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Issue 74 September/October 2010

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CONTENTS

SEPTEMBER/OCTOBER 2010

For the love of sailboats

Review boat

10 Esprit 37

A performance cruiser for the coast and open ocean by Richard Smith

Trailerable boat

18 Morgan 25

A low-priced club racer and shoal-water cruiser by Allen Penticoff

Refit boat

48 Refitting a rare Voyager 26

This one, he swears, is the final vessel by Ron Chappell

Speaking seriously

Cruising designs

14 Talking about rigs *One size, or style, does not fit all* by Robert Perry

Making your own

22 The silence of the doors An early riser solves the problem of clattering dropboards

by Richard Smith **28 Smart new oars**

An inflatable dinghy gets a homemade upgrade by Richard Toyne

Hulls and holes

24 Bigger cockpit drains

Faster discharge from flooding waves by John Brooke

Sailboats 101

26 Buoyancy and Displacement 101 What floats your boat by Don Launer



Voice of experience 31 Just plain too big?

Cutting your dreamboat down to size by Eric Holohan

Useful modifications

34 Better drinking water

Keep your onboard supply fresh and pure by Niels Jensen

36 Winterizing your boat

An easier way to ward off Jack Frost's fingers by Ben Stavis

41 A wash-down for the anchor

No more muddy souvenirs to foul the foredeck by Chuck Baier

Electrical wiring

44 Rewiring a Westsail 32

Taming an electrical nightmare to further a cruising dream by Aaron Norland





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March 2004

Choosing the right boat Replacing the boom Building a cockpit grating Pacific Seacraft 25 review Sirius 21 review

May 2004

Remembering Lyle Hess Emergency tillers Replacing a fuel tank Watkins 29 feature boat Wild Wind 20 review

July 2004

Replacing the cabin sole Converting to LEDs Brewer on engine selection Precision 23 review Nimble 24 review

September 2004

Finding an affordable voyager Restoring non-skid From weekender to cruiser Spencer 35 feature boat Corsair 24 review

November 2004

Sealants and adhesives Winter boat enclosure Pearson Vanguard review Venture 25 review Pacific Seacraft 37 feature boat



March 2005

Adding a deck wash Dinette conversion C&C 33 review American 23 review Tayana 37 feature boat

May 2005

Portlight replacement New overhead Blister repair Aloha 32 review Rhodes 22 review

July 2005

Surviving capsize Island Packet history Adding a boom gallows Bristol 29.9 feature boat Drascombe Lugger review

September 2005

Fixing a corroded mast Pardeys on sailing without an engine Yankee Dolphin feature boat Whitby 42 review Pearson 28-2 review

November 2005

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CONTENTS

SEPTEMBER/OCTOBER 2010









Just for fun

Cruising memories

56 In praise of the perfect mate She's the best crew a man could hope for by Robert Poindexter

Sailing life

58 Good old boat (gulp!) racing It's just a friendly get-together — they say by Gary Miller

What's more

- 5 The view from here Weather permitting – by Karen Larson
- 6 Mail buoy Finn is launched, Don Launer is inducted, and *Rubicon* sails

Quick and easy

- 60 Lifeline resurrection by Connie McBride
- 62 Pulling staples by Rudy Sechez

Simple solutions

- 64 Nautical tattoos by Marlin Bree
- 66 An ingenious holding tank by Gregg Nestor
- 67 Product launchings
- 68 Good old classifieds
- 75 Our advertisers . . . bless 'em
- 77 Reflections Who needs palm trees? – by Marshall Judges



About the cover ...

Good Old Boat contributing editor, Don Launer, built his schooner, *Delphinus*, from a bare fiberglass hull. Don has written about her for the magazine but she's not been a cover girl — until now. Here she is, anchored on Barnegat Bay, New Jersey, next to the barrier island of Island Beach State Park, not far from her and Don's home.

Circumnavigations and other true sailing tales!



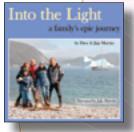
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The view from here

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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 Jeremv McGearv MANAGING EDITOR **Tim Bauernfeind** ASSOCIATE EDITOR **Pat Morris** RESEARCH EDITOR **Dan Spurr** COPY EDITOR John Vigor CONTRIBUTING EDITORS Ted Brewer • Donald Launer Dave Martin • Gregg Nestor • Robert Perry Paul Ring • Bill Sandifer • Richard Smith CREATIVE DIRECTOR Mary Endres AD PRODUCTION Nancy Koucky CLASSIFIED ADS AND FINANCIAL MANAGER **Karla Sandness** karla@goodoldboat.com • 701-952-9433 DIRECTOR OF CIRCULATION/RETAIL Mark Busta mark@goodoldboat.com • 701-952-9433 WEBMASTER Jerry Stearns www.goodoldboat.com TROUBADOUR **Tom Wells** AUDIOBOOKS www.AudioSeaStories.com

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Weather permitting

When cruising, our days begin with tea and the forecast

by Karen Larson

ne of the biggest lessons I've learned as



we cruise is the difference between weather reports for the landed gentry and weather reports for sailors. Our home doesn't float, doesn't tug at its anchor, and isn't in danger in high winds. When we go from our home to anyplace else, we generally drive a car that isn't particularly affected by wind speed or direction. We can drive from point A to point B in the rain and never get wet, cold, or miserable.

As a result, we don't study the weather much when we're living at home. The term "weather permitting" doesn't come up. The weather rates a passing glance when we notice something unusual or particularly lovely but we don't

race to an online weather service to see what's causing the phenomenon. We don't think about which direction the wind is blowing. We certainly don't get up in the morning and check the day's weather outlook with our first cup of tea. Not when we're on land.

This summer, we've been living aboard, and that has given the weather new meaning. It's the first thing we check each day. We know what systems are driving the current weather **66** We have a very personal interest in how hard the wind will blow and from what direction. **99**

and we study the unseen weather systems out there to the west of us, since those highs and lows will soon affect us. We have a very personal interest in how hard the wind will blow and from what direction. We care — suddenly a great deal — about any precipitation it might bring. Our boat's boom is too low for a dodger or other protective canvas. For those aboard *Mystic*, rain means wearing our own protection in the form of extra-warm foul weather gear. When the wind blows across Lake Superior's cold water, it makes everything colder. The worst is when it's wet and cold at the same time. We try to avoid getting caught in that combination.

We have an endless horizon out here on the big lake, which allows us to make a visual study of the weather. But we also have one more magic trick that has made it easier to predict what we're about to experience: WxWorx on Water. This is a satellite feed that makes it possible to see the highs and lows across North America and the radar view of clouds in the U.S. (We wish more of Canada were covered, since much of our cruising is in Canada, but we're able to interpolate from the data we do receive.) With WxWorx, we see wave heights and direction, the locations of all severe storm warnings, weather buoy reports, and the text of NOAA's marine forecast. We don't have to be near civilization and a television to receive this information. We get it as often as we like and no matter how far we travel.

Our three-month cruise will come to an end as you read this issue. In mid-September, we'll return to where we began in late June \dots weather permitting.

Mail buoy

Finn is launched, Don Launer

Finn floats!

Our Tiki 30 catamaran, *Finn*, slid into the cold Maine waters with nary a whimper on May 23. I'd begun building the boat one year and 11 months earlier (*Note: See the feature story in the January and March 2010 issues.* –*Eds.*) The mind of a boatbuilder is racing when a project is launched for the first time: Did I follow the plans correctly? Will she float on her lines? How will she sail?

I thought of the 2,500 hours of labor and \$35,000 in wood, epoxy, and gear that went into her. Would I go home that night joyous or would I want to bury my head in the sand?

All our fears were laid to rest and every expectation of success was realized when we raised the sails and *Finn* sped across the bay at 7.5 knots

with a balanced helm that was light as a feather. The scars from the labor and the over-budget tally drifted off in the wake: after two years of being boatless, the limitless horizon was once again our raison d'être.

-Dave Martin, Bremen, Maine

She saved money and gained an education

In her article in the July 2010 issue, "When sail rules," Karen Sullivan says she was able to "relinquish a fearbased reliance on the engine" in exchange for new selfconfidence, new skills, and, best of all, new patience and gratitude. It was all possible because she and her partner *practiced*. That is not a bad bargain.

Instead of towing 100 miles for \$3,500, she and Jim sailed for 50½ hours, for a savings of \$35 per mile or \$69.30 per hour. Not too shabby. I am sure saving money was the motivation, but the real reward was, as always, both tangential and intangible.

It was a wonderful story with important lessons ... "for the rest of us."

-Sigmund Baardsen, Vallejo, Calif.

Just do it, do it now

We are glad to hear that Karen and Jerry are going cruising! We waited till we were 65/66 before we made our first trip to the Abacos in 2006/2007 aboard our 1975 Alberg 37 yawl, *Shearwater*. We were cruising for about seven months. If we had it to do over again, we would have started 10 years sooner. We just returned from our second cruise to the Abacos, having been gone again for nearly seven months. Thanks to great housesitters, we were nearly "caught up" by the time we got back home to Virginia.



Our advice to all "would be" cruisers: *do it now* — before you get too old. We plan on another Bahamas cruise next year. Have fun — you won't regret it!

-Tom and Kaye Assenmacher, Kinsale, Va.

Look out the window!

In reference to the article in the July 2010 issue, "The truth about GPS," of greater import is the truth about charts. The precision of GPS reveals the imprecision of charts. For example, Isla Isabela, in the Pacific Ocean, is 6 miles off its charted position, Niue is 12 miles off its charted position, Baja California's western shore is, on average, 1.5 miles west of the charted position. These errors are not accounted for by datum offsets.

In the Sea of Cortez, where the latitude is spot on but the longitude

error is a fairly consistent 1.5 miles west, it has been suggested that the chronometer on board USNS *Ranger* was 1½ seconds slow when she made the survey in 1885. These charts, still uncorrected, are still in use today in electronic as well as paper format.

The best ways to avoid GPS-assisted stranding, radarassisted collision, and similar disasters: look out the window, do not rely on any single navigational mode, and burn plenty of incense.

-Sigmund Baardsen, Vallejo, Calif.

Hall of Fame inducts nine

The Barnegat Bay Sailing Hall of Fame promotes the area's maritime heritage by recognizing individuals whose accomplishments on the water and/or on shore have significantly enhanced Barnegat Bay's maritime character and strengthened its status as a maritime center. Outstanding sailors who earned their sea legs on Barnegat Bay will have their names entered into the Barnegat Bay Sailing Hall of Fame. On Saturday, October 2, 2010, nine individuals will be recognized at an induction ceremony.

Here at *Good Old Boat*, we are popping our buttons because one of our long-time contributing editors, Don Launer, will be honored as one of the 2010 inductees.

Here's the press release:

Donald Launer: Designed and built his first boat at age 11; obtained his commercial Coast Guard Captain's License 30 years ago; has sailed Barnegat Bay for 76 years; has written about numerous sailing trips in international, national, and regional periodicals, including *Cruising World*, *Offshore, SAIL, Soundings, Chesapeake Bay Magazine, Coastal Cruising*, and *NJ Waterways*; was co-contributor for

is inducted, and *Rubicon* sails

several nautical books; had his own newspaper column; was the field editor for the yearly *Waterway Guide* for 15 years; currently a contributing editor for *Good Old Boat* magazine; his book, *A Cruising Guide to New Jersey Waters*, was published in hardcover in 1995 and is now in paperback in its second printing; wrote the reference book *Dictionary of Nautical Acronyms and Abbreviations*, as well as *Lessons From My Good Old Boat*, *Navigation Through the Ages*, and *The Galley* — *How Things Work*; has lectured extensively on navigation; member of Alliance for a Living Ocean on Long Beach Island, the BoatU.S. Speakers Bureau, and Boating Writers International.

Congratulations, Don!

-Editors

Service above and beyond

I recently had an experience with a vendor and a manufacturer of LED lights that I think is worth telling you about. Around this time last year, I purchased an LED anchor light with a photodiode in it that swiches it on at dusk and off at dawn. The cost was \$250.00 from the vendor Sailboat Stuff and the manufacturer is Orca Green Marine. The light worked flawlessly throughout the summer.

After haulout last fall, I had the mast unstepped and cradled on deck. Three weeks ago, I noticed condensation on the lens of the light and a small amount of water inside. I called Sailboat Stuff and spoke with Daniel about it. He said he thought it was still under warranty and would get back to me in a couple of hours, which he did. He told me the light was still under warranty and he would have a replacement sent out from the manufacturer. The next day, Daniel called to tell me the manufacturer had a large government order and wouldn't be able to ship until the first of September but could send me one that worked. Some glue had gotten on the top of it, so it was now considered not for sale, but I could use it for the summer and return it when I received the new one in September.

That is what I call service above and beyond. –Pete Rollins, Beverly, Mass.

One of the real Good Guys

Every once in a while, I get to do business with one of the really Good Guys left out there. Al Pearson, managing director of Bukh Diesel, UK, Ltd., is definitely one of them. He has been helping me nurse the Bukh Pilot DV10 auxiliary engine in my 1977 Pearson 30 for the last few years since our last domestic source went out of business.

His knowledge of these good old engines is encyclopedic and he shares it freely without any quid pro quo asked. He has even arranged emergency overnight airfreight to us while we were stranded on a cruise. Al has also discounted parts fairly when currency exchange rates were unfavorable for us here in the States.

