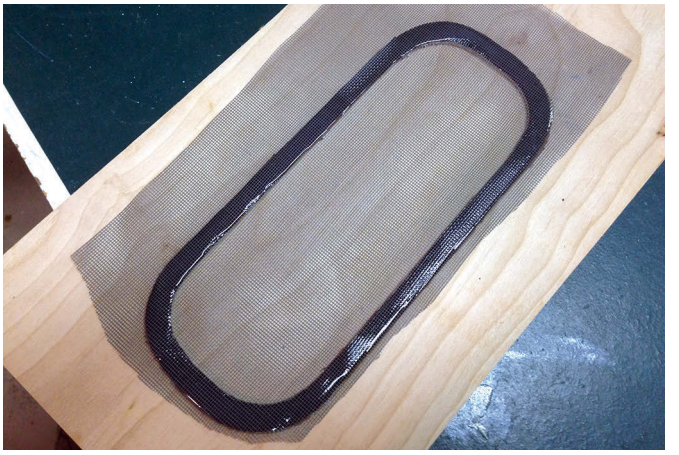
Frame and screen choices

Make the frame from a light and rigid material that's easy to work with. I purchased a 12- x 12-inch sheet of ⅛-inch-thick machinable Garolite (LE) from McMaster-Carr. I was lucky that my port opening was exactly 12 inches wide so the 12 x 12 size was perfect for making two 12- x 5-inch frames. Larger sheets are available if your ports are larger. Originally known as Tufnol, this material was used for making the shells of early lightweight blocks that owners of boats built in the 1960s will remember.

If you have a surviving screen, as I do, you're in luck. Just trace the outside perimeter. Otherwise, you'll have to make a pattern by trial and error. After roughing mine out, I fine-tuned the shape with the help of a stationary edge sander. It took several trips between the shop and the boat to get a perfect fit. (This was fairly easy for me as *Secret Water* spends her off-season in my shop surrounded by tools.) At this point, you'll have a solid fitted piece. You could quit right here if you wished to make a set of blackout panels for running at night or sleeping late.

I decided a ½-inch-wide frame would work well. The original cast-bronze frames were narrower but, with the Garolite, the little extra width helped make the frames more rigid.

Art cut the inside edges by laying the blank on the saw table and carefully raising the saw blade, above left. He cut the inside corners with a hole saw, above right, and trimmed them with a drum sander, below left. The screen is glued in place with silicone, below right.



After placing the material on the saw table in just the right spot, I very carefully raised the saw blade to cut the long runs. This technique creates a nice straight inside edge. Next, I roughed out the inside corners using a hole saw chucked up in the drill press. I did the final fitting with a drum sander in the drill press. With some fine sandpaper, I knocked off the sharp edges and scuffed up the side to which I would glue the screen.

Fiberglass, aluminum, stainless steel, and bronze screen materials are all available from McMaster-Carr. All have their pros and cons. I chose fiberglass because, well, I had some already. I installed it simply by stretching it over the frame with the abraded side up and tensioning it slightly with pushpins. I made the bond using Permatex Flowable Silicone Windshield & Glass Sealer, which is sold in small tubes at auto parts stores. It works very well as an adhesive in this application because it flows on so well: just let a bead flow onto the screen. When it has cured, trim the screen to suit. The final product is not quite as firm as one made of aluminum or bronze, but it fits and functions very well as a suitable replacement.

The last challenge is how to keep the screen in place. This will vary between designs. On my cherished Allied Seabreeze 35, each bronze port frame has four small pins: two across the top and two across the bottom. These serve to keep the screen from falling out. My new screens are held in place by a friction fit aided by the little bit of silicone that oozed over the edges. Depending on the design of your ports, you may have to get creative.

Coastal Maine cruising may not be famous for hot summer nights, but we can grow mosquitoes with the best of them. Standing by to repel boarders!

Resources

McMaster-Carr stocks Garolite in a range of sizes and thicknesses and insect screen in a variety of materials.
www.mcmaster.com

Permatex Flowable Silicone Windshield & Glass Sealer is sold at auto parts retailers.

Art Hall, his wife, Sandy, and their not-so-inclined-to-sail Pekingese, Kitri, can be found sailing their 1975 Allied Seabreeze 35, Secret Water, *on Penobscot Bay, Maine. Occasionally they'll push way Down East in search of solitude. Art enjoys the challenge of keeping a good old boat going strong from season to season, decade to decade.* Secret Water *turned 50 years young last summer and is now on her way to a century.*

Building

BY CONNIE MCBRIDE

Our 1978 Creekmore, *Eurisko*, had her original interior when we purchased her. After 14 years of cruising and raising three sons aboard, we could no longer deny that she, and we, deserved new cushions. Though we had been compiling criteria for the perfect replacement fabric for many months, in the end, we decided that the best materials to use were those we could find.

Our primary concern for the fabric was that it be durable. The original cushion covers appeared to be an automotive upholstery fabric and had worn remarkably well. Sunbrella is a popular material for re-covering cushions, but we are not impressed with how it feels, the available colors, or the price, and therefore chose a less traditional route. We wanted to be able to touch the fabric before investing in it, so we shopped in person at a large nearby warehouse.

There are several considerations when choosing interior cushion fabric. Color and pattern are of equal importance. A light color will show dirt and stains more easily than a dark color, but depending on the interior of the boat, a dark fabric may make the interior seem like a tomb. We're fortunate that our boat's builder used light woods and our hatches provide an enormous amount of light, so we can use dark fabrics with no ill effect.

Though it is said that stripes and some patterns can induce or exacerbate seasickness, it's not a good idea to choose a "flat" color, especially if you have a large settee to cover. Fabrics with no variation fool the eye, making objects look two-dimensional. Even a small change in color or weave gives a cushion "depth," making it look more cozy and inviting. It's important to take this variation into account when figuring the amount of cloth to buy, since you may not be able to use the fabric "sideways."

Materials and methods

We measured and made patterns for the four cushions to be covered and chose a fabric for the top and boxing and vinyl for the bottom. Boxing is the strip of fabric that runs around the edge of every cushion between the top and bottom panels. Some cushions are finished with piping, a thin fabric-covered cord sewn around the top and bottom panels. Our original cushions had piping but I found this uncomfortable when using them as sea berths, so we opted to topstitch them instead. The topstitch we chose looks professional, is more comfortable on the backs of our legs, and is much easier to sew.

For the fabric, we chose a navy tweed used in automotive interiors. It has enough variation in the weave to give it texture and depth. The matching vinyl is sold as suitable for all outdoor use. This is important since winter in northern climes occasionally brings us condensation.

Foam is available in different densities, thicknesses, types, and sizes. We had measured the thickness of the original cushion foam, keeping in mind that it breaks down and "shrinks" a bit

***Eurisko*'s new navy cushions brought a fresh look to the saloon settee and dinette and made life aboard more comfortable.**

settee cushions

At bottom, it's a matter of technique and good planning

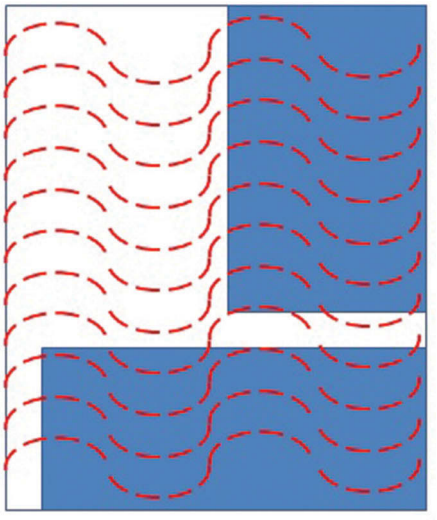
over time. For this reason, although our cushions measured just over 2 inches thick, we bought 3-inch foam. For sitting areas, a density or firmness of 50 to 60 IFD (Indentation Force Deflection) is recommended.

We expected to buy a large sheet of foam from which we would cut all four cushions, but our calculations showed that we would need a little over one full sheet. Smaller rolls were also available, so we bought three 24 x 82-inch rolls of foam for interiors. We bought a quarter pound of black V-92 thread, the fabric, vinyl, and foam from the same warehouse. The total cost: $350. All we had to spend now was time.

Patterns

Because he had worked for years in a canvas shop, my husband, Dave, was familiar with patterning cushions, though he had never built a set. We used a roll of kraft paper (found in the postal section, rather than the craft aisle, of some stores) and a Sharpie to make our patterns for the settee and three dinette seats.

Dave left at least ½ inch of paper on all sides of the patterns. The reason for this became obvious later. He cut oversized pieces of paper off the roll to make them easier to handle, then laid each piece flat and placed a cushion on it. With a Sharpie, he carefully marked the angles at each corner of the cushion and made a series of marks along each edge several inches apart. He pointed out that, even if you know a line is going to be straight, it is nearly impossible to draw a perfectly straight line while making a pattern. Besides, we were marking the size of the current cushions rather than the new ones that we would be covering.

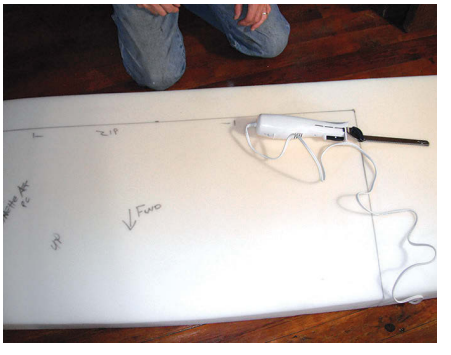


We carefully labeled each pattern piece with orientation notations: UP, FWD with an arrow, OUTBD with an arrow, PORT/STBD (if necessary), ZIP to indicate where the zipper would be, and any other information we'd need later. Indicating the zipper placement is easy to do *in situ*, but once you have the pattern paper laid out on the floor, 50 miles from the boat, it isn't always as easy to picture. It's best to write it down.

Dave laid each pattern flat and, rather than connecting the marks, drew the shape ½ inch bigger on all sides. He did this because, to ensure that the foam continues to fill the cover even after it starts to deteriorate, it is cut 1 inch longer and 1 inch wider. This is more easily accomplished by adding ½ inch all the way around the pattern. This ½ inch also represents the sewing allowance for hems, so the patterns used for the foam will also be used to cut the fabric and vinyl.

Cutting the foam

Once we had cut the patterns out along the "½-inch too big" line, we could arrange them this way and that way on the foam to see how to cut all four cushions out of our three pieces of foam before we marked anything. While



Dave's pattern, top left, shows the marks he made around the foam and the "½-inch too big" line where he is cutting. A pattern cannot be used "sideways" on fabric that has a directional pattern or weave, lower left. Dave has found the best tool for cutting foam is an electric carving knife, above.

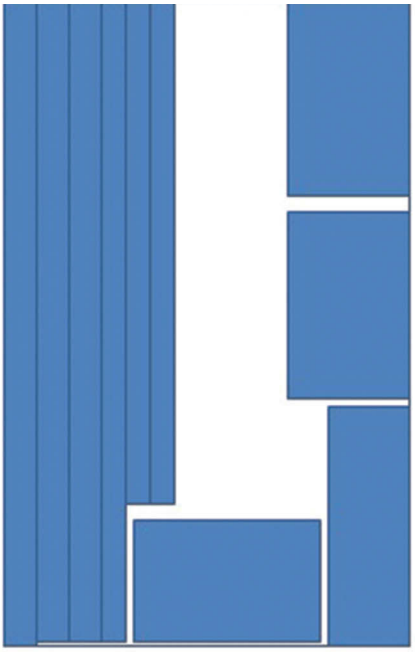
When cutting the foam, Dave was careful to hold the knife perpendicular to it, far left, and ended up with nice, crisp corners, at left.

arranging these patterns, we knew that a pattern can be turned upside down on the foam for a better fit. We would not be able to do this with our cloth or vinyl fabric. Where possible, we aligned the edge of a pattern with the edge of the foam to reduce the amount of cutting.

Dave marked the corners and several spots along each edge on the foam sheets, then used a Sharpie and a long straightedge to connect the marks. Though a Sharpie bleeds a bit on foam, it's more important to be able to see it very well when cutting than to have a thin line to follow. We transferred all the identifying marks to the foam before cutting it out: UP, FWD, PORT, ZIP, OUTBD. We added $11 to our investment when we bought an electric carving knife to cut the foam. Although a specialized tool exists for cutting foam, Dave has never found anything that works better than an electric knife. He was careful to hold the knife perpendicular to the foam for a square edge.

Vinyl and cloth

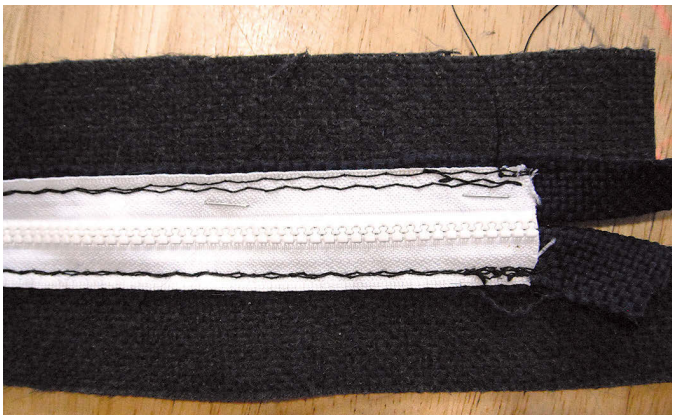
After cutting the foam, we proceeded to the vinyl. In order to be able to mark it without worrying, we placed the vinyl *good* side *down*. Because the vinyl will be the bottom of the cushion, we used the patterns *good* side *up* on what is essentially the back side of the vinyl to mark it. (This is easier to visualize if you imagine there is foam between the pattern and your upside-down vinyl.) If you have the space, it's best to lay out all the patterns on the fabric so you can be certain that you have enough material. Our space was too small so we relied on the accuracy of our measurements.

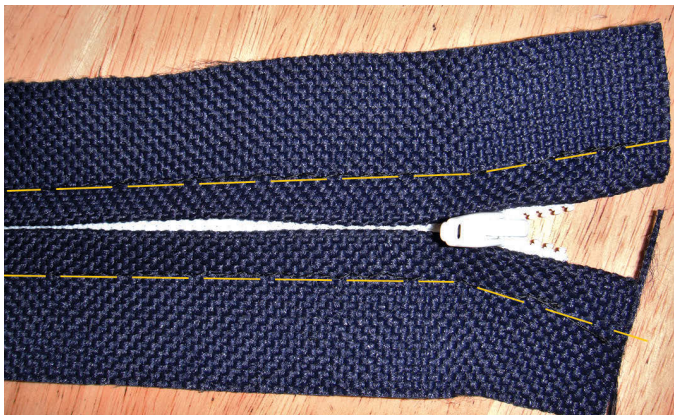


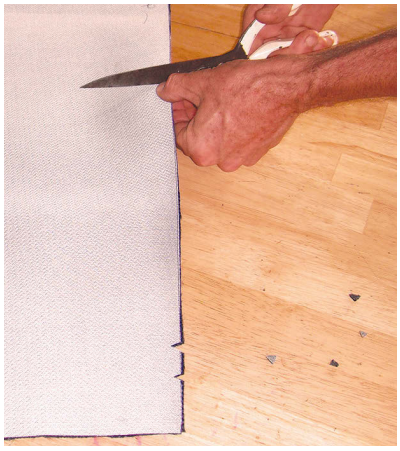
Because there was no repeating pattern on our vinyl or cloth, we were able to turn our fourth pattern 90 degrees from the others to reduce the amount of material we used. As we did with the foam, we placed the patterns along the cut edge of the vinyl when possible, marked the corners and a few places along each edge, connected the lines with a straightedge, and transferred all the identifying information to the back of the vinyl.