-Eric Peabody, Keyport, N.J.

What's the word on downloading?

So, I'm "cleaning up" and am getting rid of all my old magazines — *Good Old Boat* is the last to take care of. I will be ordering the CD collections but was wondering if it was possible to receive new issues (I'm a subscriber) electronically in pdf or some other format? It would lower printing costs for you and be better for the environment. Keep up the good work.

-Tom Perrone, Richmond Hill, Ontario

Our model

Many other magazines have adopted electronic distribution. Our subscriber-driven business model doesn't support this as well as the advertising-driven business models of most other magazines. What you have to realize is that our subscribers, rather than our advertisers, are our main source of revenue.

Our problem is that the world has come to expect anything on the Internet to be free or very cheap (after all, no postage and no printing, so why should it cost as much as a printed copy?) That's no problem for the advertising-driven magazines. They can afford to *give away* their print magazines and they would do so if postal regulations allowed it.

If we published our magazine electronically, we would be competing with ourselves and cutting off the revenue stream that keeps us going. We need to charge a lot for our subscriptions because there is no economy of scale for a small publication. If we got into a cycle in which we printed fewer copies (because we were distributing more copies electronically), the cost per copy would go up at the printer. We couldn't cut our subscription price because we still would have to pay for authors and editors; meanwhile printing costs would remain high as long as we had *any* print subscribers.

Electronic distribution works for magazines that are advertising-driven. It doesn't work for magazines that are subscriber-driven. Even though it sounds good in theory, we simply can't go there.

-Editors

Chris Lucas sent this moody shot of his favorite aid to navigation just outside Hempstead Harbour in Sea Cliff, New York. The winch in the foreground is on his Pearson 30.

Mail buoy

Transatlantic Tartan

Grace and I sail our Tartan 34C sloop, *Aries*, (# 524) all over Chesapeake Bay and its tributaries. They are wonderful sailing grounds but we have not yet gone out of The Bay through Hampton Roads into the "Blue Water." Then we heard about some "wild, wet, and salty" T34C sailor doing a "cruise" across the Atlantic Ocean!

The sailor is Jürgen Mohrmann and the boat is *Rubicon*, the "flagship" of the 526 boats in the T34C fleet (see the background article on *Rubicon* in *Good Old Boat*, June 2007). Jürgen set a departure date from the homeport of Hamburg, Germany, for July 6, 2010. *Rubicon* will not touch land in the Americas (Barbados) until December 14. Then she'll sail up the island chain and via the Bahamas to Miami by March 12, 2011, and finish the long cruise in our wonderful Chessie on May 1, 2011.

The Tartan 34 Classic Association, the one-design class organization for T34Cs, is sponsoring a satellite tracking system to update *Rubicon*'s position every two hours. The satellite transponder is now installed on *Rubicon* and all of us can follow Jürgen's 15,000-nm cruise from our computers at this website: <chart horizon.com/m/cz/map?vessels=Rubicon&history =2010_Transat_Crossing&_scope=all>.

Scroll over to the green star to view *Rubicon*'s latest position, nearest city, speed, and time of latest position (and oceanographic conditions). This satellite tracking sure beats doing the 11-month cruise ourselves! On the other hand, Grace and I still love sailing on the Chessie!

-"Dino" Deane E. Holt, Potomac, Md.

Good old boats are everywhere

I was in the Big Apple for my annual surprise birthday party (don't ask) and I was wearing my *Good Old Boat* ball cap. Believe me when I say I thought I should have worn something a little more, let's just say, urban, to New York City. One night at about 11 on the #6 subway going uptown after a night in the Village, I sat next to a guy who asked, "Got an old boat?" to which I replied, "Not old, but a 1990 Nordic Tug." He said, "I've got a tug too. What are you doing tomorrow?" So after talking to Robert for five minutes on the subway, we ended up almost at the end of the line in a backwater in the Bronx.

The next time I have doubts about wearing your hat to, let's say, Paris or Rome, I will disregard them! –Dean Raffaelli, Chicago, Ill.

Ocean of dreams

I love your magazine. I really do. I read each magazine cover-to-cover, and I don't even own a boat! But I have many memories of sailing that I've come to rely upon to keep me dreaming.

I grew up sailing 16-foot Hobie Cats on the Intracoastal Waterway and the Gulf of Mexico. As surfers who were too young to drive, the only way we could get to the beach was to tie our surfboards onto the trampoline and sail across the sound to the barrier island, walk a half mile or so across to the Gulf, and surf the wind waves created by the afternoon onshore winds. The sailing was almost always better than the surf, but many great memories were made. As the stories



in your magazine almost always reflect, the journey is the destination. Looking back, I realize that those adventures were the rigging in my childhood and truly are the stuff of dreams (childhood memories have pretty much always seemed to me like dreams backwards, which is why I think they play such an important role in determining one's future — they're always weighing in). Memories of sailing continue to drive the adventurer that I realize still exists inside me, buried as he may be.

Living in Los Angeles and being mildly poor, I now find myself working too much and adventuring too little. What can you do? However, reading your magazine allows me some relief from the grind and provides much-needed escapes from a world moving faster than I ever thought



Dulcinea's first mate is a Cane Corso (Italian mastiff) named Bullett. Dave Hughes sends our picture pick for this issue from his 1967 C&C Corvette, sailing just west of Bayfield, Ontario, on Lake Huron. Send your sailboat photos to jstearns@goodoldboat.com and we'll post them on our website. If we publish yours here, we'll send you a good old T-shirt or cap.

necessary or healthy. The stories (even the "how-to" ones) not only help get me through the workday, but also stoke the flames of my dream that one day in the not-so-distant future I may actually stand on the deck of my own small floating fantasy again, only this time with the hard-to-believe-chance to share the adventure with my son, Miles. The way I see it, the more we know about the things everyone else does to and with their boats, the more we'll know when our "ship" comes in, or our Cal 20. So thanks for the inspiration! I look forward to renewing my subscription to *Good Old Boat* next month. Forty bucks well-spent.

-David "fantasy-sailor" McDaniel, Redondo Beach, Calif.

I now fully understand

I am the proud owner of a 1991 Catalina 30, a reader of your fine magazine for several years, and a subscriber of about one year. I have often looked at the secondary title "the sailing magazine for the rest of us" and generally felt I understood, given the current offerings in boats and the costs associated with them. But I have to tell you that upon seeing the back cover of this month's *Sail* magazine, it hit me like a wild boom jibing what this saying really means. That back cover advertisement has James Spithill, America's Cup-winning skipper, hawking a pair of Prada sunglasses. Prada sunglasses! Please keep me with the "rest of us," and thank you for your magazine!

-Fred Church, Little Rock, Ark.

Overindulgence without pain

Just got this month's copy of *Good Old Boat* and once again couldn't put it down. Love your product. Got me thinking though . . .What's the difference between *Good Old Boat* and ice cream?

You don't get a headache from devouring *Good Old Boat* too fast!

P.S. I think there are many of us working on Plan C, going cruising.

-Stephen Thompson, Houston, Texas

Sounds a sailor loves

I think all sailors identify with Karen Sullivan's article, "When sail rules; listening to the lovely sound of no engine," July 2010 *Good Old Boat*. Many years ago, at the Annapolis Sailboat Show, I attended a lecture given by Walter Cronkite in which he described his sailing life.

"There are two sounds that a sailor loves," he said. "The first is when you turn off the engine and all you hear is the water going by the hull. The second is (long pause) when you turn on the engine and it starts when you need it." -**Don Launer,** Forked River, N.J.

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





Review boat



Duane and Barbara Tack have owned Sequester, a 1979 Esprit 37, since 1981. I first learned of Duane and Barbara when I discovered the privately published book they'd written (and handsomely illustrated with Barbara's watercolors) titled The Voyages of Sequester. The account follows Sequester from her homeport of Kingston, Washington, down the West Coast, into the Caribbean, and across the Atlantic via Bermuda and the Azores to Europe — and back again. Much of Sequester's equipment and her present character is shaped by that voyage.

Duane likes to keep things simple. He has a Ph.D. in electrical engineering and is used to separating the essential from the unessential. He has resisted altering the boat. In 1989, he conducted *Sequester* to Lisbon by a combination of piloting, celestial navigation, Sat Nav, and Loran. In addition to the binnacle-mounted compass, the boat is now equipped only with a GPS, VHF, depth sounder, and a minimum of other instruments and aids to navigation. A Monitor windvane and a belt-driven Autohelm provide self-steering.

These days, Duane and Barbara keep her in Puget Sound, where they take advantage of their trusty Wallas kerosene heater and Dickinson solid-fuel stove to make early spring and late-fall cruising comfortable. This cruising couple is apt to sail *Sequester* across the Strait of Juan de Fuca to Victoria, British Columbia, and from there cruise along the coast of Vancouver Island, over to the Queen Charlotte Islands, and along the Strait of Georgia.

Design

Robert Perry designed the Esprit 37 for Valiant Yachts, drawing on the proven seaworthiness, speed, and comfort of his Valiant 32 and 40 designs. The hull has a traditional profile with a low coachroof and small portlights, low freeboard, and a well-sprung sheer drawn between a raked stem and a canoe stern. Below the long waterline, it has a relatively low wetted surface area and the keel and skeg-hung rudder are designed with NACA foil sections — features that in the 1970s marked fast boats. Bob Perry made important innovations that were married to well-established traditions, leading *Sail* magazine to name the Valiant 40 the Cruising Boat of the Decade. The Esprit 37 was conceived as a refinement of that tradition.

For a more detailed discussion of design considerations that affect handling, performance, aesthetics, and many other concerns of the designer, see Bob Perry's series on yacht design in recent issues of *Good Old Boat*.

Construction

The Esprit 37's hull is hand-laminated with alternating layers of 24-ounce

woven roving and 1.5-ounce mat, producing a laminate six layers thick at the rail, 12 layers thick at the turn of the bilge, and 24 layers thick at the keel. All bulkheads and berth flats are tabbed to the hull.

The 6,500-pound lead keel is attached with embedded ³/4-inch stainless-steel hook bolts supported on an integral hull structure by heavy backing plates. The lead is faired with epoxy to provide a smooth surface.

The deck laminate is built up of hand-laminated skins of 24-ounce woven roving alternated with 1.5-ounce mat on either side of a balsa core. This type of construction is lightweight and has good sound and thermal properties, but all such decks, especially those advanced in years, must be viewed with suspicion. It's a good idea to examine carefully the bases of the chainplates to see if water has leaked through tired bedding. A recent survey determined Sequester's decks to be sound and Duane, with fingers crossed, reports that in almost 30 years he has seen no hull blistering, a problem that plagued Valiants built by Uniflite with a fire-retardant resin called Hetron but apparently none built by Nordic of Bellingham, Washington, the yard that built Sequester.

On deck

Sequester carries a 9-foot hard dinghy in chocks forward of the mast where it doesn't interfere with anchoring, sail handling, or other foredeck action. The Esprit 37 decks are designed for going to sea rather than sunbathing. All working surfaces are covered by a Treadmaster-type cork-rubber composite non-skid sheet material that grabs at sea boots with a vengeance. After 30 years of hard use, the texture is pronounced and sharp and, though frayed a bit at the edges, it's still firmly attached and provides excellent traction, though it does discourage bare feet. Its appearance and contrast



A raked bow and low-profile cabin trunk complement the handsome Perry sheerline to give the Esprit 37 a very sleek look.

with the white gelcoat is unusual and perhaps distracting to eyes unaccustomed to such assertive non-skid decks.

Cockpit storage is excellent, with room for fenders, mooring lines, and two 2½-gallon gas bottles in a vented compartment. There is a spacious locker beneath unusual gull-wing hatches. The seats are a comfortable depth and height above the sole but moving between the steering wheel and the seats is somewhat difficult.

To form the hull-to-deck joint, the deck is bedded on an inward-turning flange on the hull and attached to it on 3¹/₄-inch centers with machine bolts through an extruded aluminum toerail. After assembly, the hull-to-deck joint is bonded on the inside with a layer of 1.5-ounce mat and two layers of 24-ounce woven roving.

The toerail has integral mooring fairleads and provides multiple attachment points for running rigging. Standard deck fittings include 10 feet of 1¼-inch genoa tracks, a roller bearing mainsheet traveler spanning the companionway, and four 10-inch mooring cleats. All of the deck hardware, including pulpits, stanchions, cleats, and blocks, is substantial and well backed.

Sequester carries a 44-pound Bruce anchor in a roller bracket at the bow, forward of an electric Simpson-Lawrence windlass with manual override, which is mounted below a deck hatch in the forepeak. One hundred and fifty feet of %-inch chain plus 200 feet of %-inch



On the Esprit 37, the helm is well aft and the helmsman well protected in the deep cockpit seat. The deck plate gives access to the rudder stock head to which the emergency tiller fits, at left. The canoe stern is an early trademark of designer Bob Perry, at right. He says he doesn't believe that such a stern parts following seas like Moses, but *Sequester's* owners affirm they've never been pooped.

Review boat



The view from the saloon looking aft, at left, shows a conventional arrangement with the chart table, quarter berth, and wet locker next to the companionway to starboard and the tight U-shaped galley to port. Forward, Duane installed a wood-burning stove to cheer up the already cozy cabin when cruising in the cool Pacific Northwest autumn, at right. The plywood bulkheads are bonded to the hull and deck for strength and stiffness.

nylon rode is led down and stowed under the V-berth. For head-in mooring and emergencies, *Sequester* also carries two anchors plus chain and nylon rode on the stern pulpit, ready to let go. sleeping area. A door opens to the head and another to the V-berth and locker/ dressing area. Part of the starboard locker arrangement is a stack of drawers

The rig

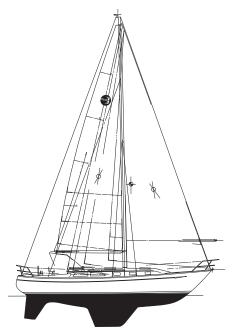
The Esprit 37's masthead-sloop sail plan, with its large foretriangle and high-aspect-ratio mainsail, reveals the influence of the IOR on rigs of the time. The mast is stepped on the keel and *Sequester*'s standing rigging is Navtec rod. Although the various chainplates are placed at different distances from the rail, I found little difficulty making my way past them.

Jib, main, and spinnaker halyards along with the mainsheet, traveler lines, and topping lift — are led to either side of the companionway. The main outhaul, downhaul, and reefing lines are led to the forward end of the boom. Sheet winches are self-tailing two-speed Lewmars. The main halyard is the original Samson Yacht Braid spliced to $\frac{3}{6}$ -inch 7 x 19 stainless-steel wire.

The sail inventory includes a mainsail, an 80 percent working jib, and a 135 percent genoa. *Sequester* also carries a storm jib, trysail, and spinnaker. All her headsails are hanked on. She is often sailed singlehanded — a good indication of how easy the boat is to handle.

Belowdecks

A 6-foot 6-inch V-berth with stowage below is just aft of the forepeak. The head, with a sink, shower seat, and its own locker, is situated to port opposite a large hanging locker aft of the



Valiant Esprit 37

Designer: Robert Perry LOA: 37 feet 0 inches LWL: 31 feet 8 inches Beam: 11 feet 6 inches Draft: 5 feet 10 inches Displacement: 17,000 pounds Ballast: 6,300 pounds Sail area: 667 square feet Sail area/disp. ratio: 16.1 Disp./LWL ratio: 239 Ballast/disp. ratio: 0.37 into which Duane has fitted the woodburning stove. A translucent hatch in the deck lights the area and there are opening portlights near each berth.

The main cabin has a 6-foot 6-inch settee to starboard and a 6-foot 6-inch L-shaped settee around the table to port that converts to a generous double berth. Under each settee is a 65-gallon water tank plus additional storage. The table folds down to reveal several shelves used for wine glasses and other items. Overhead vinyl panels can be removed to provide convenient access to deck hardware. The keel-stepped mast is unobtrusive. Headroom is ample for the 6-foot 2-inch Duane, though he admits to sometimes hitting his head on the large off-center light fittings.

When preparing for the voyage to Europe, Duane replaced the acrylic panes in the fixed portlights with polycarbonate for added strength.

Handrails are located port and starboard under the portlights running the length of the saloon. Duane and Barbara find them adequate, but others might prefer a few more dedicated handholds.

The chart table is at the forward end of the starboard quarter berth and the head of the berth forms the navigator's seat. Opposite to port, the compact U-shaped galley has a gimbaled threeburner propane stove, a deep double sink close to the boat's centerline, and an electric refrigerator. An abundance of storage lockers can hold enough provisions for a crew of four for at least three weeks at sea.

Barbara, who is in charge of provisioning and keeping things

below shipshape, has no complaints. She reports that the Esprit 37 is a fine boat in which to stow things properly and prepare good seagoing meals. The second companionway step up provides a convenient perch from which the cook can attend to chores while keeping in touch with crew on deck and below.

The accommodation plan is exemplary of good bluewater yacht design, and the boat's interior is well appointed with lots of teak, both solid and veneer. When compared with some contemporary boats of her size (those with narrow sidedecks that permit voluminous interiors and theoretically sleep seven or eight), the Esprit 37 appears dated, but it provides truly comfortable and sensible arrangements for up to four or five with acceptable levels of privacy. With a small seagoing cockpit and minimal galley, the Esprit 37, for all its proven amenities, isn't entirely comfortable dockside; rather, it seems to yearn for open water and distant landfalls.

The engine

The Esprit 37 was delivered with a 30-hp Westerbeke diesel coupled to a 2:1 reduction V-drive and hydraulic reverse gear. After many years of hard use, recurrent impeller replacements, a faulty fuel pump, and other misfortunes, Duane replaced the original engine with a 3-cylinder, 22-hp Isuzu diesel. This may seem a rather light engine for a 37-footer, but it's right for the kind of cruising the Tacks do. Duane makes minimal use of the auxiliary because he prefers to sail, and the Esprit 37 moves and handles well.

Four batteries in two banks are kept charged by solar panels. *Sequester* can spend a week at anchor running the 1.3-amp fridge, making minimum use of lights, and switching banks every other day so they can recover, without running the engine.

Engine access is exceptionally good, once the companionway step enclosure and other panels are removed. The original 40-gallon, 5052-series aluminumalloy fuel tank still gives good service.

Under way

As *Sequester* left the slip under power, the three-bladed MaxProp took a good bite on the water. The boat handled well in close quarters, turned sharply for a boat of her length and



After years of fairly minor aggravations with the original engine, Duane repowered with a smaller Isuzu diesel. Removing the companionway steps provides access, at left. Fitted with lee cloths, the saloon settees make good sea berths, at right.

displacement, backed well, and stopped in good order. Once clear of the breakwater, we made sail.

Under mainsail and working jib, the boat accelerated slowly in 5 to 6 knots of wind and settled into a comfortable groove requiring only the lightest touch on the helm. With *Sequester* beautifully balanced on the wind, I could take my hands off the wheel for extended periods. *Sequester* seemed to want to sail herself. She tracked well and came about smoothly and surely.

Entries in *The Voyages of Sequester* that describe the trek from Miami to Bermuda provide a glimpse of how the Esprit 37 handles conditions more varied than those we encountered on Puget Sound on the day of our test sail: "... smooth sailing in 4 to 6 knots of wind, we averaged 100 miles a day for the first six days, beating against light SE winds, flying the 150 percent genoa."

And, on a passage from Mahon, Minorca, to Barbados, Duane recorded: "Rather than being a fast downwind passage on steady trade winds as promised by the ocean passage guides, these first 1,480 nautical miles have been a mixed bag of calms, minor squalls, and light air. We've been ghosting along at about 3.3 knots for the past day and a half, but force 5 to 6 winds are promised for tomorrow. The passage from Puerto Rico, Grand Canaria, started out like gangbusters — two 120-nautical mile days followed by a 146-nautical mile day. Our best yet." Duane says *Sequester* handles a wide range of weather from calms to heavy weather very well. He's a fan of the canoe stern, claiming she takes a following sea in her stride. "We've never been pooped," he says.

Conclusion

The Esprit 37 is designed and built for cruising, whether close to home or ocean voyaging, and combines a refined traditional appearance with the contemporary underwater shapes that serve the Valiants so well. If all yachts are a compromise, this is an excellent one, but one that favors the requisites of serious cruising rather than those of dockside life. The deck plan is efficient whether the boat is sailed fully crewed or singlehanded. Down below, accommodations are well planned and comfortable. With its sloop rig, the Esprit 37 is a delight to sail in light air and, as wind and seas pipe up, it's a comfort to know it's entirely at home in boisterous conditions.

A quick check of the Internet reveals Esprit 37s from the late 1970s for sale from about \$70,000 to \$90,000. \varDelta

Richard Smith is a contributing editor with Good Old Boat. As well as sailing and writing about boats, he's an architect, and he designs and builds very small houses. He and his wife, Beth, live in a house with a 16-foot beam and an LOA just a few feet shorter than their Ericson Cruising 31, Kuma, which they sail on the reaches of Puget Sound.

Talking about rigs

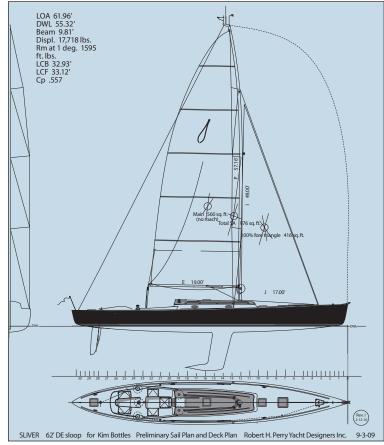
One size, or style, does not fit all

by Robert Perry

W riting about rudders was not much fun. Writing about rigs will be more fun. Everyone has an opinion about sailboat rigs. I have opinions too.

This month marks 50 years that I have been sailing. I have sailed on everything from a traditional Chinese junk to gaff schooners to staysail schooners to catboats to ketches to cat ketches to a variety of cutters and all manner of sloops from meter boats to CCA types to IOR types to modern carbon-sparred sportboat types. I have even sailed on yawls, including perhaps the most famous yawl of all, the S&S-designed *Dorade*. So, I thought, rather than do the same old article, "This is a sloop, this is a ketch," I'm going to assume that you all know the basics of rig geometry and I'm going to air some of my own opinions on rigs.

It's important to understand that the rig has to fit the hull. There is no point in having a high-tech, high-pointing, i.e. weatherly, rig on a boat that has a low-tech, low-pointing hull. The rig will have to work in concert with the hull. This means that a heavy, bluff-bowed, full-keeled boat may do just fine with a gaff rig, while a light, narrow-entry boat with a deep fin keel will take advantage of a thoroughly modern rig.

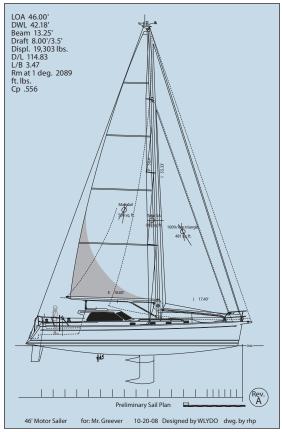


The design above is a modern fractional-rigged sloop with swept-back spreaders. The exaggerated mast bend is in keeping with the character of the Scandinavian square-meter classes of the early 20th century.

Classic boats need classic rigs. There is an aesthetic element to the rig that has to enhance the styling of the hull while optimizing the potential performance of the boat.

The role of handicap rules

It's also important to recognize that many of the rig features and proportions we see on today's boats and the good old boats going back to the 1950s are artifacts of the handicap rule that was in vogue at the time. The boats designed to the Cruising Club of America (CCA) rule will have big mainsails and small foretriangles with huge overlapping jibs. The CCA penalized the aspect ratio of the rig, so rigs became short and squatty. Mainsail area was penalized slightly less than headsail area, so mains got big and foretriangles got small. But the CCA was extremely generous toward headsail overlap, and this led to some extreme cases. Bill Luders



This Bob Perry version of a modern masthead-rigged cruising sloop has a Solent stay from which to set a heavy-air staysail and a short sprit for flying an asymmetrical chute or code zero.

by Robert Perry



On a rig with true cutter proportions, like this one, the mast is stepped well aft of the bow and the foretriangle is large enough for two headsails to set effectively.

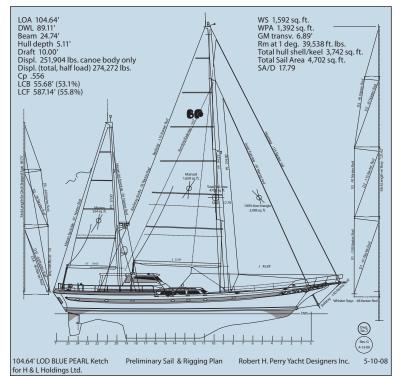
dominated one season racing his *Storm* without any mainsail at all. He just used huge overlapping genoas with LPs (luff perpendiculars) above 180 percent. The CCA then changed the rule to require a mainsail, and Luders came back with *Storm* carrying the mainsail off a Penguin dinghy, if memory serves, and cleaned up again.

The International Offshore Rule (IOR) corrected this imbalance of weighted sail areas and had both mainsail and headsail areas weighted pretty much evenly. But bigger foretriangles meant bigger spinnakers, so foretriangles grew and mainsails shrunk again to the point of what we called the "IOR minimum ribbon mainsail." The size of the mainsail was restricted by limitations on just how small it could be.

The yawl rig has a very strong connection with the CCA rule as the CCA did not include the area of sails flown off the mizzen. You could be more competitive off the wind if you carried this unmeasured additional sail area in mizzen staysails and mizzen spinnakers. Yawls abounded under the CCA. There are few sailing sights more dramatic than a big CCA yawl like *Carina*, *Bolero*, or *Orient* racing downwind with a big mizzen staysail working.

The influence of choice

Probably the most important aspect of rig design is personal choice. When we talk about sailing yachts, we are not talking about a subject that can be approached from a strictly objective point of view all the time. Sailing yachts don't make a lot



This ketch rig has classic proportions. Its large mizzen is stepped well forward and the headsail arrangement is similar to that of a true cutter.

of objective sense to begin with. They are toys. To many of us they are important toys, and our lives would be empty without them, but they are still toys. Sometimes, I have to remind my clients, "We are not talking about starving children here. We are talking about sailboats." If you like gaff-rigged ketches because you like the way they look then good for you. I can't argue with that. If you tell me you like gaff-rigged ketches because they possess some magical performance advantage upwind, I may choose to pursue the argument.