It's best to tape the pattern to the material, but not at the corners of the pattern, since it's important to mark those corners accurately. We found that tape did not stick well to the vinyl or the cloth, so we had to copy the pattern very carefully. Depending upon your fabric, you may want to experiment with different writing instruments to

Dave and Connie laid out the patterns on the fabric in a way that left material for long lengths of boxing, above center. Dave laid the vinyl good side down so he could mark around the patterns on the back, at left, then connected the marks with a straightedge, at right,







After sewing the zipper to the boxing, top left, Dave topstitched (highlighted in yellow) along the front of the zipper boxing, top right. He lined up the top and bottom pieces and cut notches so he could align them later, far left. He then sewed the zipper boxing to the top piece, at left.

find what will mark best. On our vinyl, a ballpoint pen left a clean thin line. A white fabric pencil showed up best on the dark fabric.

We repeated the process with the cloth, with the *good* side *down* so we could mark on the back. This meant that we had to put the pattern's *good* side *down* as well. When deciding how to position the patterns on the cloth, we left lots of room for cutting the long strips of material that would be used for the boxing.

Boxing

At this point, Dave's memory failed him and we consulted some reference material. Don Casey's *Canvaswork & Sail Repair* has an excellent section on building cushions, including the trick for determining the width of the boxing.

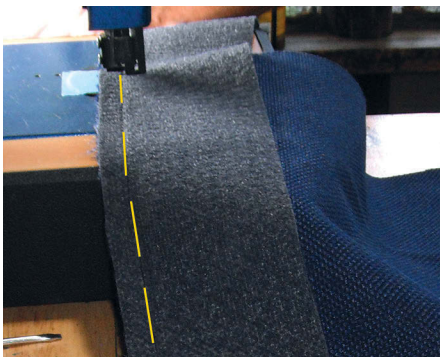
The boxing can be made of the same material as the top or the bottom of the cushion. The boxing around our original cushions was vinyl. Years of creasing it to fold the cushion back as we accessed the lockers underneath had cracked it, leaving sharp edges against the backs of our legs. We decided to make our boxing out of the cloth.

Because the foam will eventually shrink, we wanted 2¾-inch boxing for our 3-inch cushions. After taking into account a ½-inch sewing allowance on each side, our initial boxing measurement ended up ¾ inch wider than the thickness of the foam. For the boxing length, we measured the circumference of the four cushions minus the part where the zippers would be and rounded up to be sure we had enough.

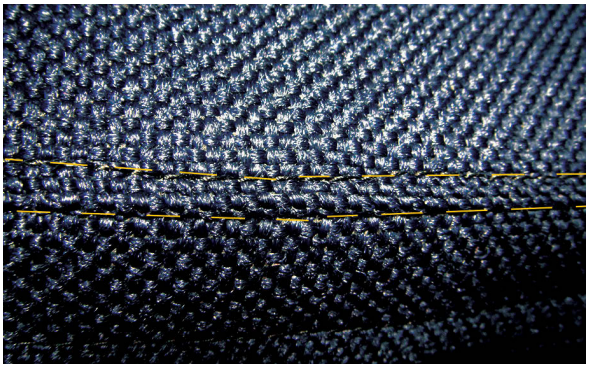
Next we had to determine the size of the boxing where the zippers would be. This boxing will be a different width because each zipper will have a hemmed and finished edge that will enclose and hide the zipper itself. For a common zipper width of 1¼ inch, making the boxing 1 inch wider than half the thickness of the foam gives you the additional cloth necessary to cover the zipper.

Since we had 3-inch foam, our zipper boxing was 1½ inch plus 1 inch, a total of 2½ inches wide. (Another popular-sized zipper is 1½ inch. In this case the boxing would be 1⅛ inch wider than half the thickness of the foam.)

We added the lengths of the four zippers and doubled it, since there would be cloth on both sides of each zipper: toward the top of each



Notches in the boxing at the corners, at left, made it easier to sew the corners, at right.



Dave folded the extra boxing under the zipper boxing, above left, then laid the zipper boxing on top, above right, and sewed through all the layers, at right. He finished with topstitching (highlighted in yellow) to add strength, lower right.

cushion and also toward the bottom vinyl. Our measurements showed that we needed 432 inches of 3¾-inch boxing and 354 inches of 2½-inch boxing. Since our fabric for cutting the boxing was 180 inches long, we cut three strips of each width to be sure we had enough.

Sewing the boxing

It was time to set up our sewing area. From experience, we knew that it's best to have a long, flat surface to the left of the machine when sewing large items like cushion covers, so we put the sewing machine on a dining room table. It is possible to put the machine on the floor to sew and some prefer it that way, but it's important to us to be comfortable in order to sew a long, straight line.

We used our Sailrite machine for making the cushions, but since a project like this involves sewing fabric and vinyl, rather than multiple layers of heavy sailcloth, most sewing machines will do the job. When I built our V-berth cushions 14 years ago, I used a 1940s-era Singer bought at a yard sale for $1.

We first sewed the zipper boxing strips to the zipper, *good* side to *good* side, aligning the edges. With certain materials, basting tape will hold the two pieces together, but our tweed was too rough, so we used staples instead. After sewing each strip to the zipper, we flipped the fabric over, leaving the appropriate amount to cover half the zipper, and topstitched along the same line. It is best to leave the two halves of the zipper together so they are guaranteed to line up. If you have measured and sewn correctly, the finished boxing with the zippers in it will be the same width as the other boxing.

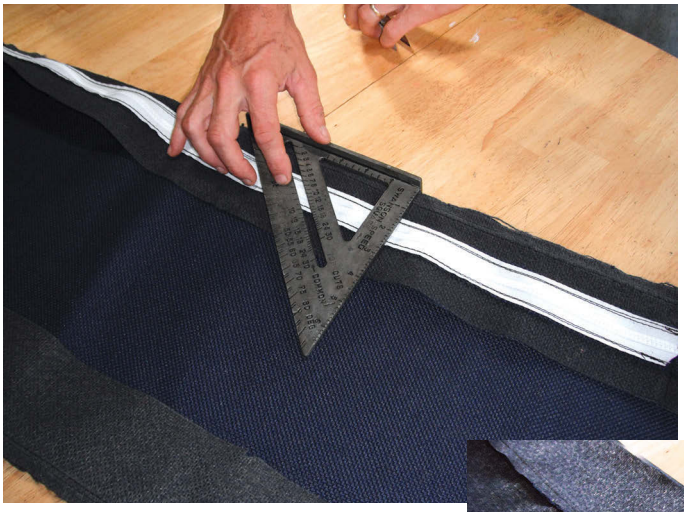
Once we had sewn the finished zipper boxing to a length of regular boxing, we had a strip much longer than the circumference of our cushion. To be sure he had enough fabric in each strip of boxing, Dave did not cut off the extra length until he neared the end.

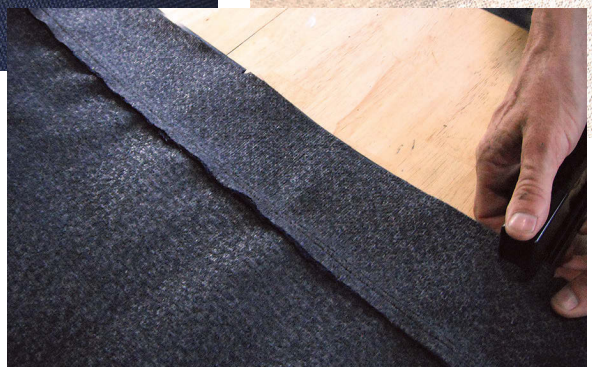
Boxing to top

Next, Dave placed the top and bottom of each cushion *good* side to *good* side and cut a few small notches in several places along the edges. He would use these notches later to ensure that he had not built a twist into the cover.

He centered the zipper boxing along the cushion's top fabric, placing the boxing and fabric *good* side to *good* side and verifying that the identifying marks (FWD, OUTBD, etc.) agreed. Though you can sew either the top or the bottom first, Dave chose to sew the top to the boxing first since he would be topstitching the top panel but not the bottom. (If he had sewn the bottom section to the boxing first, topstitching, especially the corners, would have been nearly impossible.) With the zipper closed, he started sewing at the zipper pull, then along the back edge of the cushion, sewing the zipper on first.

Corners are the trickiest part to sew if you want professional-looking results. Dave remembered to cut notches into the boxing to ease the fabric hem where it would round the corner. His trick was to sew to within 1 inch of the corner and stop. Then he turned the material about 30 degrees, hand-cranked one stitch, turned it 30 degrees a second time, hand-cranked another stitch, and turned it 30 degrees a third time. At this point he had rounded the corner and could continue sewing along the next straight edge.





Dave transferred the notches from the top fabric to the boxing, above left, then aligned those notches with those on the bottom, above right. As tape would not stick to the fabric, he stapled the boxing to the bottom, at left. A finished cushion, lower left.

Covering the zipper

When he had completed the circuit, sewing the boxing completely around the top piece, he left the boxing long so he could make a small flap to cover the end of the zipper. He folded over the extra length of fabric and placed it under the zipper boxing. Then, with all the layers flattened, he continued sewing until he overlapped where he'd begun.

The next step was to topstitch the top of the cushion, running a line of straight stitches ⅛ inch from the outside edge of the cushion top. As he did this, Dave pulled the top fabric firmly away from the boxing while he sewed through the top fabric and the sewing allowance (or hem) fabric underneath. This strengthens the seam and leaves a professional-looking edge that's comfortable to sit on.

Sewing on the bottom

With a square, Dave transferred the notches from the top of the fabric to the edge of the boxing that would be sewn to the bottom. These notches need to be aligned when sewing the boxing to the bottom in order to keep the cushion cover square and not twisted.

As when sewing the boxing to the top, Dave stapled the two pieces *good* side to *good* side, verifying with the identifying features written on the back that they were positioned correctly. As with the top, he started at the zipper pull, cutting notches at the corners to ease the fabric hem where it rounded the corner and overlapping the two ends where they met. Since he did not plan to topstitch the bottom vinyl, the cushion covers were now completed.

Tight-fitting foam

If you have measured correctly, stuffing the as-yet-unshrunken foam into the covers should be nearly impossible. After flipping the covers right-side-out, we pushed the corners outward as far as we could with our fingertips. That left nice, nearly square corners. Then, with one end of the foam in the cover, we pulled two corners as tightly as we could across the corresponding corners of the foam. We folded the foam to stuff it inside the zipper opening and then unfolded it and worked the resulting bulge into each corner as we worked the other corners of the cover toward the foam.

Before closing the zipper, we compressed the foam evenly so the edges of the cover lined up with the edges of the foam, and we ran our hands around inside to be sure the sewing allowance lay consistently on one foam face all the way around.

A satisfying project

Patterning four cushions took less than an hour. We cut out the foam one evening after dinner and the vinyl and cloth the next day. The entire sewing process took one long day. In theory, replacing four cushions could be a weekend project. It probably took us longer to choose the materials than to build the cushions. If you are careful to eliminate measuring, cutting, and sewing errors at every step, the end result will be attractive, comfortable, affordable cushions that liven up your boat and make it more comfortable.

Connie McBride and her husband, Dave, after 15 years, 3 kids, and 20,000 miles, are still sailing simply aboard their 34-foot Creekmore, Eurisko, *currently on a return meander to the Caribbean. Learn more about their onboard lifestyle at www.simplysailingonline.com.*

Repairing portlights

A clever trick to keep old dogs working

BY HOWARD NELSON

On my 1983 Hunter 30, the nine opening ports in three different sizes — all manufactured by Gray Enterprises — were getting shabbier each year. Gray ports, used by Hunter and many other sailboat manufacturers in the 1980s and '90s, have injection-molded plastic frames and opening plastic lenses that are secured with screw-down dogs.

A typical opening port has an outer frame that is fixed in the cabin side and a lens that is attached to the fixed frame with hinges, usually at the top. When closed, the lens is secured against the fixed frame with dogs that engage ears on the edge of the lens. To open a port, you unscrew the dogs enough so they can flip down or sideways out of the way, then raise the hinged plastic lens and secure it in the open position with a hook of some kind. To close the port, you lower the lens, flip the dog mechanisms over the ears, and tighten down the dogs with the screw knobs.

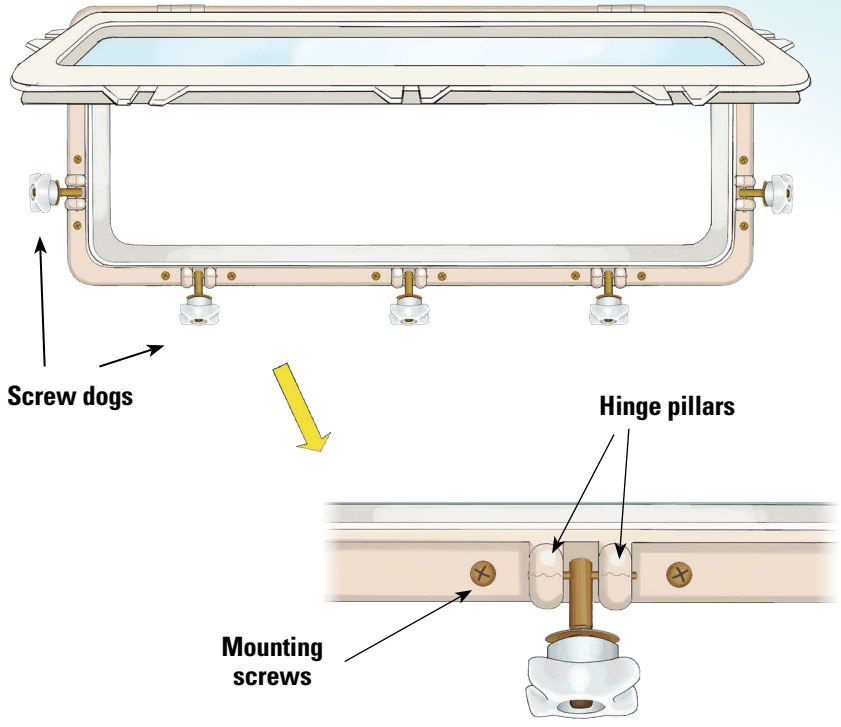
Over time, the lenses in my ports had dulled and crazed and developed many cracks, and the rubber gaskets between the port frames and lenses became hard and leaked. The traditional method to stop annoying leaks is to tighten down the dogs. Unfortunately, as the plastic port frames age, the plastic becomes brittle. The hinge mechanism for the dogs is a pin that runs through a pair of plastic pillars molded in the frame. Screwing down the dogs to stop leaks caused many of these pillars to crack. Several of the pillars on my ports have failed to the point that the dog mechanism simply fell off. A few years ago, I replaced all the port lenses. This improved the internal ambiance but did not address the cracked pillars and missing dogs.