66 Cutters have that huge advantage of being able to shorten sail quickly by dropping the outer jib. **99**

Sloops and cutters

Sloops have one mast and a cutter has one mast, but the mast on a sloop will be stepped more forward in the boat than where it is stepped on a true cutter. There is room for argument here, though. Today, we tend to call any single-masted boat with two headsails flown simultaneously a "cutter." In a true cutter, the foretriangle is bigger, allowing for a larger staysail. I am not in favor of rigging a staysail on a sloop with a smallish foretriangle. You will not be able to carry, at the same time, the staysail and masthead headsail with any efficiency unless you are reaching. The true cutter does quite well with both staysail and high-clewed (but not too high, please) Yankee, although you are not going to point very high with this three-sail setup. I like a low clew on the Yankee, which really makes it a jib or a genoa. Cutters have that huge advantage of being able to shorten sail quickly by dropping the outer jib. In a real blow, there is no better rig than a cutter with staysail and reefed mainsail.

Cruising designs

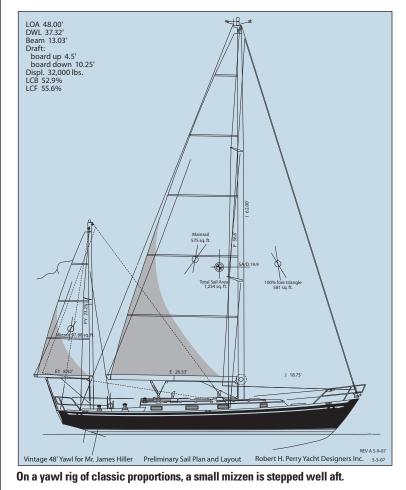
If you insist on adding a staysail to a sloop with a small foretriangle, then take the tack of the staysail forward as far as possible. That will give the staysail a decent aspect ratio and, at the same time, pull the center of pressure forward to avoid building up weather helm.

Once in a while, I get to design a boat with a bowsprit. Adding a bowsprit gives me more freedom in arranging the sail plan, in that the foretriangle can be opened up by extending the "J" dimension, making room for two headsails. Bowsprits also look right on some hulls.

The modern fractional sloop is a nice rig for ease of handling. The jib is small and oftentimes has very little overlap or LP, typically no more than 110 percent. The mainsail, the big sail, is on the boom, where it is easier to handle. With the mast well forward in the fractional sloop, you also have the option of sailing under mainsail alone. I don't recommend it, but in a pinch it can be done effectively. With a large-foretriangle boat you are not going to sail efficiently at all without your jib up. In fact, with only the mainsail up you might have horrendous weather helm. Almost all of today's cruiser/racers and racer/cruisers have fractional rigs. The big 150 percent or even 160 percent genoa is quickly becoming a thing of the past. The small foretriangle of the modern fractional rig is combined with a retractable, in most cases, or fixed bowsprit to open up the foretriangle for large off-the-wind sails set flying.

Ketches and yawls

For me, the difference between a ketch and a yawl is one of proportion. The old definitions relative to helm and rudder placement just



66 If you are after a close-winded boat, the traditional ketch rig is not for you. **99**

don't work reliably on modern designs. If the mizzen is small and stepped well aft, the boat is a yawl. If the mizzen is large and stepped forward, the boat is a ketch. I have no hard formula for these proportions; I just use my eye.

As mentioned earlier, the mizzenmast on a yawl is really only there for carrying mizzen flying sails. The little mizzen on a yawl also makes a great riding sail when at anchor. Upwind, most yawls furl the mizzen.

The ketch rig is not a favorite of mine but I have designed quite a few ketches. With the mizzen operating in the draft of the main and jib, the mizzen sees a higher apparent wind angle than the main and jib. This means, to effectively trim the mizzen upwind you have to over-sheet it, which can increase weather helm and slow the boat down. Of course you could bear off a bit, but then your VMG would go down. If you don't care about VMG, then the ketch certainly can go to weather. But, if you are after a close-winded boat, the traditional ketch rig is not for you. The mizzen also puts a lot of rigging clutter back around the cockpit. It also requires extra chainplates and that can increase the build cost. If we are not talking about VMG, it comes down, once again, to a sailing-style issue. The ketch gives the option of sailing with jib or headsail and mizzen in a blow, and while this is not a very weatherly arrangement, it sure is convenient. If you have a center-cockpit design, the mizzen can be aft of the cockpit and not interfere with the cockpit. If there is one reason we don't see more ketch rigs on modern boats, performance to weather aside, I'd have to say it was cost.

My most interesting ketch experience was when I designed the Tayana 37. I drew both cutter and ketch rigs for the Tayana 37. The mainmast location for the ketch was farther forward than the mast location for the cutter. I thought the ketch was a far superior sailing boat. While the cutter was a bit difficult to trim to reduce weather helm (I later eliminated the mast rake), the ketch was impeccably balanced and quite fast. Still, they built 600 Tayana 37s and only a small handful were built as ketches.

Schooners

I designed my very first modern schooner about five years ago. *Jakatan* uses carbon-fiber spars and

by Robert Perry

a single-halvard system. I was all for the carbon to reduce the weight of the rig with its gaffs but I was nervous about the single-pick-point halyards. Part of the effectiveness of the gaff rig comes from the ability to adjust throat and peak halvards for optimal sail shape. We gave that up with the singlepoint pick. But my client, a very smart man, was adamant, and so we proceeded. I was very happy with the result. With some experimentation, we found the correct pick placement for each gaff, and I had designed-in the ability to easily adjust the pick point. It really became a non-issue element of the design. The boat sails great. It's not close-winded, but you would not expect that of a schooner. It sure is pretty, though. The modern schooner rig is about making an aesthetic statement.

Catboats

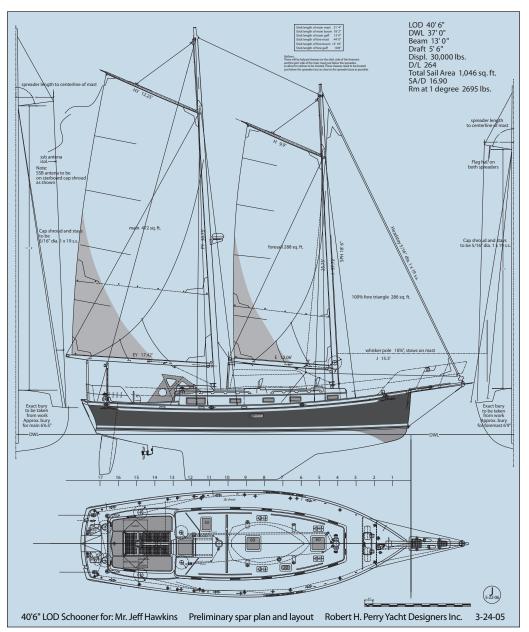
I love Cape Cod catboats. I always have. I've had a lot of fun sailing Beetle Cats. They just have a no-nonsense look to them. Catboat rigs can be very effective but do have some areas of concern. They can be a bit tricky to jibe in a breeze and can develop vicious weather helm, but they give you "one string" operation once the sail is up. They also get the mast forward where it does not clutter the interior. I think the catboats Mark Ellis designed for the Nonsuch line are great boats. I have sailed the Nonsuch boats and they are surprising performers. Tom Wylie has also designed some high-performance catboats that do quite well racing in San Francisco.

We see a constant stream of wacky ideas, gadgets, and gillhickies, all designed to make sail handling easier. Some of them work. We all accept

This drawing shows the single-halyard system we used for the gaffs on *Jakatan*, a modern schooner. In a recent all-schooner race in San Francisco, competing against several larger vessels, *Jakatan* was first to finish by 14 minutes. roller furling for our jibs today, although I sail with hanked-on jibs on my current boat because it's just not big enough to require roller furling. We can even roll up our mainsails now. I hate in-the-mast furling. You lose sail-shape control and sail area. I love the Leisure Furl system and the Schaefer version of in-boom furling. By the time this article is printed, I'll be 64 years old, and I have grown to really appreciate roller furling for both jibs and mainsails.

So, what's the perfect rig? For me it's a fractional-rigged sloop because that's what I own. I'm sure you have your own opinion on the perfect rig. Maybe your best answer to that question is the same as mine, "The perfect rig is the one I have on my good old boat." Δ

Robert Perry has been designing yachts from around the time the yawl was declared near extinction. He has kept this and other endangered rigs alive by nurturing clients who are very interested in performance but are not consumed by the need to be first to the windward mark.





eeding a break from winter, my wife and I flew to St. Petersburg, Florida, to participate in the inaugural Good Old Boat Regatta, held last January. With the help of the St. Petersburg Sailing Association's regatta coordinator, Steve Lang, I was able to crew on a Morgan 25. This let me have some fun on the water with owner Grover Griffin and also gave me an opportunity to review a classic boat.

Grover bought his 1975 Morgan Classic 250 (a version of the Morgan 25) from a cruising couple in 1979 and set it up for racing — about 60 races a year in the Tampa Bay area. *Odyssey*'s bright yellow hull is well known and respected in bay area racing circles.

Design

Charley Morgan was a well-known designer and boatbuilder in the St. Petersburg area where, in the 1960s, he was something of a pioneer in the new medium of fiberglass. Morgan has numerous designs to his credit, from a 22-foot trailer sailer to 60-foot offshore racers and world cruisers. After winning the Southern Ocean Racing Circuit (SORC) in 1961 and '62 aboard his 40-foot *Paper Tiger*, Morgan formed Morgan Yachts. He always had an interest in racing and most of his designs sail well. An exception might be the aft-cabin Out Island 41, a breakthrough design that helped establish the Caribbean charter trade but sometimes needed the jib backed to come about.

In 1984, after several changes of hands, Morgan Yachts was sold to Catalina Yachts, which built the OI 41 for a few more years before retiring the molds and the Morgan name. (For more on the man and his company, see "Charley Morgan and the Fiberglass Factory," March/April 2005.)

The impetus behind the Morgan 25 was the popularity of competitionworthy Midget Ocean Racing Club (MORC) yachts and growing demand in the late 1960s for inexpensive and easy-to-maintain fiberglass sailboats. The market was flooding with new designs for a new breed of sailors.

The Morgan 25 has an LOA of 24 feet 11 inches and was first called the Morgan 24. The 24, 25, and Classic 250 have the same hull. Grover's Classic At the St. Petersburg, Florida, Good Old Boat Regatta last January, *Odyssey*, a Morgan Classic 250, took third in her class. Her near sister, *Amanda*, a Morgan 24, on facing page, managed to scoot away from *Odyssey* on the first leg, but fast spinnaker work aboard the yellow boat turned the tables.

250 has a thicker deck, which, along with some other changes, makes it 700 pounds heavier than the other models. Production of the three began in 1965 and ran to 1976, with 460 hulls completed. The Classic 250 was only built in 1974 and 1975.

The Morgan 25 has simple yet attractive lines, with a spoon bow, gentle sheer, a bit of tumblehome in the low topsides, and a counter transom. The cabin trunk transitions into gently sloping cockpit coamings. Below the water, firm bilges provide good initial form stability. The long stub-keel/centerboard combination has 1,900 pounds of lead ballast and draws 2 feet 9 inches with the centerboard up and 6 feet 6 inches with the board down.

Grover converted *Odyssey* back to a centerboard boat after a previous

owner had modified the boat with a fixed keel. Some early boats may have had cast iron or bronze centerboards. The rudder is a balanced spade well aft of a large cutaway in the keel and steering is with a tiller. A Universal Atomic 4 or diesel inboard engine was available as an option to the standard outboard motor.

Construction

The hull is hand-laid sandwich fiberglass, ⁵/₈-inch thick, cored with "Q Cell." The hull-to-deck joint is a standard shoebox type in which the overlapping deck flange is caulked and throughbolted to the hull. The inside of the joint is glassed over. On later boats, pop rivets were used in place of the bolts a less desirable method. At the edge of the deck is a molded toerail capped by a teak strip.

A cut-out in the transom allows for direct attachment of an outboard motor on centerline, although some boats were built without this feature.

The underside of the deck is gelcoated — no fiberglass liner, no vinyl panels. A fiberglass hull-liner pan forms the foundation for the interior furniture.

The centerboard and trunk are entirely below the cabin sole. This creates room in the cabin but places all the hardware below the waterline, leading to leaks and corrosion problems. The centerboard is controlled with a removable crank handle to port near the helm.

On deck

Odyssey's cabin trunk is fitted with six non-opening portlights (the number

Resources

Morgan Yacht Owners Group http://mailer.fsu.edu/~kklein

The Morgan Yacht Club www.charleymorgan.com

Morgan Sailboats www.morganboat.org

Bob Horan's Morgan 24 website http://members.cox.net/morgan24site

66 The Morgan 25 has wide sidedecks that are quite usable for going forward. **99**

varies with vintage). Two teak handholds (or stainless steel in *Odyssey*'s case) per side on the cabin top are well placed, while the teak companionway slides add some class.

A large, solid-fiberglass hatch just forward of the tabernacle-stepped mast provides good ventilation. There is no anchor locker forward, so some arrangement would need to be made to carry the anchor below or stow it on deck. There is no dedicated location for the outboard's fuel tank.