Replacements a no-go

I investigated replacing the old ports with new metal ones. Although beautiful, the available metal ports did not come in all the sizes I needed and fitting them would have required significant modifications to the cabin sides. In addition, the cost of the metal ports was well outside my budget.

Pompanette, Inc., which manufactures Bomar ports, sells direct replacements for the Gray Enterprises ports. You can order the complete ports or selected parts from the Hunter Sailboat Owners website, but the frames are not sold separately and the cost of the complete port is upward of $110 for the smaller ports and more for the larger ones. This put the direct replacement option for nine new ports at well over $1,000. This was still more than my meager budget could stand.

Howard's opening port was missing two dogs because the hinge supports had cracked over time and broken off, top left. After his novel repair, top right, the port has all its dogs and no longer leaks.



The five screw dogs that secure the lens closed hinged on pins supported in pillars molded into the plastic frame, at left. Howard made new pillars and fastened them through the holes used by the original mounting screws. His pillars are compression nuts drilled to receive a pin, at bottom.

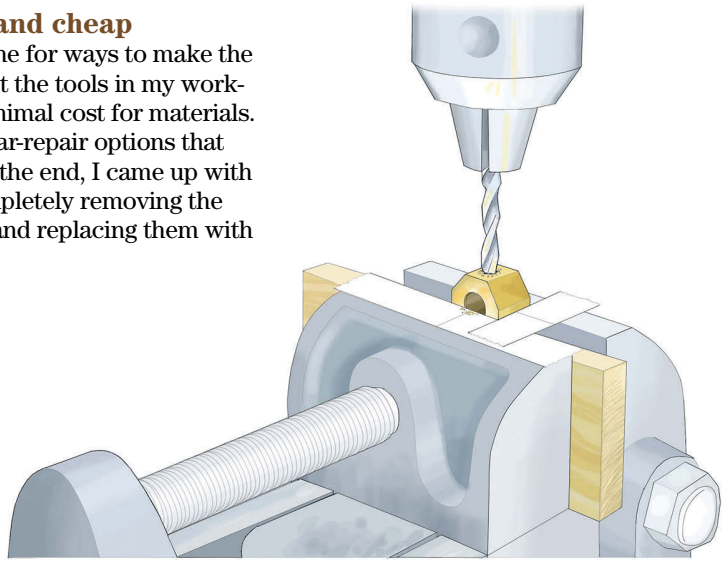
ILLUSTRATIONS BY FRITZ SEEGERS

Another obstacle for me was that, to replace them, I would have to remove the old ports during the sailing season, which is not an option because my boat is on a mooring. Since taking my boat out of service during the sailing season was also not acceptable to me, I started searching for a way to repair the dogs that would be simple, strong, and aesthetically pleasing.

Functional and cheap

I searched online for ways to make the repair using just the tools in my workshop and at minimal cost for materials. I saw a few pillar-repair options that might work. In the end, I came up with the idea of completely removing the broken pillars and replacing them with new pillars made of brass ¼-inch pipe compression nuts. (I am well aware that brass plumbing fittings are not suitable for use below the waterline, but I judged this application to be OK.)

Compression nuts have a tapered hole in the bottom that can accept a mounting screw and would make installation easy. I would mount the new pillars in the existing screw holes in the port's frame on either side of each dog. They are a little farther apart than the original pillars, but I would not have to drill new holes into the brittle frame or the cabin sides.



I started with the large starboard port in the main cabin, above the stove. The lens was new, but two of the bottom dogs had broken away from the supports and the third didn't look too secure. I decided to remove the last remaining dog and repair all three bottom dogs at once. The two side dogs were still serviceable. Like most sailors, I save almost everything, so I still had the parts for the old dogs and could use them in the repair.

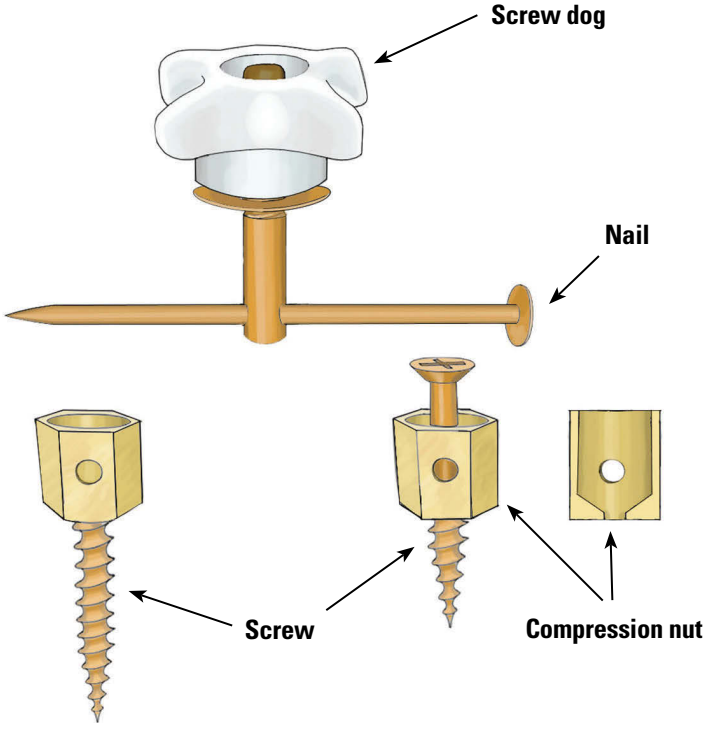
Cut, clean, and replace

To prepare the frame to accept my compression-nut replacements, I had to remove what remained of the original pillars from the plastic frame. They were molded into the port frame such

Resources

Pompanette sells direct replacements for the Gray Enterprises ports. Look under Bomar on the website: www.pompanette.com

The Hunter Sailboat Owners website offers complete ports or selected parts for sale: http://hunter.sailboatowners.com



Howard drilled a hole through each compression nut to accept the nail — his temporary hinge pin. The holes were high enough for the nail to pass above the screws once the nuts were fastened in place.

that the top of the pillar was contiguous with the channel for the weather stripping. I used a hacksaw blade with no handle to cut a groove about 1/16 inch deep in the top of each pillar to separate it from the channel. It was then easy to cut off the pillar from the bottom with a hacksaw blade until it separated from the frame.

Because the two pillars for each dog are close together, I cut away two at a time. I did this three times, removing all six bottom pillars on the port. The finished cuts were not quite flush, so I smoothed the frame with sandpaper until it looked neat and clean.

The next step was to prepare the compression nuts to become the new pillars. The dog assemblies I had saved had 1/8-inch stainless-steel hinge pins. To prepare my compression-nut pillars, I drilled a 1/8-inch hole in the side of each compression nut. The hole needed to be high enough from the bottom of the compression nut for the new hinge pin to pass above the mounting screw. I drilled the holes on my drill press, but I could have also placed the compression nut in a bench vise and used a hand drill.

After drilling the compression nuts, I placed a new 1-inch stainless-steel screw in the base of each pillar for mounting the pillar on the frame. Since my replacement pillars would be spaced farther apart than the old pillars, I inserted a 1/8-inch common nail as a longer — and temporary — hinge pin to check the orientation of the drill holes on the compression nuts and the dog. I painted the compression nuts and nails white.

As soon as I can locate some 1/8-inch stainless-steel rod, I plan to use it to replace the nails. In the meantime, I removed the six old screws that were countersunk into the bottom of the port frame alongside each of the old dog locations. The stainless-steel flat head Phillips screws with which I replaced them needed to be 1/4-inch longer because they would now sit on top of the port frame rather than being countersunk into the frame as the original screws were.

Once the repair was completed, I filled the open ends of the compression nuts with white silicone caulk to give the port a more finished look (and to keep the hinge pin from coming out).

Parts and tools

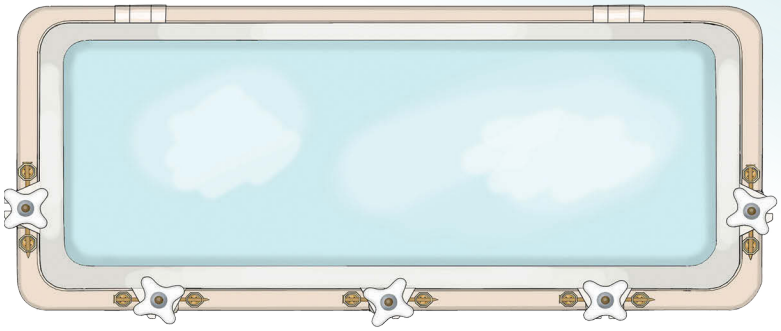
Parts for a three-dog repair

- 1/4-inch brass compression nuts, 2 per dog to be repaired – $.79 each
- 1-inch stainless-steel mounting screws, 2 per dog to be repaired – $.21 each
- 1/8-inch-diameter stainless-steel rod for hinge pins (or common nails – $.02 each)
- Paint and caulk if desired for aesthetic reasons

Tools needed

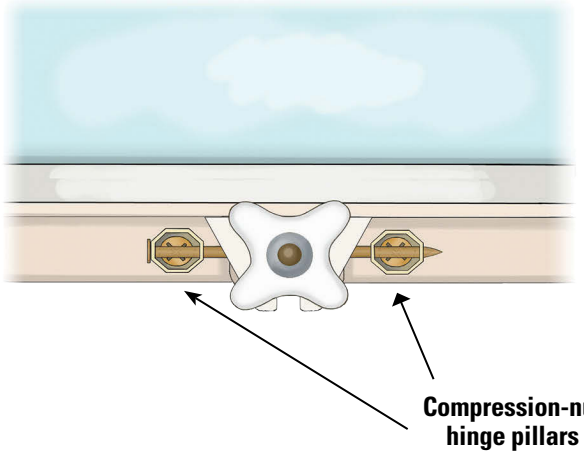
- Hacksaw blade to remove old pillars and trim hinge pins
- Sandpaper
- Hand drill or drill press with 1/8-inch drill bit
- Screwdrivers for removing mounting screws and pins

ILLUSTRATIONS BY FRITZ SEEGERS



Portlight closed with dogs secured

By using the port's original fastening holes, Howard avoided drilling new holes, and the overall appearance wasn't very different once he'd painted the compression nuts and filled them with caulk.



Before applying the caulk, I placed a small piece of paper inside the compression nut on top of the screw but below the hinge pin. This extra step will keep the silicone out of the screw head and allow me to pop the caulk out should I want to remove the pillar at a later time.

Satisfaction on all fronts

This easy repair took about 15 minutes per dog and cost $2.02 per dog ($6.06 for three dogs on one port) not counting the paint and caulk. The repair is aesthetically pleasing and meets all of my criteria: strong, inexpensive, quick, and simple using easily obtained parts and basic hand tools. This method can be used to repair one or several dogs at a time without removing the port and without taking a boat out of service.

Howard Nelson grew up with access to Long Island Sound where his family trailered an MFG-16 runabout. At 19, he purchased a used AMF Sunbird 16 daysailer, but sold it to make way for college, marriage, and children. In 1998, with the blessing of his wife and their four children, he bought an Integra 23, then a 1978 Hunter 27, and he now sails Avalon*, a 1983 Hunter 30. His reluctant first mate of 34 years puts up with his passion as long as he's safe.*

Winches are forever . . .

. . . when properly mounted and maintained

BY BILL SANDIFER

When planning to buy a good old boat, most sailors typically look carefully at the design, the propulsion, the hull, the sails, and many other aspects of the boat, but we tend to take fittings like winches for granted and seldom evaluate them carefully. I know this to be true for me, anyway, because when I bought my most recent boat, a 1967 Pearson Commander, I noted that it had winches in place as well as holders for the winch handles. They were the old-style winches that require a flat crank handle. After completing the sale, I went aboard the boat to look for the winch handles. What a surprise when no one knew where they were!

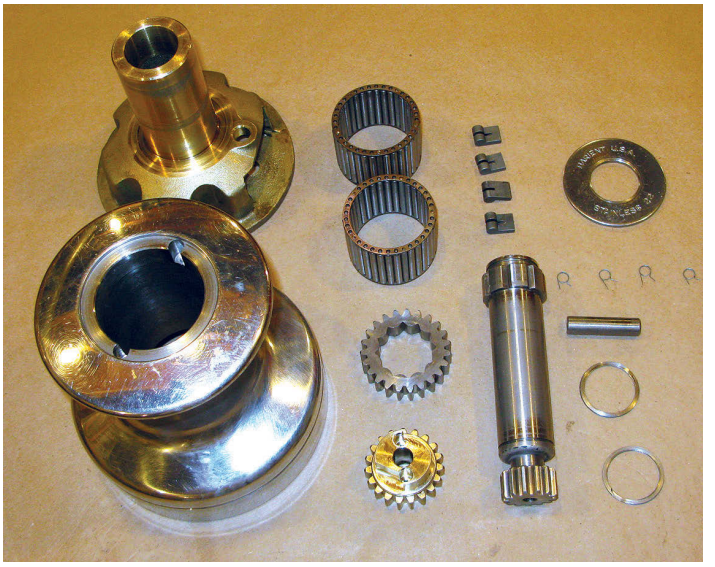
I knew the winches were probably going to have to be replaced at some point in the future, but I hadn't figured that extra cost into the price of the boat. The purchase of several old-style handles suddenly became a priority. I searched the nautical consignment shops and eBay to no avail. It was soon obvious that I would have to move ahead with my plan to replace the winches.

It is for a reason that, in some circles, winches are referred to as "nautical jewels." On occasion, their cost can exceed the price of the boat. When shopping for used winches, the trick is to find winches of the correct size (that can be operated with conventional handles), in good condition, and for a reasonable amount of money.

Because of their cost, the winches installed on a newly built boat are often the minimum size that is practicable, unless the first owner chose larger winches as an option at the time of purchase. That newly built boat with the somewhat too-small winches will eventually become a good old boat. There will come a time in the life of that boat when owner number two, or three, or four will want larger winches.

I once owned a Pearson Ariel that had been raced and refitted with size 40 winches. My newest good old boat, the Pearson Commander, is the

Most winches are designed so they can be serviced *in situ* by anyone with a little mechanical aptitude. The trick is not to lose any parts, like the circlip that secures the drum on this Lewmar winch, above. Removing it takes a steady hand and a watchful eye.



With the circlip removed, the drum can be lifted off the center spindle, at left, but with care — the bearings might stick to the inside of the drum, only to fall out at the wrong moment. Once all the parts have been cleaned, inspected, and lubricated, at right, reassembly begins.

same size as the Ariel. When I bought it, however, those original winches were size 6. My replacement winches are size 8 and will fit the same base. When you are looking at replacing your winches with larger ones, make sure you have room for the bases.

Used winches are a bargain

If you ask around your local marinas and boatyards, you will often find someone in the process of upgrading, or who has recently upgraded, to new winches and is ready to get rid of the old ones for a reasonable amount of money. Winches are very close to indestructible, and used ones can be economically rebuilt if most of the parts are still there. Look around and explore your sources. You may find some good winches available at a bargain price from consignment stores or from sailors you know.

I was lucky. One of my slipmates had upgraded his winches and offered me the old, size 8, ones. Used winches can be rebuilt, cleaned, greased, and made operable by any do-it-yourselfer. The local boatyard quoted more to rebuild my winches than the cost of a new winch. I decided to do it myself.

Most winch manufacturers provide online instruction books to direct you in the disassembly and reassembly of their winches. Lewmar, the manufacturer of the used genoa winches I obtained, provides a detailed instruction book on its winches. New Lewmars are very easy to dismantle, but the older ones have a locking ring, or circlip, that is a little tricky to remove and can be damaged if you are not gentle.

Once inside the winches, I found that they had all the pawls necessary for operation but none of the springs that the pawls needed to function. Lewmar was most cooperative and quick to supply me with a complete set of springs for my winches for just $10. After I had cleaned, greased, and reassembled the winches, they

Servicing tips

by Jerry Powlas

Most older winches cannot be fully serviced unless they have been removed from the boat. Lewmar has solved this problem in its later models and I suspect other manufacturers may have too. This is a consideration when upgrading to new winches. If you have to remove the winch from the boat to get at some of its parts, you will be a lot less likely to service all the components of the winch.

If you have to service your winches when the boat is in the water, or even over thick grass or a gravel lot, you run considerable risk of losing parts over the side. To minimize this risk, work with a helper and place a generously sized box with a tight-fitting hole in the bottom over your winch. To make photography easier, in my winch maintenance presentation (see "Resources," below) I did not use a box. Otherwise, I'm a stickler for this practice. Even when using a protective box, be sure to watch for springs and pawls to pop out as you remove the drum, and bear in mind that the roller-bearing cages may stay on the spindle . . . or they may stay stuck in the drum. If they remain in the drum, they may fall out as the grease lets go. Watch for that and remove the bearings from the drum as soon as you remove it.

Resources

Jerry Powlas, *Good Old Boat*'s co-founder and technical editor, has created a nine-minute step-by-step guide to winch maintenance using photos and audio. His presentation includes removal, teardown, cleanup, greasing, and reassembly of older winches of the Barient, Barlow, and Lewmar type.
www.goodoldboat.com/resources_for_sailors/videos/winch_maint.php

performed as new. One caveat: do not clog the pawls with grease as they will stick over time. Lubricate them lightly with light oil. Check the winch manual or ask the manufacturer regarding the amount of lubrication.

A well-made winch should last a very long time, particularly if it is serviced when needed.

Bill Sandifer, who was for many years a Good Old Boat *contributing editor, has been involved with boats and the water since the age of 12 when he "borrowed" anchored rowboats for "rides" while never leaving the mooring. (He just paddled around with a "found oar.") Since that time, he has been a launch operator, sailing instructor, founder of a scuba company, and owner of a boatbuilding company. He currently cruises the U.S. Gulf Coast with his family in a 50-year-old Pearson Commander.*

Self-tailing and sizing

by Jerry Powlas

Self-tailing winches are nice. Having said that, I have my own theory that you have to overcome more friction with self-tailing winches than with non-self-tailing winches if you use the self-tailing feature. For that reason, if you are upgrading to self-tailing winches, you might want to consider going up at least one size.

In addition to the added friction of self-tailing, there is another kind of loss to consider when sizing winches. When Karen and I bought *Mystic*, our C&C 30, we were relatively young, hale, and hearty. The number 22 non-self-tailing winches had just enough mechanical advantage to allow us to grind in the big 170 percent genoa when the wind was up. If I was steering, I had to lean over and help Karen with the last couple of inches, but she could do most of it.

The passage of time does not make you stronger. I replaced those lovely stainless-steel, absolutely indestructible Barlows with some nice self-tailing number 30s. I figured the bump from 22 to 30 would make sheeting in the big genoa easier. Nope, try again.

Mystic now mounts number 45s where she once had 22s. Part of the increase in mechanical advantage was to account for the added friction of self-tailing and part of the increase was needed to account for the decrease in the strength of the crew. The price of new self-tailing number 45s was breathtaking, but at least Karen can now sheet in the genoa without any help from me and without being out of breath.

Jib-furler straightjacket

Getting the kinks out of long-term storage

BY HENK GRASMEYER

Sailing the waters off the West Coast of British Columbia brings great joy along with the occasional challenges. Pacific Northwest sailors cope not only with tides and currents, but also with rapidly changing wind and weather patterns. For many seasons my wife, Johanna, suggested that we equip our 1995 Catalina 250 WB (water-ballast) with a furling headsail to replace our hanked-on 110 percent jib. She pointed out with some regularity that this would make reducing sail safer and eliminate having to work on a wet pitching-and-heaving foredeck when we wanted to douse or set the headsail. This is not what you call, on a petite 25-footer, the safest job, even though over the years we had developed a quick way to douse the sail, bag it, and tie it off to the rigging.

Two sailing seasons ago, I gave in and had a Schaefer 700 plastic extruded snap-on furler installed and ordered a new furling jib. Once that had been accomplished, however, we did not launch the boat even once during two entire seasons for a number of reasons. The boat stayed in storage, tarped over and out of the way. The new untried extrusion was tied off to the mast over the spreader. Where it protruded past the mast foot, it was supported with a PVC pipe.

During the two seasons it spent on the trailer, our furler took on significant bends and sags where it passed over the spreader and where it was obviously inadequately supported. I vaguely remembered reading in the Schaefer specifications that the plastic snap-on extrusion should not be exposed to temperatures above 130°F (54°C). Despite vent openings under the tarp at either end of the mast, we imagine that the temperature rose higher than that. This led to the deformation of the extruded foil.

Stubbornly deformed

The next season brought big sailing plans, so I towed the boat home for outfitting and provisioning prior to moving her to a summer marina slip. To make sure the added masthead toggle and newly cut and swaged forestay fit properly, we raised the mast, even though we had misgivings about the bends in the furler extrusion. We had hoped the extrusion would straighten out once it was no longer draped over

Unsupported inside the dark tarp oven, at left, the furler extrusion had warped. Now stored inside its stiff storage tube, it lays along the deck of *Someday Lady*, top of page.

Strapping it to 2 x 2s in the family room did not straighten the snake-like furler, above left, nor did baking it inside a black PVC tube on the driveway, above right, or a heat gun in the garage, below. The storage tube allows no bending, at right.

the boat, but this was not the case. In fact, the bent shape made it extremely difficult to connect the forestay. By loosening the backstay turnbuckle to its limit, we finally managed to insert the pin and secure the forestay. However, the bend in the furler extrusion stubbornly remained, even after several days under tension.

Having little choice, we struck the mast and took the furler off. At just under 30 feet long, it is an awkward, unwieldy extrusion. We zip-strapped the extrusion to 2 x 2s and left it on the family room floor for the next several weeks. It made no difference. The minute it was released, it snapped back.

We then placed the extrusion in a black 2-inch PVC tube, sealed the ends, and laid it on the driveway for several weeks where it was exposed to the summer sun. Even though we had some very hot days at the time, the furler retained its bend and sagging shape.

Desperate by now, we made a jig and used a heat gun in the hope of correcting the bends. It still made no difference. In frustration, I contacted Schaefer. After a few fact-finding questions and establishing our location north of the border, the representative sent us a new replacement foil that arrived quickly. (I am grateful to Schaefer for taking such good care of this customer.)

Making a straightjacket

Now that we had a good extrusion once more, we faced the dilemma of how to best store it over the coming winter season. While roaming through the Home Depot plumbing department, I noticed white 10-foot-long, 2-inch thin-wall central vacuum tubing. It was much more rigid and resistant to bending than anything else I had seen so far. It took only a minute to sink in. We could use these central vacuum tubes to store and protect the furler extrusion over winter.

Sure enough, since we've been using these tubes on deck with the furler stored neatly inside and the much larger drum still sticking out by about a foot, there has been no deformation or sagging where the tube protrudes past the cabin roof and extends over the

Because the 28-foot tube needed to store the extrusion would not fit on the trailer, Henk permanently joined two 10-foot lengths of tubing with a collar and zip ties, at left, and joins an extra 8 feet to it temporarily when the furler is inside it for trailing and storage, at right.

cockpit and foredeck areas. The weight of the drum is supported in line with the foil by a simple strap from the pulpit. If required for extra security, the tube can be supported at intervals from the unstepped mast.

Since we launch, retrieve, and transport our boat on a trailer, we had to find a way to store the empty tube when the mast is raised. A 28-foot tube would not fit within the confines of the trailer frame. We solved that problem by permanently coupling and zip-strapping two 10-foot sections end-to-end. The empty 20-foot section, with an 8-foot-long third section bungeed alongside it, fits within the length of the trailer and is easily strapped to the trailer frame.

Problem contained

In preparation for the winter, we tested our new storage plan for several weeks with the system on deck. No deformity occurred.

We are confident that, stored inside the rigid tube, the plastic snap-on furler extrusion will remain straight and protected. It is also more convenient to insert the extrusion into the tube and place the rigid structure on deck rather than doing the same thing with the awkward and unprotected foil by itself.

We hope to have eliminated the potential for the extrusion to deform and, as a bonus, the vacuum pipe keeps the foil perfectly clean.

Henk Grasmeyer, a native of Holland, learned to sail at the age of 6 in a rowboat with an oar and a bedsheet. Later, when living in British Columbia, he owned a Hobie Cat for years. Now retired, he and his wife, Johanna, sail and trail their Catalina 25 all over North America.

SAILORISM T-SHIRTS

NAVIGO ERGO SUM
I SAIL THEREFORE I AM

AND

OFTEN WRONG
. . . ALWAYS CONFIDENT

SLEEVE DETAIL

SLEEVE DETAIL

100% COTTON
S, M, L, XL, XXL
$18.00 EACH

EACH SHIRT IS AVAILABLE IN SAND OR SKY BLUE

MAROON,
LOGO IN GRAY AND WHITE

FRONT DETAIL

BIG LOGO T's

DEEP GRAY HEATHER,
LOGO IN BLUE AND WHITE

DEEP NAVY BLUE POCKET T-SHIRT

HUNTER GREEN

S, M, L, XL, XXL $20.00 EACH

To order Good Old Boat gear, call 701-952-9433 or visit www.goodoldboat.com

GOOD OLD BOAT™ GEAR

DENIM SHIRT WITH LOGO

MEDIUM-WEIGHT,
LONG-SLEEVED
S, M, L, XL, XXL

$35.00

HOODED ZIP-FRONT SWEATSHIRT

7.75-OZ. 50/50 COTTON/POLYESTER BLEND
FRONT POUCH POCKETS
STRETCHY ATHLETIC RIBBED CUFFS AND WAISTBAND
AVAILABLE IN RED, ROYAL BLUE, AND BLACK

S, M, L, XL, XXL $45.00

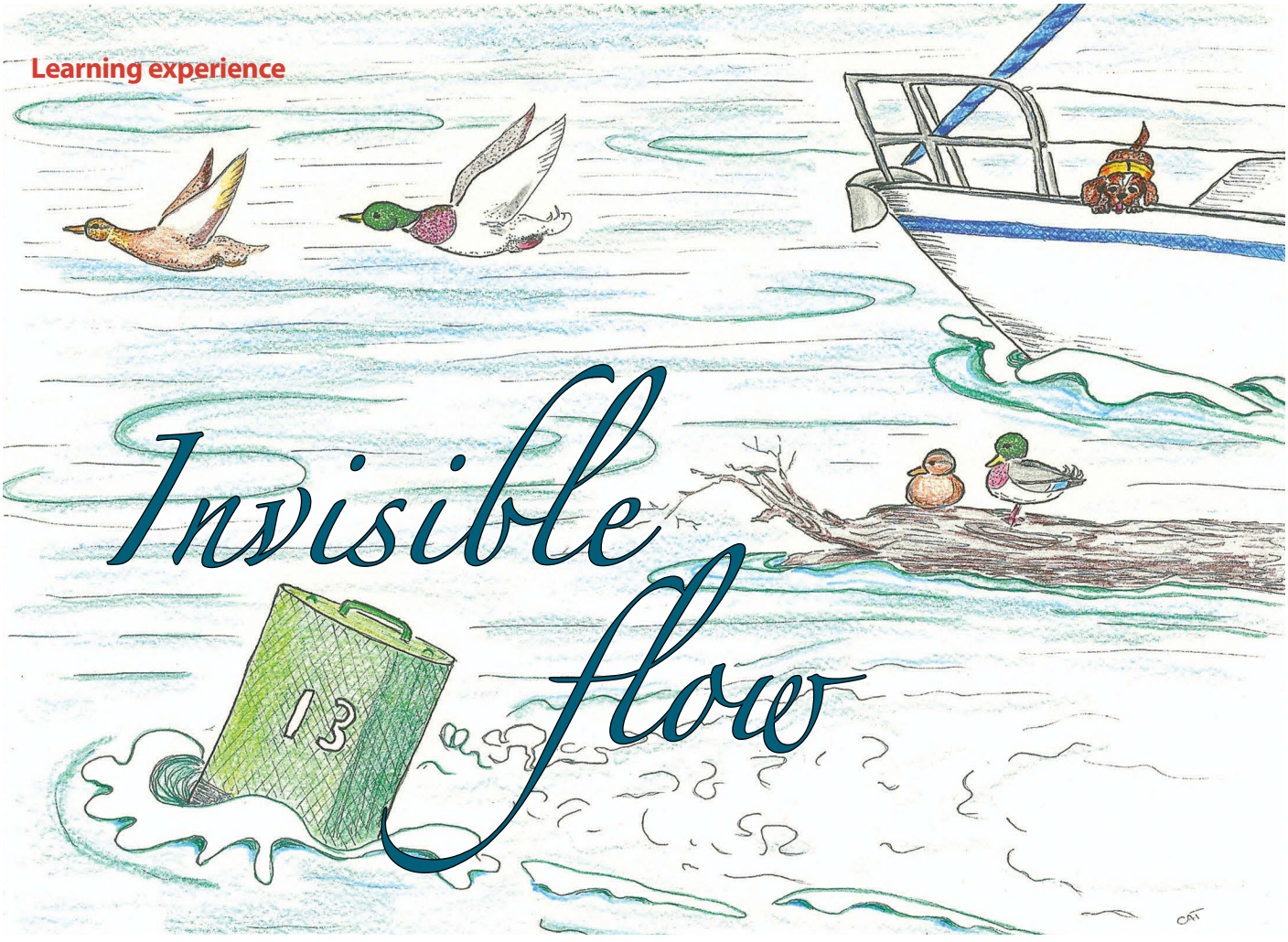
NEW!

GOOD OLD BOAT BALL CAPS

STURDY AND DURABLE

DENIM OR OUR **NEW** KHAKI $16.75

www.audioseastories.com



Invisible flow

ILLUSTRATION BY CHERYL THOMAS

A lighthouse marks the confluence where Rondout Creek joins the Hudson River and tidal and river currents play tag.