Unlike most smaller boats with a cabin trunk, the Morgan 25 has wide sidedecks that are quite usable for going forward. However, the chain-plates are located in the middle of them, necessitating a hop onto the cabin top to get around them. The abundant

non-skid surface provides good traction even when the boat heels.

The cockpit coamings deflect water and, capped with teak, are wide enough for sitting on when working the winches. They also provide nice back support for sitting on the 8-foot-long cockpit seats. Earlier boats had two large hatches in the cockpit seats, while on later versions only the port seat opens to the hull interior. In both versions there is plenty of storage space for lines, fenders, and gear.

A stainless-steel bow pulpit and single lifelines keep crew aboard. On *Odyssey* and *Amanda*, a Morgan 24 I also inspected in St. Petersburg, the lifelines start low to the deck to allow the foot of a genoa to pass outside the lifelines.



Trailerable boat



The foredeck of the Morgan 25 is uncluttered and the lifelines terminate low on the pulpit so the foot of the genoa can clear them, at left. The 8-foot cockpit can seat a crowd and the coamings provide plenty of back support, at right.

Belowdecks

Stepping aboard *Odyssey* I quickly saw that she has no accommodations. Grover had removed the interior and installed plywood bins for handy sail stowage during races. This stripped a lot of weight out of the boat. He also reinforced the bulkhead to withstand mast compression and upgraded the rigging and chainplates. I could see plain as day the complex cable rigging for raising and lowering the centerboard. Headroom is 5 feet 6 inches.

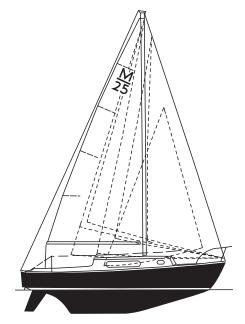
Later, I went aboard Amanda for a brief look at a stock interior from the 1960s. There I found the standard V-berth forward and a portable toilet beneath it. Aft of the forward cabin bulkhead, to port and starboard, are fiberglass cabinets forming a small galley and storage area. Depending on the year the boat was built, these cabinets were trimmed with mahogany or oiled American walnut. The starboard side features a sink, an icebox that drains to the bilge, and storage spaces. A stove can be located on the work area to port. Aft of the galley, the saloon seats extend under the cockpit to form quarter berths. The inside of the hull is lined with fabric.

In an optional roomier cabin arrangement, a dinette that converts to a berth is to port and the galley to starboard.

Water capacity can be 15 to 20 gallons in tanks of varying construction.

Rig

The standard masthead-sloop rig has single spreaders and single lower



Morgan 24/25

Designer: Charley Morgan **Builder:** Morgan Yachts LOA: 24 feet 11 inches LWL: 21 feet 6 inches Beam: 8 feet 0 inches Draft, board up: 2 feet 9 inches Draft, board down: 6 feet 6 inches Displacement (24/25): 5,000 pounds Displacement (Classic 250): 5,700 pounds Ballast: 1,900 pounds Sail area: 310 square feet Disp./LWL ratio (24/25): 225 Disp./LWL ratio (Classic 250): 256 Sail area/disp.ratio (24/25): 17.0 Sail area/disp.ratio (Classic 250): 15.5 **PHRF rating: 234**

shrouds. Grover shortened *Odyssey*'s shrouds and rigged double lower shrouds. He also added an adjustable split backstay, which is a common modification. All the 24/25s had roller-reefing booms and boltrope mainsails, but many, if not most, have been modified for slides on the sail and eschew use of the roller reefing.

The standard mainsheet system has an end-of-boom bridle. Some owners have fitted mid-boom sheeting and a traveler forward, as on *Amanda*. To keep the cockpit clear, others have fitted a traveler aft of the helm, as on *Odyssey*. The standard headsail track is mounted on the toerail, whereas Grover mounted *Odyssey*'s inboard. He also led his halyards aft to the cockpit and installed self-tailing winches. *Odyssey* has a foil on the headstay, while other Morgan 25s may have hanked-on sails or roller furling.

Under way

I joined Grover and his three crew for the Good Old Boat Regatta, which started near The Pier on the St. Petersburg waterfront within easy watching distance from shore. We were in the spinnaker class. The two other divisions, "cruising" and "fun," sailed a shorter course. All sailed the course twice. We did well on the start, but ended up chasing the stealthy Amanda up the windward leg of the triangular course to the first mark. Amanda may not look like much at her slip, with her faded blue hull and deck, but when the Kevlar sails come out you know she's not going to be a pushover.

The air was light, and on the second leg it was was a tossup between staying with the genoa and launching the big yellow asymmetrical spinnaker. We switched to the spinnaker before *Amanda* did and slowly overtook her. With *Amanda* safely behind us, I took the helm for the second lap.

The boat felt stiff enough and stable, particularly with the centerboard down. The helm had a firm feel without being heavy. When the sails were trimmed in hard, there was a very light weather helm. When tacking or jibing, the boat was very responsive. It turned fairly quickly, although not dinghy-like due to the long stub keel. I felt some vibration in the tiller from turbulence generated by the centerboard slot. Whether sailing to windward or off the wind, tracking was very straight; this boat could probably be trimmed to sail hands-free.

It was fun watching all the other classes of boats milling about and, because of the two courses and overlap of time, the last leg got crowded toward the finish. The race committee had moved the finish line to very near The Pier and, once we arrived, the combination of no wind and some current made crossing the line agonizingly slow. As soon as we drifted over the line, Grover fired up the outboard, and *Odyssey* moved nicely under power.

There was a big do at the St. Petersburg Yacht Club later on where awards were presented. *Odyssey* turned in a creditable third-place finish and was only two minutes out of first place on corrected time. Her PHRF rating had been 222, but Grover is protesting this rating since he learned that sail area on the Classic 250 is less than the standard

66 Whether sailing to windward or off the wind, tracking was very straight; this boat could probably be trimmed to sail hands-free. 99

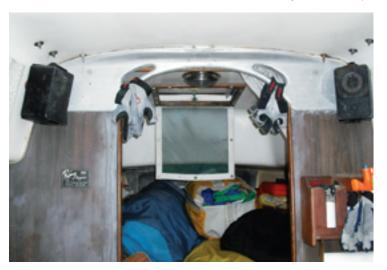
Morgan 25. These few seconds per mile have cost him a number of races including this regatta. For comparison, the two biggest fleets of Cal 25s rate 222 and 231, and the much newer J/24 rates between 165 and 174.

Based on the design, I would suspect the Morgan 25 would be a bit tender in breezier conditions due to its shoaldraft keel, but it should perform very well on any point of sail and take most seas in stride. Grover reports reaching a maximum speed of 6.3 knots.

Conclusion

Grover shows that one can take a relatively inexpensive boat and, with some elbow grease and investment in upgraded systems, make it competitive for racing. The Morgan 24/25 still seems to be a popular low-cost racer/cruiser. Mix in a good crew and you have a formula for exciting and fun-filled weekends. Leave the interior stock, as in Amanda, and you can enjoy racing while still being ready for the occasional cruise or overnight. The shallow draft makes it an ideal gunkhole explorer. With a road-legal 8-foot beam, the boat is trailerable, which opens up many sailing opportunities while reducing ownership expenses.

Problem areas are typical of any 30- to 40-year-old boat, but the Morgan's

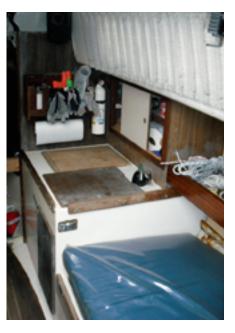


Amanda has the standard layout for a Morgan 24. A V-berth (here filled with sails) occupies the bow, at left. The galley is forward in the saloon and the settees extend under the cockpit as quarter berths, at right.

construction is not known for any severe weaknesses. Trouble can arise with the centerboard pendant, pivot pin, and a weakly supported turning sheave under the cabin sole, which requires vigilant and frequent inspection, particularly in salt water. Also look for gate valves on through-hulls. These should be replaced with proper seacocks.

While the early 24s were of somewhat better quality construction, the Morgan 25 is still a solid buy, and there are plenty of these boats to supply the market. Some were sold as kits and these amateur-built boats can vary substantially in quality. Prices range vastly, from derelict boats at giveaway prices to well-found examples in the \$6,000 range. \varDelta

Allen Penticoff is a freelance writer, sailor, and longtime aviator. He has trailer-sailed on every Great Lake and on many inland waters and has had keelboat adventures on fresh and salt water. He presently owns three sailboats: an American 14.5, a MacGregor 26D, and a 1955 Beister 42-foot steel cutter that he's restoring.



Making vour own

The silence of the doors

An early riser solves the problem of clattering dropboards

by Richard Smith

ary Stoop built new teak companionway dropboards to replace the damaged ones that came with his well-used Ericson Cruising 31, Imagine. The replacements were simple and sturdy with good-looking louvers in the middle board to help ventilate the saloon, but they were heavy, cumbersome, and awkward to store when not in use. They also interfered with movement between cockpit and cabin. Their greatest drawback, though, was that, when lifting out the heavy boards first thing in the morning to row their faithful dog, Pepper, ashore, Gary often awoke his slumbering first mate, Brenda.

All this led to thoughts of hinged doors. Custom doors were beyond the Stoop budget so, if they were to have them, Gary would have to design and build them himself.

Since the companionway is offset to starboard, Gary decided on a bi-fold arrangement that would allow both doors, when open, to fold flat against the main bulkhead to port of the entrance, where they wouldn't obstruct the seats on either side of the companionway. He could see it would take much trial and error to ensure the geometry of the finished doors would allow easy opening and closing while also giving the entrance the best possible appearance.

Gary started by making a ¹/₄-inch plywood pattern to match the shape of the dropboards and fit into the existing guides. He cut the plywood down the middle and used duct tape as temporary hinges. He then tackled each problem as it arose.

66 The new doors are so quiet in use that Brenda can enjoy a little more time asleep each morning. **99**

Angles and curves

Because of the angle of the companionway opening, the plywood doors swung down and hit the bridge deck. Gary solved that problem by making a 3-inch high sill that fit into the bottom of the dropboard slot. Once he'd cut 3 inches off the bottoms of the doors, they cleared the bridge deck and folded flat against the bulkhead.

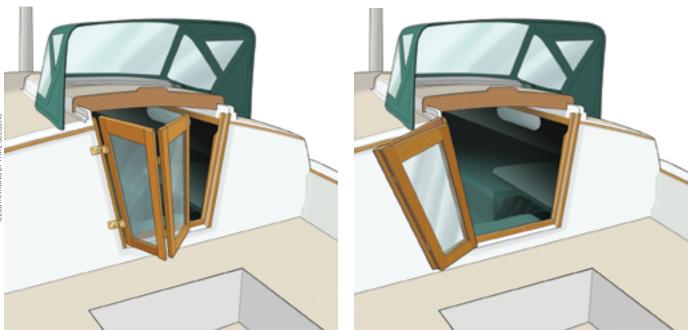
The framework of the doors would be built from a half dozen 1 x 2s left over from a teak anchor sprit he'd built previously (see "A custom



heavy and awkward to handle.



The elegant new doors open and close much more quietly.



Because of the geometry of the companionway, Gary had to trim the bottoms of the doors so they would lie flat against the bulkhead when open. A benefit of the companionway being offset from the boat's centerline is the open doors don't compromise the cockpit seating.

anchor sprit" in the May 2010 issue). Because of the curve at the top of the sliding hatch, the top frame would have to be cut from a couple of short pieces of leftover 5-inch-wide teak.

Gary was concerned that he might not have the necessary skill or the proper tools to join the framing members, so he considered several ways of doing it. In the end, he joined the boards by a method suggested by a West System representative who described a corner detail that involved no dadoing, overlaps, or dowels such as might be used in more professional work. The boards meet each other on the flat.

First, Gary drilled holes in both pieces of teak slightly larger than the diameter of the screws he would use in assembly. He filled these holes with thickened epoxy resin.

When the epoxy had set, he re-drilled the holes to the appropriate size for 3-inch #10 flathead wood screws. He glued the contact faces with epoxy, set the screws, and plugged the holes over the countersunk screw heads. (Note: We're not familiar with this technique but it seems the screws might be more secure in the epoxy-filled holes than they would be if driven directly into the end grain of the wood. -Eds.)

Next, Gary routered the 34-inch doorframes to take inserts - one set is 1/4-inch tinted Plexiglas and another is insect screen — that are held in place

with vinyl turn buttons. A routered radiused corner added a touch of refinement. The doors fold on brass hinges that are offset on ¼-inch teak spacers to allow the doors to lie flat against each other. They swing on gudgeons and pintles. The gudgeons are mounted on teak spacing blocks to allow the doors to meet the frames properly. Gary worked out all these details on the plywood mockup.

Gary coated the teak frames with eight coats of Epifanes high-gloss



varnish to match other teak work on the boat. The whole assembly is easily removed and can be replaced by those previously mentioned sturdy dropboards.

Imagine's doors are so quiet in use that Brenda can enjoy a little more time asleep each morning as Gary and Pepper head for shore. \varDelta

Richard Smith is a contributing editor with Good Old Boat. See his full bio on page 13.



Gary fits the bi-fold doors onto the pintles that serve as hinges, at left. This view from the inside shows the brass hinges and the turn buttons that hold the inserts in place, at right.

23

Bigger cockpit drains

Faster discharge from flooding waves

by John Brooke

y boat's original cockpit drains were adequate for a rain shower or a light wash-down but often became partially blocked with one thing or another that finds its way onto the cockpit sole. This had me wondering whether, if the cockpit filled with seawater, the drains could empty it before another wave boarded. I had my doubts, so I decided to install some good-sized freeing ports that could handle a sea breaking into the cockpit.

I figured that, if I located the ports on the cockpit "walls" high enough so they would come into play only in extreme conditions, they would not fill with junk. In addition, I decided to add flaps to prevent water from flowing in when sailing in following seas or when the boat was heeled. Finally, I wanted these flaps to be inboard, out of harm's way.

My solution was to install in the cockpit two ports, made up of 4-inch PVC, that would discharge well above the static waterline aft. Check valves (called backwater valves at the plumbing supply) located inboard in the lazarette would connect to the discharges with short pieces of 4-inch PVC pipe and 60-degree elbows. In the cockpit, the drains would be trimmed off with 4-inch Beckson inspection ports (which mate perfectly with the 4-inch PVC backwater valves). Different boat geometry may call for 45-, 90-, or 22.5-degree elbows, and possibly even street elbows, depending on where this arrangement will exit your hull.

Dry-fit everything

Based on what I learned, here are my suggestions. Dry-fit all your pieces. The goal is to get the end of the discharge pipe or elbow to hit the curved hull as close to square as possible. If your discharge pipe does not hit the hull squarely, try a different style elbow and/or longer pipe nipples. If it's still not square, no problem — just remember to hold the hole saw at the same angle as the pipe.

While holding the pipe in place, trace around the assembly on the inside of the hull and on the cockpit wall. Stand back and rethink everything before taking out your huge hole saw. If you're still satisfied, find the centers of your tracings and drill a small (easily patchable) hole at each center. Then check from the outside of the cockpit and hull: do these small holes represent the locations you had in mind? Are they the same on both sides? If not, now is the time to change them.

Now - having considered and reconsidered everything - take your hole saw and, working from the outside, cut your holes. Remember to hold the saw at an angle if your fitting or pipe hits the hull at an angle. Next, grind away any paint on the inside of the hull within a 1-inch circle around the holes. Take a moment to dry-fit your pipe and fittings one more time, then mark and cut the piece of pipe or the fitting end that protrudes through the hull so it will be flush with the outside of the hull. Make index marks on the fitting and the inside of the hull so you will align the fitting correctly.

Final assembly

Using the index marks to ensure they are positioned correctly, press the through-hull pieces so they are flush with the hull and attach them permanently.

I installed this first through-hull piece of pipe using 3M 5200 sealant and applied a large fillet of the same sealant around it on the inside. I have found this sealant to be compatible with PVC and to hold tenaciously when the PVC is rough-sanded



By dry-fitting all of the parts of his oversize scuppers, John ensured that they would slign properly and that he would cut the holes in the right places, at left. The new scupper cut in the cockpit side dwarfs the original cockpit drain, at right.



After cutting the holes in the cockpit side and the hull, John test fit the pipe that passes through the hull before marking it for cutting, at left. The trim ring on the cockpit side assures a solid installation and can be fitted with a cover if needed, at right.

where the sealant will go. You may wish to use the PVC gluing method outlined in the West System guide.

After allowing the sealant to cure for a minimum of 48 hours, assemble the other parts and fasten the inspection port rings to the cockpit wall. I used silicone sealant instead of PVC cement for this step. Silicone also holds well on PVC and offers more working time. It may also be possible to disassemble it later, if needed. Don't forget which way the backwater valve must face: water out, not in.

If you install the check valves fore and aft, they won't click and clack when the boat rolls at anchor, as they may if fitted athwartships. I have never installed the port covers, which are part of the kit, but I keep them in case a need arises. I worried that the discharge pipes would look like the dual exhausts seen on some big sport-fishing boats, but they're hardly noticeable.

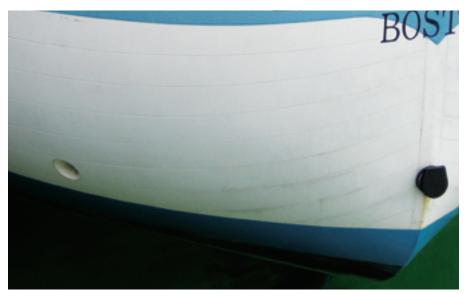
For the technically inclined, the amount of water that will flow through an unobstructed 4-inch hole is about 300 gallons per minute (gpm) with the water 1 foot above the lower edge of the hole. If the water is 2 feet deep, the flow will be twice that. So, two 4-inch ports would allow 600 to 800 gpm to escape from a cockpit flooded to a 2-foot depth. The truly paranoid (or those with very large cockpits) could substitute

Resources Beckson Marine www.beckson.com

West System application guides www.westsystem.com/ss/use-guides 6-inch PVC and get some very amazing flow rates indeed. \varDelta

John Brooke resides on Cape Cod and has owned boats since he was 10. He has

made several trips down the Intracoastal Waterway, and has sailed from Bermuda, through the Bahamas, and to the Windward Islands. He owns two boats and devotes his time to all things nautical.

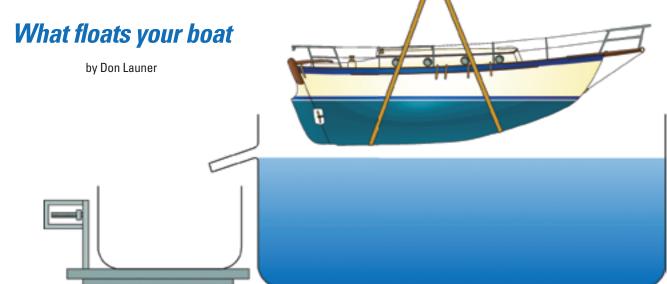


The finished scupper gives John confidence his cockpit will drain in a hurry.



Sailboats 101

Buoyancy and Displacement 101



B oats are designed to float. This might seem to be an unnatural act, especially for hulls that are made of aluminum, steel, concrete, or fiberglass. These materials are denser than water and might be expected to sink. Even wooden boats, loaded with gear, ballast, an auxiliary engine, and miscellaneous equipment would head for Davey Jones' locker if it weren't for a physical force that causes buoyancy.

In physics, buoyancy is defined as the upward force on an object exerted by the surrounding liquid or gas in which it is fully or partially immersed.

A solid object will sink in a fluid if its density is greater than the fluid's density, and it will float if its density is less. Both the floating object and the submerged object experience a buoyant force. In the case of the floating object, the buoyant force is equal to that object's weight.

We don't ponder this phenomenon often, but why do boats made of materials denser than water float?

If material that is denser than water is formed into a shape — ceramic into a bowl or steel into a ship — with an aggregate density less than that of water, it will float in water. As long as a sufficient proportion of the vessel (bowl or ship) below the surface of the water is less dense than water, then the effective aggregate density of the entire vessel can be less than that of water, regardless of the material of which it's made.

Archimedes' principle

Archimedes' principle is named after Archimedes of Syracuse, Sicily, (287-212 B.C.) who discovered this law of physics while taking a bath. He subsequently published a two-volume work, *On Floating Objects*, in which he stated the law named for him:

12,000 pounds

Any object wholly or partly immersed in a fluid is buoyed up by a force equal to the weight of the fluid displaced by the object.

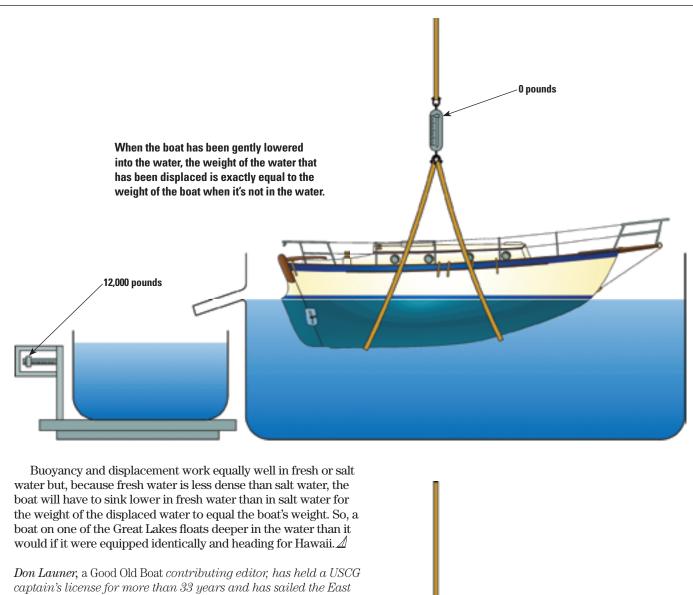
But what does this mean to sailors? Well, the word "displaced" should ring a bell.

Displacement

The buoyancy of a boat is locked in tightly with its displacement. In the illustration above, our test hull is being lowered into a tank of water. As the boat is lowered, water will be displaced and will overflow into the weighing tank until the boat is floating, on facing page. When we weigh the displaced water in the weighing tank, we'll see that its weight is exactly equal to that of the boat when it was suspended above the tank. The displacement weight (the weight of the water) is the boat's weight, just as Archimedes said.

In the U.S., this displacement may be expressed in pounds, in long tons (2,240 pounds), or in cubic feet of water (35 cubic feet of seawater at 64 pounds per cubic foot equals one long ton).

Let's perform another test with our boat (but don't try this at home!). We'll fill our test boat with concrete. Now the boat's hull will be denser than water and will sink (as we would expect). But it still experiences buoyancy; the boat weighs less submerged than it did when suspended in the air. And, lo and behold, if we weigh the displaced water in the weighing tank, we will find that its weight exactly equals the weight the boat has lost when submerged. Once again, Archimedes hit the nail on the head.



LAYOUT AND ILLUSTRATIONS BY TED TOLLEFSON

Coast from Canada to the Caribbean. He built his two-masted If we submerge a block of concrete, schooner, Delphinus, from a bare hull, has written several books, which is denser than water, it and frequently gives talks on the history of navigation, most displaces a volume of water equal recently to the cadets at the U.S. Naval Academy in Annapolis. to its own volume. The weight of the block, as measured on the scale, is less than it was in air. The weight of the displaced water equals the amount by which the weight of the block has The weight of the submerged concrete plus the weight of the displaced water been reduced. equals 12,000 pounds. 12,000

İb

Smart new oars

An inflatable dinghy gets a homemade upgrade

by Richard Toyne

B efore my partner, Magali, and I left England on *Joass*, our 32-foot wooden gaff cutter, in the spring of 1998, we bought ourselves a brand-new 7-foot 6-inch inflatable dinghy. This came with a set of aluminium oars with plastic blades. The dinghy, which was PVC, finally perished in the sun about seven years later, but the oars carried on — despite numerous repairs — to propel her successor, a similarly sized, second-hand Hypalon inflatable that we christened *Desdemona*.

Over the summer of 2008, our oars began to show their age more and more clearly until, eventually, they failed once too often, leaving us to paddle back to our boat with a short broken end. This convinced us they really were due for replacement.

The design

In the past, I had made several sets of oars for a variety of rowing boats, my favorite being an 8-foot pair made from silver spruce following a design I found in the book *Clinker Boatbuilding* by John Leather. Making oars for a small inflatable, however, posed a somewhat different set of design problems.

Instead of having oarlocks, as a conventional hard dinghy does, Desdemona's oars pivot on bolts. This means that, if the oar is to stow properly, the part of it that is outboard when you are rowing cannot be longer than the distance from the pivot bolt to the stern of the dinghy. Combined with the width of the dinghy, this results in a fairly inefficient oar: the inboard part is proportionally too long while the outboard part is too short. It would be possible to make longer oars that could be unbolted and stowed inside the boat when not in use, but we decided this would be too much of a nuisance when

Desdemona was being propelled by an outboard motor.

After taking measurements, we came up with dimensions that would maximize the length of the oars without the tips of the blades overhanging the stern of the

dinghy. The oars would be 5 feet long with 1 foot 7 inches inboard and 3 feet 5 inches outboard. The blades would be 1 foot 8 inches long and have a maximum width of 4¾ inches. Where the looms would have holes drilled through them to take the pivot bolts, we would keep them square to maximize the strength. Inboard of this, the looms would be 1¾ inch in diameter; outboard, they would taper down to a minimum of 1¼ inch. Tapering the outboard end of the loom, while keeping the inboard end as large as possible, helps to make the oar balanced and easier to row with.

Making the blanks

As our new oars were going to be so small, we decided to use some of the fast-growing light pine supplied by the local building supply store. This had the advantage of being cheap and readily available. For larger oars suitable for a conventional rowing boat, it would have been worth spending more money on higher-quality timber. Silver spruce, which is light and springy, would have been ideal.

Each oar was made from three pieces of wood. The loom, or central section, was 5 feet long and $1\frac{3}{4}$ inch square. The two pieces that formed the blade were 1 foot 8 inches long, $1\frac{1}{2}$ inch wide, and $\frac{3}{4}$ inch thick.



The aluminum and plastic oars outlived one dinghy. When they eventually succumbed to age, Richard made replacements, above. Using lumber from a building supply store he began by gluing nominal 1- x 2-inch "wings" to a 2- x 2-inch shaft, below.