Seeing current requires GPS *and* a knotmeter

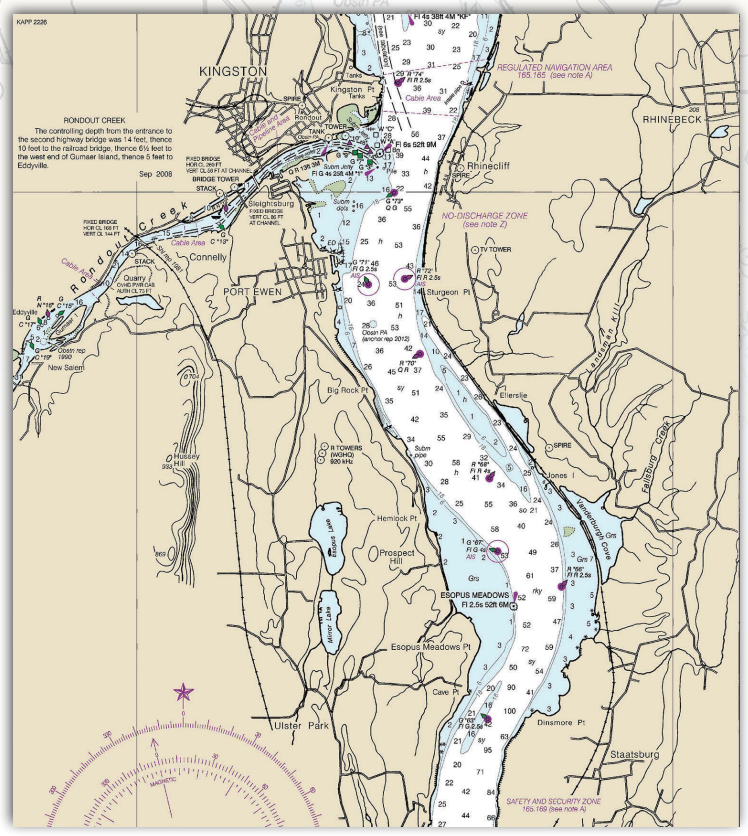
BY CHERYL THOMAS

I grew up sailing on a lake in upstate New York on a 16-foot hand-built wooden sloop. No tides. No currents. Only wind. No instruments — just sails and rigging, rudder and tiller, cleats and centerboard . . . observation and "feel" . . . sensory connections.

About 15 years ago, my husband and I bought a sailboat we dock at a marina on Rondout Creek, a tributary of the Hudson River. We've made the trip south to Florida and back with that boat and, now, a larger boat. I work at the marina on the Rondout too. Here, and in our travels, we have learned much about tides and currents and about tools like charts and depth sounders, compasses, knotmeters, and GPS . . . technological connections. We have learned to enhance our senses with the electronics.

The Rondout is fresh but tidal, with a normal tidal range of 4 feet, even though we are more than 100 miles from the Atlantic. With "normal" rainfall and "average" weather, the creek mimics the Native American names for the Hudson, Mohicanituck and Shattemuc: "great waters in constant motion;" "the river that flows both ways." At ebb tide, water flows downstream at an average maximum velocity of a bit more than ½ knot; at flood tide, water flows upstream at just under ½ knot on average. On the Hudson, the tidal

> “Rondout Creek gathers waters from as far away as Lake Mohawk.”



NAUTICAL CHART COURTESY OF NOAA

currents are stronger, averaging 1.5 knots at flood and 1.8 at ebb.

When I was growing up, upon setting out for a daysail on the lake, we sailed upwind first (we had no motor), planning to beat until the designated turnaround time and then run home. Sometimes the wind died, sometimes it switched, but this plan was pretty successful.

Now, we motor the mile to the Hudson, check the tides, check the wind, and decide which way to go. Sometimes we spend an enjoyable day without making headway north or south, but achieving a steady 5 knots over water, tacking across the river.

With a west wind, we thrill to travel easily along the length of the river and check the difference between the speed readings on our GPS (speed over the ground) and knotmeter (speed through the water) to verify how fast we think we are going based on the heel and feel of the boat, the landmarks on shore . . . technology augments sensory connections.

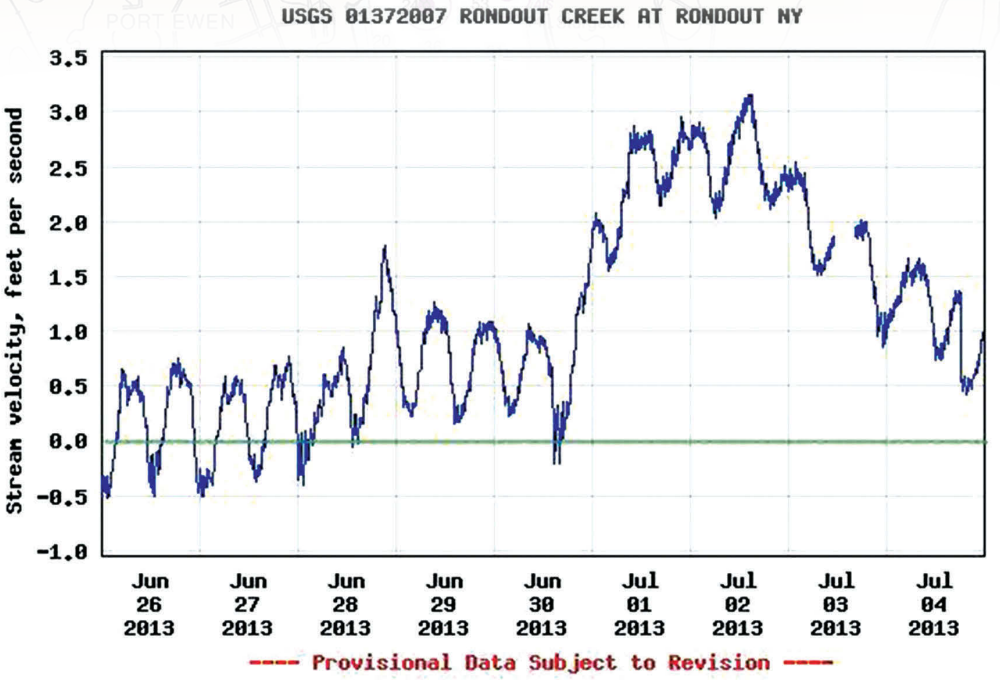
Water in motion

Tides are not the only current influence here. Rondout Creek gathers waters from as far away as Lake Mohawk in northern New Jersey, New York’s Shawangunk Ridge (well-known to rock-climbers), and some of the highest peaks in the Catskill Mountains (Peekamoose Mountain, Table Mountain, Balsam Cap, and Lone Mountain): 1,100 square miles of eastern mountains. When persistent rains fall, water tumbles from the highlands and swells the creek. The volume of runoff depends on the duration and intensity of precipitation or snowmelt, soil saturation (how much water the ground can absorb), and leafiness of the greenery (how much water the plants can soak up). The creek can rise quickly; it usually falls more gradually. Runoff overtakes tide.

On July 1, 2013, we received an inch of rain following a month of “tropical” wet weather, the wettest June on record. The flow of Rondout Creek accelerated from its normal fluctuation of about ⅓ knot upstream on the rising tide to a ½ knot on the outgoing to a downstream velocity along the shore of 1.3 knots on the rising tide and 2 knots on the outgoing by July 2. This was a fivefold increase in downstream speed.

Data in the chart on page 58 are from the USGS (U.S. Geological Survey) gauge on the north shore of Rondout Creek just downstream from the marina. (The USGS measures velocity in feet per second; I have converted to knots.) Midstream currents were much faster. Stream velocity is

Rondout Creek enters the Hudson at Kingston, New York, at top. When the current runs strong, the green can leans downstream trailing a wake like a tugboat’s.



DATA CHART COURTESY OF USGS

Stream velocity measured by USGS gauge Rondout Creek at Rondout, NY
USGS Water DATA

greatest in midstream near the surface and is slowest along the streambed and banks. The location of the USGS gauge is also somewhat protected by an upstream island.

I do not have a measure of the midstream current at our marina's outermost docks, but large sections of trees traveled steadily downstream. Mallards did not even try paddling against the current. Islands of foam from the small waterfall three miles to the west raced by. Swirling water gurgled against our pilings and tugged at boats and docks. Water rushed around the nearby green can and red nun, tipping the aids to navigation and hiding their bases.

Still water deceives

Our marina is supremely protected from wind. The entire 4-mile navigable length of Rondout Creek from its mouth on the Hudson to the remnants of an old Delaware and Hudson Canal lock is a no-wake zone. With little wind effect to disturb the surface and no wakes, the water is typically, deceptively, very calm. The surface stays quite smooth, even when the current runs fast. Boaters unfamiliar with the local indications of current frequently misjudge the speed at which the water is flowing.

Hudson River currents for the same day did not deviate from normal. This is not really surprising when you remember how small Rondout Creek is in comparison to the Hudson. The great volume of the Hudson would rapidly attenuate the fast water flowing from the Rondout.

Untimely reschedule

On July 3, I had boats scheduled to come into the marina for transient dockage for three days. Good. By then, without rain (sun was predicted) the speed of the flow would subside.

Then two cruisers telephoned to ask if they could come in a day ahead of schedule. "Sure," I said, "but be advised, we are experiencing current stronger than normal due to the recent rains."

Where can I dock them with this current? I worried, wishing they had

When the Rondout Creek tide gauge was measuring currents well over 2 knots, at top, the water in the marina looked perfectly still, at left.

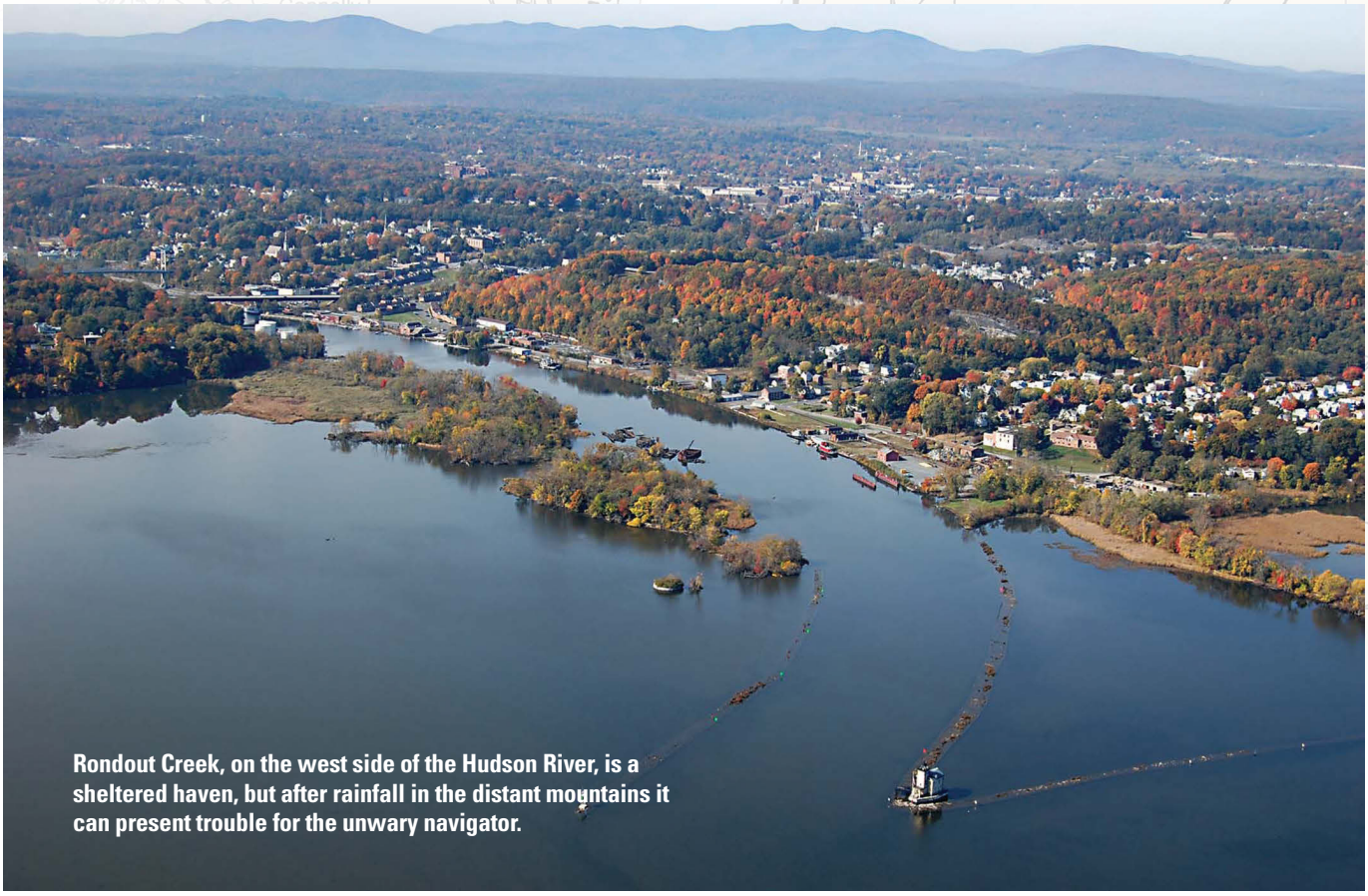


PHOTO BY STAN WILCOX

Rondout Creek, on the west side of the Hudson River, is a sheltered haven, but after rainfall in the distant mountains it can present trouble for the unwary navigator.

not asked to come in early. The slips I had planned for their arrival the following day would require them to dock broadside to the current and they would have to make a U-turn, across the flow and then with it, to get there. Too risky this day.

I had spots available that would allow them to come into the dock parallel to the flow, but only for a single night. I would dock them there and then move them when the current subsided. I explained this to them before they left their previous night's berths. OK. They still wanted to come.

Current? What current?

In midafternoon, both boats came in and docked without problems: bows into the current, angling gradually toward the dock.

The first skipper to dock commented, "You had us a bit nervous, talking about the current. The only current we noticed was at the mouth of the creek, by the lighthouse."

I was stunned. "Do you see the logs and foam traveling rapidly downstream?" I asked. "I can't tell you exactly how fast it's going, but I believe the flow's a couple of knots. Do you have a knotmeter?"

No knotmeter. Just GPS.

We docked the second boat a bit farther along the dock without incident. Again, the skipper commented that he did not notice the current.

"No knotmeter?" I asked. "Oh, I have a knotmeter," he laughed as he ducked into his cabin. He emerged holding a disconnected knotmeter in his hand. "I just use GPS."

I walked both skippers down the dock to show them the slips I wanted them to move to the following day, with assistance from the marina staff and when the current had subsided some.

"OK. No problem. Sure you don't want us to move now?"

"Yes, I'm sure."

I explained the current should drop pretty dramatically without rain and conditions would be more favorable if they moved on the rising tide. I suggested that, when we moved them, they should experiment a bit in the mainstream to get a feel for how the current would affect their boats, rather than making a U-turn around the T-head without a "dry run."

We did it. We got both boats safely into their slips the following day . . . after about three tries each, even with good piloting and extra dockhands. Safe and secure, both skippers finally agreed, "That would not have happened yesterday!"