To assemble the blank from which we would make an oar, we glued the two blade pieces to the loom with epoxy, initially applying a coat of straight resin and hardener followed immediately by a second coat thickened slightly with microfibers. As we live aboard, we didn't have any clamps of a suitable size with which to hold the blade sections in place while the glue set, so we used rope loops tensioned with small wedges.

The next step, once the glue was dry and we had removed the clamping system, was to draw a centerline down each side of the oars. Working from this, we marked out the final shape of the blades and the taper of the looms.

Shaping by eye

With the exception of an initial cut with a saw to remove the corners at the tops of the blades, we did all the shaping with a smoothing plane and a couple of spokeshaves. I find, when creating two matching objects, it's easier to work on them simultaneously. When you perform a task on one piece, then immediately repeat it on the other, it's fairly easy to ensure that they really will end up the same shape and size.

This is the most creative stage of the project and, unless you are working to a specific design, it pays to step back for a good look every so often to make sure you're pleased with how the oars look. We reshaped the blades a couple of times, tapering them slightly from the tips and easing the shoulders where they merge into the loom, before we were happy with the result.

Once you're happy with the shape of the oars, you have to sand them to remove the flat areas and marks from the cutting tools. On the looms, or for anything else round, an easy way to do this is with a long strip of sandpaper. Pass the sandpaper around the wood and, holding one end of the strip in each hand, move it back and forth, shoeshine style. The sandpaper will remove the high spots and leave you with a smoothly rounded surface.

This method is quick and effective, so take care not to remove too much material. Ignore anyone who derides sanding across the grain as "unprofessional." I was taught to shape spars this way by an experienced and highly skilled boatbuilder. Just make sure that, once the oars are round, you remove all

> the cross-grain scratches by careful sanding in the conventional manner following the grain of the wood. For sanding across the grain, a strip of 100- or 120-grit sandpaper is ideal; anything coarser will score the wood too deeply, making it hard to obtain a satisfactory finish.

Finishing off

Conventional oars, which are to be used in oarlocks or thole pins, need to be fitted with a leather. This can be either nailed to the oar with copper tacks or sewn on. In either case, the leather, which should be as thick as possible, needs to be soaked in water for a few hours before it's fitted. The water makes it flexible and makes it swell up slightly. As it dries, the leather will shrink into

place and stiffen.

Desdemona doesn't have oarlocks. Instead, 7/16-inch bolts that are hinged to the dinghy's hull pass through holes drilled in the oars, which are then held in place by nuts. Although this system is quite practical for a small inflatable of this type, it has a couple of shortcomings. First, the hole weakens the oar at its pivot point, exactly where it needs the most strength. Second, the constant wear against the bolt when the boat is being rowed can quickly enlarge the hole and damage the oar.

We have tried to overcome the first of these drawbacks by giving our oars a 3-inch square section where they pivot. We hope the extra cross-sectional area this produces will compensate for the loss of strength caused by the hole.



After planing down the shaft, Richard made a cut to form the shoulder of the blade.



Richard used a spokeshave to round off the shoulder of the blade.



The spokeshave also came in handy for tapering the loom toward the blade.



Sanding across the grain is an effective way to smooth a round object like an oar.

29



A roughed-out oar awaits

refining touches to its shape.

<u>Making your own</u>

We tackled the second problem by inlaving a stainless-steel 7/16-inch fender washer on each side of the oars where the bolts pass through them. To do this, we first found the centers of the flat faces that we had left on the oars by drawing diagonal lines from corner to corner. Using a flat, or spade, bit, we then drilled a recess as deep as the thickness of the washer in each face of the oars, centered on the point where the diagonal lines crossed. As these bits have a central spike, it's easy to ensure they don't wander away from the desired position.

If we had possessed a bit the same size as the washers, we would have used it and we could have pushed them directly into place. As it was, the bit was not quite big enough, so we enlarged the recesses slightly using a sharp ¼-inch chisel. When we had achieved a good push fit, we glued the washers into the recesses using rapid epoxy.

Once the glue was set, it was a simple matter to drill the 7_{16} -inch holes through the oars, taking care to keep the drill perpendicular to the face of the oar and using the washers as guides to hold the bit in position. To begin with, we only drilled halfway through the oar, then turned it over and drilled from the other side. This way, any mismatch or discrepancy was minimized and kept in the center of the wood. After drilling the initial holes, we reamed them out all the way through to ensure the oars would pivot freely.

Conclusion

Although we will have to wait and see how they withstand the test of time compared to their aluminium counterparts, so far we are delighted with *Desdemona*'s new oars. They are comfortable and practical to row with, were inexpensive to make, and smarten up the look of our dinghy. *A*

Richard Toyne and his partner, Magali Bellenger, have been exploring the western Mediterranean aboard Sigfrid, their steel ketch. They finance their voyages by carpentry work, both ashore and on boats (Richard), writing for magazines, and by the sale of handmade jewelry, which is produced on board (Magali).



All but finished, the oars need only the means to attach them to the dinghy, above. Richard drilled holes for the bolts, at right, and cut recesses for washers with a spade bit, at top right. The shiny wooden oars lend *Sigfrid*'s dinghy some much needed class, below.





Voice of experience

any of us fall victim to the allure of the big boat at the end of the dock. A tear wells up as we sight along the acres of the teak decking that must be 6 inches thick. As we stare at our bewildered reflection in the 76 coats of exotic varnish on her rail, we're drawn in ... into the dream. The wow factor of the

2-ton stainless-steel anchor is lost in the tinted glass and satellite communica-

Just plain too

LLUSTRATIONS BY TOM PAYNE

tions antennas. It's a wonderful dream: having friends or family aboard for the never-ending trip of a lifetime. Just be careful what you wish for: the cost of some dream ships can be the dream itself.

I found myself in this situation a few years ago while cruising along the Mediterranean coast of Spain. I had read all the right books, made all the right choices of boat and equipment, and followed the prescribed course to a cruising life afloat but, somehow, when in 2001 I made the decision to buy a boat, up sticks, and give the cruising life a try, I had become a victim of the great cruising lie.

As a child, I had pored through boat magazines and sailing books,

RUIUS

Cutting your dreamboat down to size

by Eric Holohan

envisioning the life to be had on various boats of merit. By the time I was 12, I had decided the right boat for me would be a 65-foot steel North Sea trawler, as many were available in the United Kingdom and Ireland due to the decline of the fishery there. I could have a huge saloon in the converted hold, a skipper's bunk in the wheelhouse, and

how very nice she would be. As I matured to, oh, 14 or so, I added a ketch rig, bilge keels, and proper swing-out davits for the launch. My school notebooks looked more like boatbuilder's sketchpads than the academic masterpieces my parents had hoped for. Images of good times aboard my ship and how it would

feel, smell, and taste filled my head and decorated countless math workbooks.

In common with most cruising folk, I felt a need to control an entire floating world, a ship of life that ---with planning, skill, hard work, and understanding - could withstand anything the charts or Mother Nature could throw at her. With this in mind, the next stage of the right-boat quest began. Only after I found it did the great cruising myths reveal their true selves.



You will be inundated with guests to fill all those permanent berths, regardless of your personal popularity.

We waterborne souls make some basic assumptions that lead us inexorably astray. The first of these is that very few people would not pay handsomely for a week or two under billowing canvas on a gently rolling ocean. With this in

Voice of experience

mind, the boat I bought for my odyssey was a full-bodied, long-keeled, 40-foot, aft-cabin, Colin Archer double-ender. Her huge saloon could seat 12 with ease, I know because it did so — once. At the risk of sounding like an antisocial loner, the fact is that, in more than a year spent cruising, I sailed solo for all but 10 weeks. The largest number of guests aboard at one time was three.



Everything on a boat will break as soon as you head to sea.

A prudent sailor carries whatever he might need to cope with any event that may befall himself and his ship. This is excellent advice and holds as true today as in the days before steam. I would never ever advise against this dictum if you are heading offshore or to remote areas of the globe. But most of us are unaware of how little the sailors of old actually had, and so how few spares they needed to carry.

Being of the belt-and-suspenders type, I carried a huge store of every conceivable spare part and hardware for every imaginable repair. If there was not a second system aboard, there was a full replacement for the broken part. In that year spent cruising, my boat suffered a ruptured water tank (bladder type) and was cursed with the self-blocking head from hell. Both "emergencies" required spares or replacement but, apart from the occasional fuse and anode that needed replacing, that was it.

The best way to carry spares is to prepare the boat ahead of the cruise by making sure every system is perfect and every part exhibiting even the slightest corrosion or weakness is replaced. After that, stick to a short list and your own good sense.

Carrying, in little plastic packets, all the filters and seals — complete with part numbers and bar codes —that might ever be needed to keep the iron topsail happily growling in its cave must, I am sure, make the old-timers wince. I remember sailing on a converted seine netter out of Howth, Ireland, as a kid. The skipper had a canvas bucket with all the spares the old wooden boat needed: a couple of galvanized shackles, a pot of Stockholm tar, seizing twine, and a can of EZE start, used to fire up the diesel drip stove. Not a bad return for effort.



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Your course will be beset by storms.

Our library feeds the worst typhoons of our imagination; in all probability we will never meet extreme weather.

If we go to sea often enough with no regard for weather forecasts, we will eventually find our personal perfect storm. If, like me, you delve into the worst wind-driven maritime-nightmare texts, you undoubtedly will purchase a sea anchor and drogue, a storm jib and trysail in air-sea-rescue orange, and an obscene length of 1-inch high-visibility nylon rode. Your boat will be of ½-inch steel designed by the creator of Norwegian sailing lifeboats. It will carry an offshore life raft, EPIRB, DSC, satellite phone, 40 pounds of pyrotechnics guaranteed to be seen from space, and three years' worth of survival supplies with a swimming pool's worth of dehydrated water tablets.

Guilty as charged on almost all counts, except the water tablets. Yet the worst weather I was ever caught in was on an inland lake on a hired cruiser. We had 60 to 70 knots of wind and the beer spilled. By comparison, 25-foot waves in the Atlantic are well spaced and much less threatening than 10-footers on Long Island Sound driven by a Nor'easter. In my defense, however, the Bay of Biscay is a hurdle to be crossed before getting to the sunny cruising grounds of the Iberian Peninsula and beyond. That piece of water is never to be taken lightly and I was glad to have my 12-ton gaff cutter for that leg. For ordinary cruising, and even pretty substantial offshore work, though, most well-found production boats are up to the task, with most of the older well-proven designs scoring higher than wide-sterned modern boats for seakindliness and the ability to handle a blow without trauma.



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You can never have too much boat. It is for good reason that

the Pardeys' two boats have been below 30 feet LOD. There is a length of boat after which the gain in size and space costs too much in terms of work and handling, not to mention finances. After it reaches a certain size, the boat will spend more time in the marina than out sailing, due to the need for crew or increased maintenance. By way of illustration, I found something uniquely terrifying about a 20-foot-long

wooden gaff swinging wildly in 30 knots of wind with its steel fitting almost wiping my nose with each supersonic pass as I tried to get

the gasket to hold it into the gallows. So, regardless of the romance or the superior balance of the reefed gaff rig, next time it will be Marconi or Bermudan rig for me. As with most hardships, the gaff rig made me a better sailor: I generally leave oodles of room for any sail-handling or anchoring procedure.



A boat need not perform to windward to be a worthwhile cruiser.

That safety trumps speed is a longstanding and misguided argument. All well-designed boats should be safe and capable of making good progress on all points of sail. We have been sold on the idea that a super-safe boat, a capable and seaworthy yacht, will have to yield some speed to weight so she will be heavy enough to handle bad conditions at sea. To some extent, this is true. However, any cruising boat *must* be able to sail well to windward.

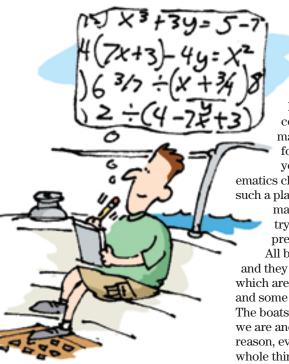
Having bashed and crunched my way for 600 miles into the Portuguese Nortada (northerly wind) that, just for my benefit, blew directly from the south, I can say it is imperative that the boat is capable of pointing higher than 55 degrees off the wind.

So what is the truth?

The question remains: which boat is the right boat? As everyone reading this will have a different answer, I will not propose a brand or design. But certain truths are self-evident. You can have too much boat. You can be unrealistic in the probable extent of your cruising, leading you to plan and equip for eventualities that are not going to happen (there's no need to cruise an icebreaker in the tropics). A sailboat must be able to sail well and be handled by the minimum number of crew you can absolutely depend upon, and that number ultimately will be one. You don't need to over-equip; two radar sets are too many for a cruising yacht.

Think about your own experiences and the experience of your crew and gear up for sailing, not maintenance. Maintain your boat very well and carry only the spares you need to perform normal service and emergency repairs. There is much to be said for navigation by compass, chart, and star but the simplest GPS gives accurate, reliable, and easy plots. So, after your manual navigation gear is aboard, a GPS is a good addition. If you cruise in sight of the shore, an engine is a must. That being the case, you may as well have electric light (a by-product of the engine). Even with power available, the venerable oil lamp has a special charm.