The missing link

A knotmeter used in combination with a GPS provides a real-time assessment of current: valuable information for making docking decisions. I'm surprised to learn that many boaters no longer use knotmeters.

But it's not really about the knotmeter . . . or about the GPS. It's about weather and current, skipper and boat, instruments and observations . . . sensory and technological connections: look, listen, feel.

And a little local knowledge.

Cheryl Thomas grew up sailing a Wright-built K-boat on Keuka Lake, one of New York's Finger Lakes. She and her husband now sail a 1979 Hunter 37 cutter — currently on the Hudson River, formerly on the Gulf Coast of Florida.

This Herreshoff

In April 2015, we purchased a 1974 Herreshoff America catboat. She was cute, interesting, and in need of significant TLC. She took the place of a lovingly owned Catalina 25 that had been a wonderful source of fun and adventure for our family and friends for 27 years. I'm in my early 70s, and advancing years brought the realization that we needed to downsize (simplify) to be able to continue sailing for a long time into the future. I discussed this with my wonderful wife and sailing partner, Kathy, and we agreed to look for a smaller boat. No more spinnakers, jibsheets, genoas, heavy mast raisings, and such.

I learned to sail on a Herreshoff S Boat as a kid and have had an infatuation with Herreshoff designs for more than 55 years. Our sailing library is full of books on the Herreshoff family and their wonderful history of designing and building the finest yachts for more than a century. Our boat-search criteria included inshore seaworthiness, dry shelter with a head, nice appearance, room for friends and family, ease of use and trailerability and, we hoped, a Herreshoff design. As we always maintain our own boats, we preferred fiberglass construction.

We sail on northern New Jersey's Lake Hopatcong, the largest lake in the state, but we have towed boats to many locations on the East Coast and wanted to be able to continue those adventures while expending less effort. With its single sail, shallow draft, and large cockpit, a small catboat seemed to fit these needs. Our search focused on that type.

To my delight, I discovered that Halsey Herreshoff had, in the early 1970s, modified a 1904 catboat hull design of his grandfather's (Nathanael) to be built in glass. The resulting boat was called a Herreshoff America. Pictures on the Internet showed it to be a cute boat with the conveniences we need. A review in *Good Old Boat* spoke well of it (January 2008) and I also found a Facebook site with lots of

When George and Kathy Damerel found their catboat she was in need of some work, above. After her refit, George and his friend Tom Kennedy took *Katnip* for a sail on Lake Hopatcong, main photo.

America catboat . . .

. . . is *Katnip* to a family of lake sailors

BY GEORGE DAMEREL

information. I was intrigued and started searching for one.

The Herreshoff America catboat is 18 feet long with an 8-foot beam and has a large cockpit (bigger than that on our Catalina 25) and a two-berth cabin with a Porta Potti — a big small boat with lots of room. She's a centerboard boat with minimal draft and has 500 pounds of inboard lead ballast. As a catboat, her mast is located in the bow of the boat and she has only one sail. She has easily accessed outboard power mounted in a well in the cockpit.

A brief search

A few Americas were listed for sale at widely differing prices and in locations from Massachusetts to the Chesapeake. Boat conditions varied from "needs work" to "professionally restored." We wanted something in between at a price that approximated the resale value of our prior boat. Luck was with us.

An Internet search found a 1974 Herreshoff America for sale at a boatyard on the Jersey Shore about a 2-hour drive from home. Kathy and I headed south the next weekend and found the boat nestled in the back of the yard, uncovered, on a trailer with the mast raised and surrounded by larger boats. She had obviously been there awhile and was in the "needs work" category. She was in basically good condition but in need of considerable cosmetic work. The hull looked good, the deck sound, and the cabin acceptable. She came with an almost new 4-horsepower Yamaha outboard, old sails, and a fair supply of accessories, such as fenders. The asking price was close to our budgeted figure.

Our offer was accepted, and we were suddenly the proud and very happy owners of a Herreshoff America catboat with the underlying awareness that we had a lot of work ahead of us. I took a lot of pictures.

The following weekend, my good friend and sailing buddy Tom and I went back to the yard to figure out what had to be done to bring her home. We checked out the trailer (better than expected) and asked the yard to prepare the boat to be moved. This included lowering the mast and moving her to an accessible location. We picked up the motor at the home of the very hospitable and helpful seller and returned home. Concurrently, we sold our Catalina to a friend who had lusted after her for years.

Two weeks later, the yard had the boat ready and Kathy and I towed her home without incident. We live in a townhouse community and are unable to keep or work on a boat at our place. Fortunately, we have good friends who own a lovely home close to us with a separate drive and storage area for their boats. Bob and Carol have previously let us keep our old boat there when doing spring cleanup and were kind enough to allow us to bring the catboat there for her makeover. On top of offering us this great area to work, Bob is a highly skilled craftsman and has every tool he needs to support his many interests, one of which is woodworking. I benefited tremendously from his generosity, advice, and help throughout the restoration.

Two-stage refit

We named her *Katnip*. Although she was usable from the start, we didn't want to launch her without improving her appearance and ease of use. We made a list of tasks to do for her first season and another of items to be completed the following year.

First-year tasks

- Paint the cockpit coaming and cabin sides.
- Varnish all brightwork.
- Make new cockpit and cabin cushions.
- Repair damage to rudder bottom (temporary fix).
- Paint bottom.
- Paint new boot stripe.
- Sand, repair, and coat cockpit seats.
- Build tabernacle.

George and Kathy's granddaughter Maggie Hallowich, near right, helped her mother, Amy Hallowich, and grandmother paint *Katnip*'s boot stripe, far right.

- Build boom gallows.
- Fit new rollers on trailer.

Following-year tasks

- Replace rubrails.
- Redo and paint cockpit sole.
- Sand and paint cabin top and deck.
- Paint mast.
- Clean and polish portholes.
- Complete rudder fix with new fiberglass.

Sometime

- Coat centerboard with epoxy

Katnip arrived at Bob and Carol's and we set forth to fix her up. We ordered materials from many sources and we sought helpers among family and friends. We searched the Internet and found a lot of good information on how to accomplish our restoration objectives.

Splits in the cockpit seats, above left, needed repairing before they could be refinished, but they and the coaming caps looked fine when coated with Cetol, above right. George added teak panels beside the companionway doors, at left, and with his friend Joe, painted the cabin sides and cockpit, lower left.

The work begins

Kathy, together with our daughter Amy, Bob, and Joe (another good friend and sailing buddy) provided many hours of support. Many others also helped (thanks to Tom and Marty, among others), but this was the core group. Amy is very creative and a talented artist, so the boot stripe fell to her. Kathy, Joe, and I are willing and active, but are average in the skill arena. Bob was the leader who guided our progress while accomplishing many of the more complex tasks himself.

The Herreshoff America has a distinctive American flag on the sail, so we decided to paint the bottom blue with a contrasting red boot stripe on the white topsides in keeping with the American theme. We sanded and painted the bottom and Amy went to work measuring and painting the boot stripe, ably helped by Kathy and our granddaughter Maggie.

Joe and I went to work on the exterior woodwork. The large teak cockpit seats, teak cockpit coaming cap, hatch doors, and trim were peeling, discolored, and worn. The seats had several large cracks with some running from end to end. We used countless sanding discs on the coaming and seats before they were ready for varnishing.

I filled the cracks in the cockpit seats with polyester mixed with teak dust. Mistake! The polyester did not adhere well and this work had to be redone later with epoxy. The right epoxy mix worked well. We finished by coating everything with several coats of Cetol and were pleased with the result. The teak refinishing took about three days of concentrated work.

We then removed the portholes and sanded the sides of the cabin and cockpit. Over a couple of days, Joe and I applied several coats of a marine two-part polyurethane white paint using the roll-and-tip method. The result, despite this being the first time either of us had tried the technique, looked OK, but we added a light sanding and better final coat to the next year's task list.

Lake Hopatcong has a low bridge that prevents sailboats from using about a quarter of the lake. This unavailable section is very attractive and has several waterside restaurants that we enjoy but couldn't reach on our previous boat. To resolve this issue, I decided to modify the mast to include a tabernacle. This is basically a hinge in the mast that allows us to easily lower and raise it. Tabernacles have been common on catboats for generations, and the Herreshoff America Facebook page contained several homemade designs. I modified one of those designs for *Katnip*.

Boom gallows, decorated with the boat's name, are traditional and practical, as they stop the heavy boom from dropping into the cockpit.

I purchased the aluminum tube and other fittings on the Internet. After fabricating the tabernacle components in our garage using a saber saw with a metal blade, I took them to a local Heliarc shop for welding. Bob and I then very, very carefully cut and drilled the mast to fit the tabernacle. Fortunately, (mostly due to Bob's expertise) all went well and, after painting the tabernacle, we were able to install the mast and tabernacle in the boat.

I then looked at the large fiberglass "barn door" rudder. The bottom had split and the rudder was saturated with moisture. After letting it dry, I roughly patched the bottom with filler to last until we could make a proper repair the following year.

So far, so good. These tasks had taken three to four people about a week of 12-hour days. The bottom and boot stripes were done, the cockpit and cabin sides were painted, the tabernacle was installed, and the cabin cleaned (my wife's nickname is the "queen of clean").

Kathy and Carol also made nice new cockpit cushions and we measured and installed new cabin rugs. Bob surprised me with beautifully polished portholes that I then coated and installed. We buffed and polished the white topsides to a high sheen.

Just one more thing . . .

At that point, we had completed the tasks we had decided to take on in 2015. With the boat really looking good, the beat-up and unattractive vinyl rubrails became an eyesore. After a lengthy discussion, Bob, Joe, and I decided we needed to replace them with rails made of mahogany. Although Bob is a highly skilled woodworker, none of us had any experience bending mahogany. We read the books, searched the Internet for advice, and proceeded.

We removed the existing rails and filled the screw holes with epoxy. I bought new mahogany strips cut to 1 inch x 1 inch by a local lumberyard, set up a jig in our garage, and pre-drilled hundreds of mounting holes. We then bundled the strips and put them in a nearby stream to absorb water (instructions straight from the Internet). The stream was on the grounds of a golf course, and the mahogany bundles resting in the shallow stream must have aroused some curiosity among the golfers.

The rubrail covers the boat's sheerline, which follows a compound curve that sweeps upward from the middle of the boat to both the bow and the stern and laterally from the bow to the transom. This curve is very pronounced in a catboat and required the mahogany to take a significant bend. Even after soaking in the stream for a couple of days, the mahogany rails were very rigid and would have broken if we had attempted to bend them around the sheerline. The only way we were going to be able to fit the rails was to steam them just before installing them.

Steaming wood for bending was standard practice in the days of wooden boats and is still common in boatyards. To us novices, however, this process seemed very exotic. In Rube

Before cutting the mast, George test-fit the tabernacle to avoid errors, above center. Joe Gerard and Bob Keppel, above left, set up the steaming tube for the mahogany strips that would become the rubrail. Installing the rubrail required the use of many clamps, above right.

***Katnip*, resplendent after her rapid refit, awaits her launching at the ramp, above left. The tabernacle, above right, is a very useful addition for trailering and ducking under bridges. *Katnip*'s helpers and friends raised a glass at her launching, at left.**

Goldberg fashion, we fitted Bob's clothes steamer to one end of a length of high-temperature PVC pipe from Home Depot. Joe, Bob, and I fired up the steamer, placed the 6-foot-long strips in the pipe, and sealed the other end with rags. Our information sources on the Internet advised us to steam the wood for one hour per 1-inch thickness, but warned us against steaming too long. So, after a little over an hour, we pulled out the first piece and bent and fastened it to the boat. It wasn't easy, but with the use of many clamps and lots of sweat, we succeeded.

One day later, we finished installing the rest of the rails without breaking one. Experience helped, and the job became much easier as we went along. The next day, we filled the screw holes with mahogany bungs Bob had made and sanded and coated the rails. Fitting the rails gave us a great feeling of satisfaction and we were (and still are) patting ourselves on the back and comparing ourselves to the people who built "Old Ironsides."

The last task was to build the boom gallows. This was pretty straightforward using stainless-steel pipe, purchased end fittings, and mahogany I cut to shape. We did this job in our garage. Joe and I installed the gallows after the boat was launched.

To the lake!

We were very proud of the result of lots of work. Tony, our son-in-law, replaced the trailer rollers, installed new trailer lights, and made sure the trailer was in good shape. We moved *Katnip* to our house so we could load miscellaneous equipment, then towed her to the lake. We launched her at a local county park. Many of her helpers and other friends were there, champagne flowed, and our newly restored pretty catboat was the hit of the launching site.

It took about three weeks of fairly intense work to complete all that we did. Shortly after we put *Katnip* in the water, I cut and installed vertical teak woodwork to cover the fiberglass either side of the companionway in the cockpit. This was strictly cosmetic but looks good. After sailing for a couple of weeks and tearing and patching the old mainsail a couple of times, we bought an almost-new sail and sailcover. We also purchased new cabin cushions and cockpit flooring. We made and installed new tabernacle bolts with smooth heads and replaced the mast hoops with parrels I made to allow the sail to hoist more easily.

Katnip looks great and gets a lot of compliments on the lake. She sails very well and is as easy to manage as we had hoped. Katz Marina, where we keep her, is well known for restoring classic wooden powerboats. *Katnip* seems to be in her element and era among those impeccable old beauties.

I can't thank my wife, family, and friends enough for all their support, comradeship, good nature, and the amazing effort they contributed.

George Damerel, a retired corporate business manager, sails with his wife, Kathy, on New Jersey's Lake Hopatcong. He has more than 50 years' experience sailing a wide variety of boats with family and friends in many locations worldwide. His hobbies have included designing and building sailing dinghies and iceboats and collecting a large sailing library with books, models, and photos focusing on boat design in the 1890 to 1940 era.

Resources

Herreshoff America Facebook page
www.facebook.com/Herreshoff-America-Catboat-260717330668787

Makeshift gearshift

A summer cruise survived a broken transmission cable

BY MATT KOCH

While on our annual vacation cruise last summer, powering across Lake Ontario from Sacketts Harbor to Waupoos, we started to have issues with our engine not running well due to sludge buildup in the fuel tank. I had already spent quite a bit of time in the engine compartment unclogging the pickup screen in the tank when I noticed that the gearshift control cable had broken at the transmission.

We were very lucky to discover this while out on the lake and not while docking at a marina in a narrow channel and surrounded by other boats. Anchoring that night was an old-fashioned-looking and -sounding affair. I called out the gear lever position I wanted and my daughter Sarah repeated the order, then used a boathook to manually select the proper gear. It worked but, given that the way home would include five locks and a marina stop or two, we clearly needed an improvement over the boathook method.

Ingenuity and a length of light line turned a broken gearshift cable into a hiccup instead of a cruise killer. Pull the sail slide for forward, the red ball for reverse.

Genius and tonic

The morning following a brainstorming session (aka sunset drinks) with friends, I channeled my inner MacGyver and dove into the problem. A closer inspection revealed that the control cable had broken at the transmission end and the remaining piece was firmly stuck in the connector at the transmission. As Sarah was removing the connector, I realized that all I needed was a piece of small-diameter line and a few blocks.

It did not take very long to find suitable attachment points for the blocks and to attach one end of the line to the gear-selection lever on the transmission. Next, I strung the line through the block, through the bulkhead into the sail locker near the helm, and back to the engine compartment and the next block. After tying that end to the gear-selection lever, I now had a continuous line running from the transmission, to the back of the boat, and forward again to the transmission. I made sure to use some fuel line pieces as chafe protection where the line passed through the bulkhead.

To differentiate between forward and reverse, I tied a red ball into the line that engaged reverse and a sail slide into the line that engaged forward. Ta dah! Once again, I had a way to select forward/neutral/reverse from the helm.

The next morning saw me seated at the helm with the lines draped over my knee while the windlass (aka Sarah) was on the foredeck, ready to raise the anchor. It quickly became obvious that draping the lines over my knee was not a good solution. Each time I wanted to shift gears, I had to look down for the right line, grab it, and pull. This was too distracting and time-consuming, but was easily solved with a bungee running to the stern pulpit. The side benefit of the bungee was that it kept a little tension on the lines and made sure they could not get caught in the propeller shaft.

This system worked like a charm for the rest of the vacation and all the way home. A little ingenuity and a reasonable collection of spares — from our boat and begged from our friends — turned what could have been a major issue into a minor inconvenience that had no impact on our vacation.

Sarah has been a lifelong sailor. She has shown quite an interest in the mechanical aspects of the boat and, as she puts it, is our deck monkey and windlass. We are truly blessed in that she, at the age of 20, and her little sister Katie, at the age of 16, are still keen on spending three weeks on the boat with us every summer.

Matt Koch started sailing at the age of 6 when his dad bought his first boat, and sailing has always been a family affair for him. He met his wife, Carolyn, 25 years ago at their local sailing club and they have been sailing together ever since. They sail with their family on their good old Island Packet 31 on Lac St. Louis, Montreal, and visit the 1,000 Islands and Lake Ontario every year on their annual vacation.

Flag flying without knots

BY HENK GRASMEYER

A banner application for plastic chain

Somewhere in a remote cubby aboard your boat you probably have a stash of flags, ensigns, jacks, and pennants. They vary in size, shape, and color and the methods of attaching them to a flag halyard and to each other are incompatible. You'd like to fly them sometimes just for fun, but how?

A lightweight plastic chain link with one of its legs cut through lets you connect any flag to a line, ring, or another flag. Plastic chain is available in a range of sizes and colors at a reasonable price and the lightweight links will not inhibit your flags' freedom to fly.

Cut, saw, or snip one leg in the middle and you have a way to instantly connect or disconnect your colors. Twist open the cut side of a link, insert your line or ring, and the link will revert to its original shape. Cutting one side of the link does take away some of its strength, but it should still be strong enough to withstand substantial winds.

When three or more links are connected together, each link can fulfill a purpose. For instance, the flag halyard at the spreader can be fastened to a link at the top of the flag. That flag is then connected to the next flag down with three more links: one to the bottom of the flag, one to the halyard, and one to the top of the next flag, and so on down the line. Any configuration is possible, of course, including multiple links for angled ensign staffs.

If you want to spell out a secret message, dress ship with the entire nautical alphabet, or fly your yacht club burgee and announce cocktail hour, it couldn't be easier.

Henk Grasmeyer's bio can be found on page 53.

There's no disputing that flags draw attention to a boat wherever it is, at top. Henk's links, above middle, let him quickly hank as many flags as he wishes to his halyard, above, including courtesy flags, club flags, and national flags of guests on board.

Resources

Flag etiquette
To see if you are flying your flags by the book, go to:
https://en.wikipedia.org/wiki/Maritime_flag.

The sailbag beanbag

A soft solution to a hard-edged cockpit

BY
MICHAEL ROBERTSON

I've seen better cockpits. When Sparkman & Stephens designed the cockpit of our Fuji 40 in the late 1970s, I think the focus was on maximizing interior space and giving the helmsman access to the traveler. The results are low coamings, narrow benches, and overall less-than-comfortable seating. We put lots of cushions out there, but we still craved something larger and moldable with which we could make even an awkward spot a good place to be. We tried the all-weather beanbags that West Marine sells, but they're much too large to use in our cockpit.

Two years ago, my wife, Windy, had an idea. At a big-box store, she bought a kid-sized beanbag. It's the perfect size, and the vinyl outer shell and the Styrofoam pellets are waterproof. All-weather it is not, however. It isn't durable in terms of chafe and exposure to UV radiation.

Windy stuck the whole beanbag inside an old unused sailbag. Just like that, we had a very comfortable, inexpensive, all-weather cushion. It's been a good solution for us. From Alaska to Mexico to French Polynesia, everyone's been happy to hang out in the cockpit — especially if they're the first to reach for the sailbag beanbag.

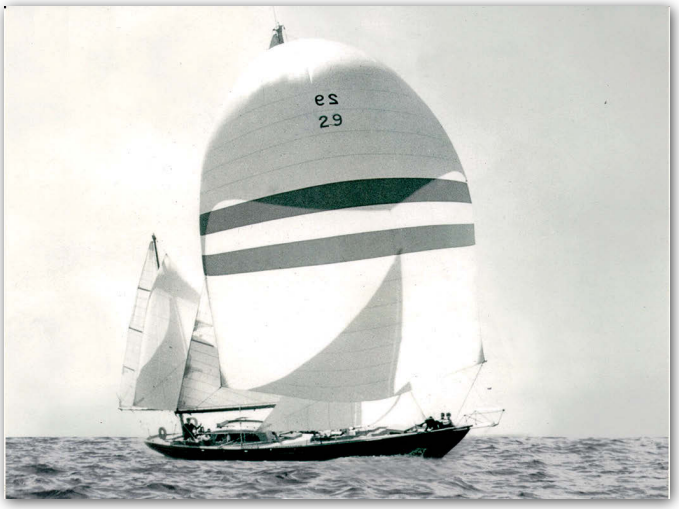
Michael Robertson and his wife, Windy, bought a cruising sailboat in Mexico, sold their Washington, D.C., home, and dropped out of their high-pressure lives in 2011 to voyage with their two daughters, Eleanor (12), above, and Frances (9). They're currently aboard their Fuji 40, Del Viento*, in Tonga. Michael is a coauthor with Behan Gifford and Sara Johnson of* Voyaging with Kids *(L&L Pardey Publications). Catch up with the Robertsons at www.logofdelviento.blogspot.com.*

continued from page 9

Handkerchief mizzen

Per usual, I enjoyed Rob Mazza's article in the November 2015 issue comparing the three yawls (see "The Bowman 46"). I must agree that the handkerchief mizzen has always appeared odd to me, so it's nice to hear an expert pan it. The one time that it did come into its own was when they could fly the mizzen staysail. Sailing across the lake one light-wind day on *Escort* with the Johnsons, we came alongside Johnny Hustler in his small yawl with a staysail set and it really was a beautiful picture. I wonder if Rob has other criticisms of the CCA rule, and were either the Redwing 30, the Corvette, or the Viking 33 designed to that rule?

–Peter Jones, Toronto, Ontario



Rob's reply

I remember *Escort* but I don't recall the name of Johnny Hustler's boat. I'd forgotten she was a yawl.

From what I can gather talking to George Cuthbertson and others, the yawl rig was favored in the postwar CCA boats almost exclusively for its ability to fly the mizzen staysail on a reach, as that was bonus, completely unmeasured, sail area. There were arguments about the mizzen acting as a steadying sail while at anchor, and Jeremy McGeary, my colleague at *Good Old Boat*, even summoned the ghost of Joshua Slocum in a defense of the yawl rig, but he also acknowledged that it was most often used as a reliable handhold for males of the species answering nature's call. Donald Street, in his defense of the yawl rig, admitted that its principal use was as a support for the owner when haranguing the crew during a race! But you are right, it makes for great photographs, especially with a spinnaker up, like this one of *Inishfree* (above). Note that the mizzen staysail is larger in area than the mizzen itself.

I think the CCA rule produced some great boats, since it really was not a design rule per se. Basically it established beam and draft measurements based on a waterline length, and any departures from them were either penalized or rewarded. However, the rule did not measure stability well. It attempted to do it by using the Ballast to Displacement ratio, but designers soon found that weight could be added to the bilge in other forms than ballast. Extremely large battery banks started to appear, as well as welded bronze mast steps, floors, and centerboard boxes.

But on the whole, the CCA rule did produce a lot of pretty, seakindly boats, especially the rash of keel/centerboarders that appeared in the late 1950s and early '60s, such as *Finistere*, *Carina*, and *Inishfree*, before the rule was adjusted to penalize them more. The Corvette certainly fits that mold. The Redwing 30 was also a CCA design, while the Viking 33, coming out in 1971, was on the cusp between the CCA and the IOR rule, which was introduced that year. However, she possessed more CCA than IOR characteristics, since the optimum IOR hull had not yet evolved.

–Rob Mazza, Hamilton, Ontario

Bluenose memories

I grew up learning to sail a Bluenose sloop and as a teen helped my father build one, so I was fascinated to read of a McVay Bluenose making it to California (see "Irresistible Bluenose," January 2016). A strong fleet is still active in the Chester area near Halifax, including many of the original wooden boats.

I enthusiastically agree with author Peter Thelin's statement that they are tender. With the genoa flying, they can be on their side in a flash, and the wooden ones will sink if filled with water, as has been demonstrated a few times. I can recall a late-season race where I bailed full-time with a bucket while my brother had the helm. Oddly, it never occurred to us to reef the main, but we were teenagers and it was only blowing 25 knots. The local fleet now races with a blade jib that makes things much more tame.

Bluenose number 79, *Longshot*, first took to the water in 1982, above. Rollover, in 1981, an all-hands affair, at right, was no doubt followed by a party. She was strip-planked with fir and epoxy.

Ernie Meade sent us a picture of *Eastaway*, his 1978 Vineyard Vixen 29, going to weather just north of Pooles Island in northern Chesapeake Bay. Send your high-resolution 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.

One correction: the original plans call for an LOA of 23 feet 2.5 inches. It may be that taking the mold stretched the dimensions a hair, plus back in the 1950s the dimensions were not considered so critical as they are now.

–Graham Collins, Halifax, Nova Scotia

Battery disconnect

I have enjoyed and appreciated Karen Sullivan's and Jim Heumann's articles. However, the recent article by Jim (July 2015) about his batteries being drained when their Dana was transported on a cargo ship confused me. Why weren't the batteries completely disconnected prior to the transport? Was it necessary to keep some instrument/pump functioning during transport?

–Tom Alexander, Akron, Ohio

Jim's answer

The main reason for not disconnecting the batteries was an incorrect assumption on my part that the boat would be stored on deck where the solar panel would keep the batteries topped up. In hindsight, it would have been the right thing to do to disconnect the batteries. Clearly, we learned some lessons from this experience beyond that of the battery chargers.

–Jim Heumann, Port Townsend, Wash.

Getting ready for the new season

The beginning of each season is the ideal time to go through your whole boat. I check the condition of everything that's aboard my boat (a Sabre 32) and decide what items need replacing, servicing, lubricating, or just cleaning. I have just spent a few happy days throwing some things out and restocking basic provisions. I have my list of small projects for 2016.

My task was made easier this season — and much more fun — by using a new app for iPad I developed called ShipShape Pro. I was able to inventory everything, allocate it to a list (cleaning materials, hardware, safety equipment, and so forth) and to a location (forepeak shelves, locker under stove, and so on). And every item has a photo or two. Now, at the tap of a finger, I know what I've got, where it is, and what it looks like. The real joy, though, was that the app automatically told me the maintenance actions for each item and added them to a list of tasks with dates when the maintenance needs to be done.

I spent more happy hours at home adding lists and locations and editing the maintenance actions. If you like things organized and shipshape, you can see the app I was using at www.intelligentmaintenance.com. My good old boat will feel like a good new boat in 2016!

–Adrian Stanway, San Francisco, Calif.

Trysail

I wanted to compliment Ed Zacko on his thoughtful article about trysails (January 2016). He made me reconsider the use of this sail. I lamented the lack of one during a Bermuda passage on a Cape Dory 26.

I do have a couple of comments. Regarding the track, on a different boat I used 1-inch genoa lead track, which is much stronger than regular sailtrack and is available in longer lengths, eliminating the joint issue. I was able to find some cast-bronze sail slides at a consignment shop. They are also currently manufactured by Bainbridge as well as Bristol Bronze. Also, if the trysail's use will be routine rather than as a storm/survival measure, the selection of the orange color might be reconsidered as it could be mistaken as a distress signal.

–John Churchill, Sanibel, Fla.

Department of corrections

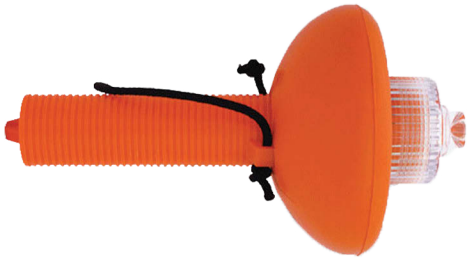
The name of *Sealect*, the Tartan 34 featured on the January 2016 cover of *Good Old Boat*, was misspelled as *Select*. Our apologies.

–Editors

No more outdated flares

Just about every good old boat carries a collection of up-to-date and outdated pyrotechnic flares. Sometimes that collection is rather large, expired flares having accumulated over years of ownership and perhaps even from previous owners. As the theory goes, they might come in handy someday . . .

Now, in the age of high-tech and miracle advancements in LED lights, an electronic solution is available: the Sirius Signal SOS Distress Light. It's visible for up to 10 miles and stays on for hours, rather than offering a brief flash in the hope of catching a rescuer's attention. Don't toss your new safety device in a drawer and forget it, however. You must check and replace the batteries. You want them at their best if you ever need them. Batteries still expire, just like traditional flares.



At $99.95 plus shipping, these big orange lights aren't inexpensive, but how many flares have you purchased over the years? If you buy several at once, you'll avoid the shipping fee, and it would be reassuring to have at least one extra as a backup.

The company also offers personal strobes and marker lights that can be attached to a life jacket or safety harness, kept in the dinghy for emergency situations, and might be enough for use in vessels that sail on smaller lakes, near shore, and in other protected areas. Visit the Sirius Signal website for more information: www.siriussignal.com.

– by Karen Larson

Husky anchor swivel

It is hard to believe Mantus Anchors could bring another innovative anchoring product to market, but the company just introduced the Mantus Swivel, billing it as the strongest link in your chain and claiming it is stronger than Grade 40 chain. It has an integrated shackle that completely eliminates side loading, making it "the safest swivel on the market."

The pin on the chain side of the swivel is the strength-limiting part, since the geometry of the chain determines the pin size. The Mantus swivel is the first to feature an oblong pin to maximize the pin's strength. The innovative shackle-bolt design eliminates the need for a shackle dog. The slim hex head design (with holes for a safety wire) allows a slimmer profile that is easier to pull over the bow roller. The Mantus swivel is precision-cast in 316L stainless steel and electro-polished. Prices range from $65 to $130 depending on chain size. For more information go to http://mantusanchors.com.

– by Michael Facius

Wireless true-wind data

The SailTimer Wind Instrument was announced a year ago as the first masthead anemometer with a digital compass in the wind-direction arrow. It is wireless and solar powered with the electronics encapsulated in the tail. The tail has been re-engineered to be thinner and more aerodynamic by reducing the thickness of the solar panels by 40 percent. The thickness of the rest of the trailing edge is now just 3.5 mm and the tail is ¾ inch taller to make it more sensitive to wind direction in very light winds. The main electronics and battery have been moved to the leading edge of the tail to create more of an airfoil shape with a fine trailing edge. The SailTimer Wind Instrument has a new submersible off switch for storage, an LED light to indicate when it turns on, and arrives ready to use with the battery charged. It connects to mobile and other devices via Bluetooth 4. The regular retail price is $499. For more information and ordering, go to: www.sailtimerwind.com.

To be featured on this page, items must be new products. If you would like 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 them that *Good Old Boat* sent you.

Boats for Sale

Tanzer 7.5
1978. Great coastal cruiser, many upgrades and comfort items added as we cruised her along the Maine coast the last 4 years. Comes equipped, not stripped, ready for her next adventure. 8-hp OB, new wiring, RF, 2 headsails. Selling to finance our cruise south next fall. Rockland, ME. $3,000.

Keith Davie
207-450-1933
sionnaketch32@gmail.com

Bill Boyd Catboat 23
1979. 23' x 10' x 27" draft (5' CB down), 6,000 lb. Wm. Garden design. Pretty, roomy, heavily built, stable, environmentally friendly with lots of character. Will go about anywhere. Folding mast, new sailcover, good sail. New cushions, Porta Potty, new canvas cockpit cover. Triple-axle King trailer. Electric Yacht IB. She's a joy to sail! Williamson, IA. $12,000.

Ford Brockman
fsbrockman@hotmail.com

Irwin 41
1983 center-cockpit staysail ketch. Original owner. 13'4" beam, 6'6" draft. Sleeps 6. Two heads w/ showers. Exc cond. Many recent upgrades. Dealer-installed chairs in saloon. Owner's cabin aft w/ queen berth and private head w/shower. 3 new sails '05. New upholstery '09, burgundy paint '10, canvas '13. 200 gal water, 100 gal fuel. Very comfortable cruiser easily handled by 2 people. On Lake Ontario, Rochester, NY. $70,000.

John North
585-621-6499
boreas84@aol.com

Cornish Crabber 24
2000 sloop. Classic British cruising boat in exc cond. Full keel, great stability, very sea-worthy even offshore. Extra security w/2 RF headsails. Bimini, basic electronics. 18-hp Yanmar diesel. Enclosed head, 2-burner propane stove, sink. Sleeps 3. Only 2 owners. Many extras. Yard maintained. Ready to sail. Eastern Long Island, NY. $24,500.

William Winslow
631-325-1138
wcwinslow@aol.com

Irwin 37
1980 Mk III. Cutter-rigged, center-cockpit beauty. Totally rebuilt and outfitted into a floating work of art. Deck re-cored, hull re-epoxied, and equipment updated. Ideal sailer/cruiser w/shoal draft (4' to 7'). Large tankage, reliable 50-hp Perkins 4-108 diesel. 3 solar panels, wind-mill, stack-pack, and new sails. Lying Penetang, ON. Full inventory list and more photos available. $95,000.

Wayne Dowswell
705-326-1592
awdowswell@gmail.com

Pearson 365
1979 ketch. Very stable cruiser, Westerbeke 44-hp w/400+ hrs. New shaft, Cutless bearing '15, Seafrost fridge '12, Raymarine ST60 and hydraulic AP. Very good cond. Shoal draft, 3 complete sets of sails w/Dutchman system on newest main and mizzen. Dinghy davits. Cape Cod. $42,900.

Edmund Woiszwillo
508-888-7833, 508-274-3105
boreas117@comcast.net

Herreshoff Scout cat ketch 18
1978 sailboat or motor launch (shown). Stable daysailer or camp cruiser with new custom 5-hp Mercury OB. Custom varnished motor cover, new varnished seats, rigging/sails in exc cond. Spars refinished, decks repainted, custom Bimini and forward dodger. Aluminum tandem-axle trailer with tongue extension, new tires and bearings. Has been across the country twice. Ludington, MI. $9,500.

Richard Hubbard
231-425-3362
rhubstuff@gmail.com

Steel gaff sloop
1997. Serious world cruiser. 39' LOA, 33' on deck, 10'2" beam, 4'2" draft, 18,400 lb. Double-ended, double-chine steel, keel-stepped aluminum mast. Complete head, galley, Yanmar diesel, new sails. Clean, very nice interior. Easy to get to water and Gulf of Mexico. Greater Houston, TX. $18,900.

Bob Marsh
713-818-7701 cell
832-932-5070 eve
TXJimmie1@aol.com

O'Day 222
1984. 25th Anniversary Edition. Nice small boat, very forgiving to anyone learning to sail her. Looking to find a good home for her as I have other boats to sail. Lake Eufaula, OK. Boat only for $1,500 or $4,400 for all the goodies. All offers considered.

Paul Meistrell
918-484-2216
sbp@crosstel.net

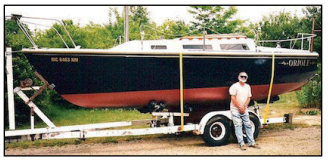
Coronado 28
1974 sloop. Freshwater boat all its life. New sails '08. 15-hp Honda 4-stroke. Muskegon, MI. $8,000

Jon Stoltzfus
517-645-7027
sstoltzfus22@gmail.com
www.betrothal.droppages.com

Boats for Sale, cont

Catalina 30
1987. Outstanding cond, less than 150 hrs on engine. Original owner didn't sail much and took great care of this boat, including storing the sails indoors for the first 20 years. Our maintenance regime, bottom jobs every other year, and several upgrades will make her a great boat for her new owners. Lake Texoma, TX. $21,500.
Todd Liberty
972-241-5801
PTLiberty@gmail.com

O'Day 22
1980. Many upgrades. Cockpit halyards. 4 winches. Main, working, and storm jibs,135 genoa, cruising spinnaker. CDI Flexible Furler. 2 reefs for main, flattening reef. 9.9-hp long-shaft Evinrude; 4-blade high-thrust prop, OMC hydraulic mount. D/S, Autohelm, VHF. Trailer included. Stored inside at Presque Isle, MI. $3,000.
Ted MacKinnon
248-647-1628
nw8w@arrl.net



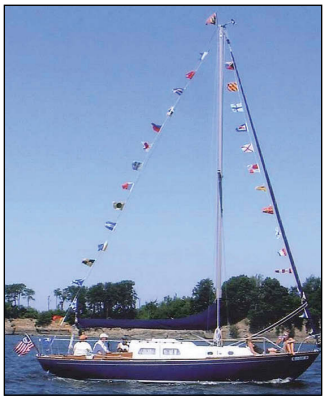
Catalina 25, Interlake 18
1985 Catalina 25, $6,900; $11,000 w/ V-10 tow truck. 1957 Interlake 18, $950. Both boats are fiberglass w/swing keels. Always in fresh water. Good trailers and tires. Southwest MI.
Michael Murphy
269-624-6583
modalservi@aol.com

Morgan 382
1979. Great old boat. Heavily built Ted Brewer design. Beautiful teak interior. Far above average cond. Lightly used, well maintained. 5' draft. Low-hrs Perkins 4-108. 35lb Delta. Oversize Harken RF 2008. Garhauer rigid vang. 3-burner Tasco LP stove, microwave oven. A/C. 2000W Prosine inverter/charger. Second owners (21 years), non-smokers. On Lake Erie, Port Clinton, OH. $39,900
Freeman-Eckley
440-967-0260
lkberndt@msn.com

Ericson 32
1973. Fast comfortable cruiser/racer. Documented. New Raymarine electronics '15. GPS. Enhanced A-4 w/approx 670 hrs. New engine bed rails and motor mounts. Harken RF. Double-spreader aluminum mast. 4 Barient SS cockpit winches, 2 SS halyard winches, 2 Lewmar cabintop winches. Sails include main, 110, 150, drifter, gennaker, staysail. Martec folding prop. Boat stands, spare engine, tools, other misc. items. One owner for 30+ years. Kittery Point, ME. $12,500.
Larry Dow
207-752-6345
sailse32@aol.com

Rob Roy 28
1985 fiberglass yawl built by Marine Concepts, designed by Ted Brewer. High quality boat in exc cond. Constantly upgraded. 2 mainsails, 4 jibs, mizzen, mizzen staysail. '16 6-hp Mercury OB. Trailer totally rebuilt, new surge brakes. 28'8" overall, 22'8" on deck, 1'7" CB up. Well equipped including galley, 2 bunks, Porta Potty, 2 anchors, compass, cockpit operated bilge pump. Palm Beach Gardens, FL. $12,500.
Roy Flack
516-626-3646

Custom 40
1966 yawl. Racer/cruiser by naval architect Fred Ford. Fast, sea-kindly, in great condition, ready to go anywhere. Insured for $75,000 and worth much more. Must sell, and will consider any offer over $30,000. *Bull's Eye* is a fantastic boat available at bargain price. In the water, Oriental, NC. $30,000.
Edwin Nirdlinger
419-490-3110
enirdlinger@gmail.com
https://sites.google.com/site/ourbullseye/home?pageReverted=2



Alberg 30
1966. Harken RF jib, Harken mainsheet traveler, Anderson #2 self-tailing cockpit winches, new toilet in head, new thru-hull fittings, all new deep blue cabin cushions, electric fuel pump and upgraded fuel filter on reliable Atomic 4. Main beam rebuilt. Full survey '12. All necessary docklines included. Danforth anchor w/chain and 200' rode, winch handles, and more sailing gear. Sailaway cond. Matching 9' Dyer Dink also available. Annapolis, MD. $10,500.
Scott Gardiner
410-544-8477, 410-647-7777
scott@gardinerappelgroup.com

Cheoy Lee Luders 36
1970. One owner. Spent most of her life cruising Chesapeake Bay. Teak decks replaced '92. New fuel tanks, 40-hp Yanmar '02, 3 coats Awlgrip, RF jib and genoa, rarely used spinnaker. On the hard and under cover outside Chestertown, MD. More info on Yacht World. $42,500.
John Menocal
john@annapolisyachtsales.com

Real Estate

Lake Superior/Apostle Islands cabins, homes, lake frontage
Attention sailors and power-boaters. We can find you the perfect property for your specific needs and wants. Exclusive buyer's agent. No charge to you for my services if the property is in the MLS.
Sharon K. Realty
715-779-5757
sharonkrealty@ncis.net

Products - Electrical

Products - General

Boat Deliveries

Boats

Restoration

Websites

Cushions/Bedding

Services

Everything you wanted to know about our classifieds

Boat classified ads	Subscriber	Non-subscriber
Text (web only)	*free*	$40
Photo and text (web only)	$20	$60
Text only (magazine and web)	$35	$75
Photo and text (magazine and web)	$55	$95

- Total word limit: 75 words.
- Web ads remain posted for approximately 90 days.
- Send email text to: classifieds@goodoldboat.com
- Or by post to: Good Old Boat, 1300 Evergreen Dr. NW, Jamestown, ND 58401-2204.
- Photos may be emailed as jpgs or sent by post for scanning at *Good Old Boat*.
- Payment is made in advance by check or credit card.
- For full details, go to: www.goodoldboat.com/resources_for_sailors/sailing_classifieds or call 701-952-9433.

Display classified ads (boxed product and service ads)

- $40 for black/white and $50 for color per column inch.
- Sold in half-inch increments.
- May not exceed 3 inches.
- Column width is 1⅝ inches.
- Classified display advertisers are invoiced following publication of the issue containing their ads.

Next Good Old Boat Ad Deadlines

Issue	Deadline
May/June	Feb. 29
July/Aug	Apr. 29
Sept/Oct	July 1
Nov/Dec	Sept 2

Deadlines are subject to change, Please visit http://www.goodoldboat.com/advertiser_services/ad_deadlines.php for updated information

Let us know when your boat sells!

Scent of a good old boat

The alluring emanations of a seagoing home

BY MICHAEL ROBERTSON

At any auto parts store in the country, you can buy an aerosol can of New Car Smell. Have you ever seen a can of New Boat Smell at your local chandlery? No, you haven't.

I remember walking the Southern California docks in my twenties, looking for my first sailboat, something I could live aboard and sail. My budget was small — the high four digits — but I found friendly brokers willing to give me their time and to share their knowledge. I must have boarded dozens of old boats during my search, at least a few in every marina between San Diego and Ventura.

Twenty years later, I don't recall much about more than a couple of those boats, but I absolutely remember the smell of nearly all their cabins. But let me pause here. *Smell* isn't the right term. What I'm remembering of these cabins is something pleasant. A scent that hit me when these boats were opened up, stuck with me, and came to represent the essence of a seagoing vessel, a scent inextricably linked to the promise of adventure and long-distance travel. Let's call it . . . an olfactory experience.

Of course, some old boats reek of holding tank, fresh paint, mildew, or nasty bilge sludge. That's not my thing. Rather, the bouquet I'm so fond of is probably a musty combination of salt water and old wood with subtle undertones of diesel. I know I'm romanticizing, but included in this aromatic tapestry must be some kind of magic. It's strong aboard the 37-year-old boat my family and I sail today. When I return after she's been closed up for a while, going below always brings a smile to my face.

Reminiscent redolence

I'm not alone. I've talked to others who share my appreciation for the particular nautical aroma of an old boat's cabin. I've read of sailors who pull a book off the shelf at home, only to have the pages waft the smell of the old boat that book was carried aboard, bringing them back on board even while sitting in an armchair far from the sea in the dead of winter.

New boats don't have it. Their fiberglass and fabrics are still off-gassing. They've not been lived in, no salt water has come below, no diesel has ever spilled, they've not aged. Savvy yacht builders and brokers might think about formulating an Old Boat Smell, a can of something they could use to freshen up the new models for the boat shows.

I suspect it would increase sales.

A boat acquires its characteristic aroma over the years, from the materials its built from — paint, varnish, fuel, the meals cooked on board, and the people who've lived aboard. Michael's daughters, Eleanor (12) and Frances (9), know the sweet smell of home.

Michael Robertson's bio can be found on page 67.

FREE
2016
MARINE
CATALOG
Sailrite.com

MAKEOVER YOUR BOAT CABIN

With Our Free Do-It-Yourself Video Series

Learn how to create new salon and v-berth cushions, cabin curtains and 6 other great projects to make your boat feel like home!

Sailrite.com/How-To

SAILRITE
Est. 1969

Equipping you to sew at home & on the water.

At Sailrite, we've been supplying sail & canvas workers with all the tools and materials they need to complete their projects for over 46 years. We know successful projects also require the right support. That's why we provide thousands of videos to equip you to take on any project with confidence.

Start your next project at Sailrite.com or call 800.348.2769




FABRIC SEWING MACHINES TOOLS KITS SUPPLIES HOW-TO VIDEOS