I offer this cautionary tale with a fine and happy outcome. I eventually



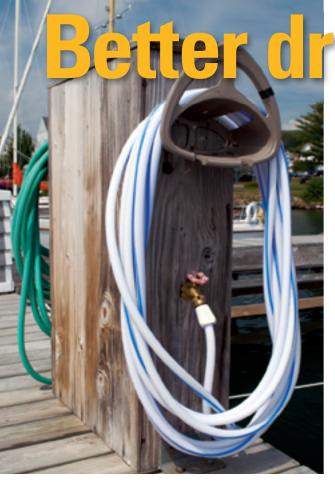
tired of the work involved in sailing in the Mediterranean and decided to winter over in Cartagena, Spain. While there, I was accepted into the naval architecture program at SUNY (State University of New York) Maritime. The irony has not been lost on me. I spent days sitting in the cockpit of my dreamboat doing mathematics as a preparation for the studies ahead while, years before, I sat in mathematics class dreaming about sitting in such a place on such a boat while the math teacher pulled his hair out trying to drive algebra into my preoccupied head. All boats have a certain magic

and they lead us on journeys, some of which are measured in miles or years and some in our own development. The boats we choose play into who we are and what we need for whatever reason, even if, like me, we get the whole thing bass ackwards. \varDelta

Eric Holohan is a Westlawn graduate, naval architect, yacht designer, Lloydsaccredited marine surveyor, and ABYC master technician. You can contact him at <www.holohanmarine.com>.



Useful modifications



eeping the water in a sailboat's tanks tasting fresh is often a challenge and, if a tank goes bad, the consequences can be outright awful. This is especially a problem when you're away in a remote location. The cause of the trouble can usually be traced to the original water supply, the condition of your tanks, or how the water is treated. Fortunately, you can take precautions to avoid bad water and solutions are available if it does go bad. They include additives and filters.

Of course, it's always best if the water is clean to begin with, such as that obtained from a trustworthy marina with a high-quality municipal source. Unfortunately, you cannot take such a supply for granted. Some docks don't have drinking (potable) water, and some have both potable and non-potable water. Putting water from the wrong supply into your tanks can lead to serious problems.

Even if you trust the source, you may still wish to filter your water before it goes into the tanks. Our cruising friends Judy and Bill Rohde successfully used a 1-micron in-line filter in their hose

Keep your onboard supply fresh and pure

ind wate

by Niels Jensen

This service pedestal has white and green hoses attached. The color does make a difference. The white hose is intended for potable water.

on their 42-foot Tayana pilothouse cutter, *Jubilee*, all the way from Lake Superior through the St. Lawrence Seaway and the Canadian Maritimes and down the East Coast to Florida.

I personally don't have any firsthand experience with pre-filtering water but have found the procedure very

useful when taking on diesel, so this precaution may well have some merit. It makes sense to be cautious if you are at all doubtful about the quality of whatever you will be pumping into your tanks, regardless of the fluid type.

Watch the fill hose

Furthermore, it's prudent to pay close attention to the condition of your fill hose, which should be kept clean and dry. If you don't drain it after every use, water that remains inside may become a suitable environment for the growth of mold and other unwanted organisms, which could possibly transfer to your tanks the next time you fill them. I have seen seldom-used fill hoses spew forth an ugly milky mixture when water was once again run through them. The water may eventually look clear after about 10 to 15 minutes, but I would feel very uncomfortable using such a hose for filling the tanks aboard our Pearson 36 cutter, Freelance.

I also recommend that you keep your water hose from falling into any harbor. You never know what harmful substances and microorganisms it could pick up in that environment and you certainly would not want your fill hose to become contaminated from such a source.

Besides being careful with the fill hose, you should obviously keep your tanks as clean as possible. Inspecting tanks and wiping them out is an expected chore during spring commissioning and fall decommissioning. It's reassurance — but no guarantee that the water will remain fresh during the sailing season.

Cleaning bad tanks

If a tank still goes bad, you will have to clean and sanitize it before you can safely use it again. This is best done at a marina dock that has an ample and clean municipal water supply. First, wipe out the tank the best that its access ports will permit, then shock it with a strong chlorine solution. We have had good results using about one cup of liquid household bleach for each 10 gallons of water.

Pour the bleach in first, then fill the tank with water. The solution, which is definitely not drinkable, should remain in the tank for about eight to ten hours to do its work, after which you drain the tank and flush it thoroughly. This technique seems to do the trick but should only be used sparingly and with great caution — and never with metal tanks. Chlorine solution can be very hard on some of your water system's components.

It must be stressed that before using any quantity of bleach, you must be fully aware that it is corrosive to metal tanks, as well as to some rubber and plastic parts. One of our friends is convinced that just adding small amounts of bleach eventually damaged the aluminum water tanks in his 41-foot sailboat. For certain, his tanks began to leak and had to be replaced. So, before you pour it into your water, you should always make sure chlorine bleach will not harm any of your onboard systems.

Flush the tank

If using bleach is not a viable option for your boat, you may just have to keep cycling or flushing the tank until you are satisfied with the water quality. Steam cleaning may be another way to sanitize your tanks. However, that is something that would be best left to professional marina personnel who have the necessary equipment and expertise.

Even though the tanks are clean, the water may go bad after an extended period of time, so some sailors choose to add chlorine to keep it drinkable. Chlorine is used by most municipal water systems because, in concentrations that are not harmful to humans, it destroys disease-causing bacteria and viruses. The question is how much to put in.

Regular household bleach, such as Clorox, Purex, and Hilex, normally contains between five and six percent of sodium hypochlorite. Please note that you should never use liquid bleaches that have additives, such as dyes and scents, to disinfect drinking water. Nor should you use powdered bleach or swimming pool chlorine. They contain harmful substances.

The U.S. Environmental Protection Agency recommends adding eight drops of household bleach for each gallon of water. That means one teaspoon of bleach is needed to disinfect eight gallons of water. The mixture should be agitated — which is rarely a problem on a boat — and allowed to stand for about 30 minutes.

Filtered water

It's also a good idea to run drinking water through a suitable filtration system to further remove unwanted tastes, smells, sediment, chemicals, and other impurities. We have a Seagull IV system by General Ecology on *Freelance*. It has served us well for many years and we would not want to be without it. The Seagull IV purification system will effectively remove nearly all chemicals, metals, microbes, bacteria, parasites, cysts, and viruses from the water. It filters with a particle retention range of 0.1 nominal to 0.4 microns absolute. The system seems to give us a quality similar to most bottled water.

The filter is plumbed into our boat's pressure-water system and has its own faucet by our galley sink. We replace the filter element after running about 1,000 gallons of water through it, which usually means that a single filter will easily last us through our five-month sailing season on Lake Superior.

Other suitable filters on the market include 3M's WV-B3 and WV-B2 models. They are not just useful for drinking water but also for all other freshwater use on board. Both are rated for 0.2 microns. The WV-B3 model can filter about 15,000 gallons of water, and the WV-B2 7,500 gallons. With that kind of capacity, they are not only suitable as conventional in-line filters but can also be used for water polishing, in which water is regularly pumped through a filter from tank to tank to keep it clean. However, few cruising sailboats use this technique, partly because of the electric power the process consumes.

Boiling it

If all your precautions fail and the water in your tanks still turns bad, you can always boil the water for a minimum of one minute to make it drinkable. That should kill most disease-causing organisms. Unfortunately, the taste of boiled water is less than ideal, but it can be improved by pouring the water back and forth between two containers or by letting it stand for a few hours. You may, of course, also fix the flavor problem with common additives of

Resources General Ecology

www.generalecology.com

For more related products and services www.goodoldboat.com/resources_for_ sailors/suppliers_directory your choice, such as coffee, tea, and lemonade mixes.

The various actions outlined above may either lessen the potential problems associated with your water supply or outright solve them. I would like to stress that taking the preventive steps, such as installing filters, is usually well worth the relatively small effort. Those of us who, just once, have had the water in their tanks turn foul can tell you what a nuisance — or even hardship — it can be when it happens. It's much preferable to be proactive, and not to take clean drinking water for granted.

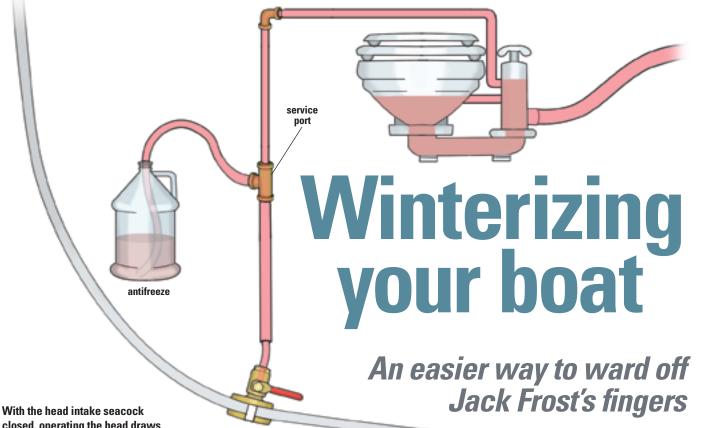
Niels R. Jensen is originally from Copenhagen, Denmark, and is a director for the Great Lakes Cruising Club. He and his wife, Vicki, usually sail their Pearson 36 cutter on Lake Superior. Niels is a journalist by trade and writes for the international boating press.

Niels's granddaughter, Hanna Blazina, takes responsibility for filling the family boat's water tank.



66 Water may go bad after an extended period of time, so some sailors choose to add chlorine to keep it drinkable. 99

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closed, operating the head draws antifreeze into the system from the container via the service port.

by Ben Stavis

Northern sailors have two seasons: sailing season and maintenance season. One of the primary goals when preparing a boat for the winter maintenance season is to protect its plumbing systems from freeze damage. When water freezes, it expands and can break whatever encloses it: engine blocks, pipes, hoses, toilets, and tanks. In addition to the damage caused by freezing, a boat with parts broken during a winter freeze can sink immediately after launching in the spring.

We northern sailors normally end up doing our winterizing just as a cold front is coming in, our fingers cold, and our rubber and plastic hoses stiff. We end up with cuts and bruises as we struggle to loosen hose clamps and to get hoses off and on hose barbs.

Since this has to be done every year, it makes sense to modify our plumbing systems to simplify the task. Over the years, I have done this on my 1964 Rhodes Reliant. Freeze protection is now an easy, quick, one-person job, and I can use a minimum of antifreeze. While each boat and plumbing system is a little different, some of the modifications I've made may also work on your boat.

The head

The idea is to install a service port that will introduce antifreeze easily to the intake side of a device. Using a service port is far easier, faster, and safer than having to wrestle a stiff hose off a seacock's hose barb. Since the plumbing on the intake side of the head on my boat is below the waterline, the service port must be made of the most reliable hardware: a bronze tee, two bronze hose barbs, and a bronze plug. I installed these in the intake hose close to the seacock.

To protect the head, I first open the head seacock to drain out whatever water is in it. Then I close the seacock. Next, I take out the plug in the service port, screw in a hose barb (for ½-inch hose), and slide on a piece of hose 2 to 3 feet long. I put the hose into a bottle of antifreeze (here and throughout the boat I use the non-toxic, potable water systems, RV-type antifreeze), and pump the head.

Very soon, the head will pull antifreeze through the intake line, through the intake valve, into the toilet bowl, out the output line, and into the bottom of the holding tank (which is always emptied before haulout). This process will use roughly a half gallon of antifreeze. I then take the hose barb off the service port and reinstall the plug. The head is finished in 15 minutes. (Note: If your boat

is hauled out, leave all seacocks open after winterizing. **–Eds.**)

Freshwater system

The freshwater system is a bit more complicated but the core idea is the

same. My boat has two water tanks. Each connects to a service valve and the service valves join at a tee. I installed a service port for winterizing just after the tee. I drain both water tanks and close the service valves so antifreeze will not get into them. Many boat water tanks do not drain completely, so if antifreeze gets into them, it's very difficult to get it all out again. (If I allow any antifreeze in the tank, when I commission the boat in the spring, my wife complains sharply. It takes many flushes of the tanks to get rid of the odor and taste.)

The small amount of water left in the tanks has not caused a problem on my boat because the tank sides are sloped and the expanding ice slides up the slope instead of breaking the tank. Make sure that if any water remains in your tanks it will not cause harm. If in doubt, vacuum the residual water out through the cleanout port.

I prepare my system by shutting off the pump and isolating the hotwater tank by closing the inlet and outlet service valves. I then empty the hot-water tank by removing the drain

66 With pressurized antifreeze in the system, I simply open the faucets until the flow comes out pink. 99

plug. I also close the service valve to my Seagull water filter: I don't want antifreeze to flavor the filter. I remove the filter, sterilize it with bleach, and store it at home in a warm place.

At this point, it's very simple to get antifreeze to flow through all parts of the hot and cold freshwater system. I connect a barb and hose to the service port, put the hose in a jug of antifreeze, and start the pump. This pulls antifreeze into the pump and pushes it into the system. A crossover valve between the hot and cold water systems allows the pump to push antifreeze into the hot and cold sides without it having to flow through the hot-water tank. With pressurized antifreeze in the system, I simply open the faucets in the shower and sinks until the flow comes out pink.

Finally, I go back to the water heater and open the valves a little to let antifreeze fill the tank inlet and outlet

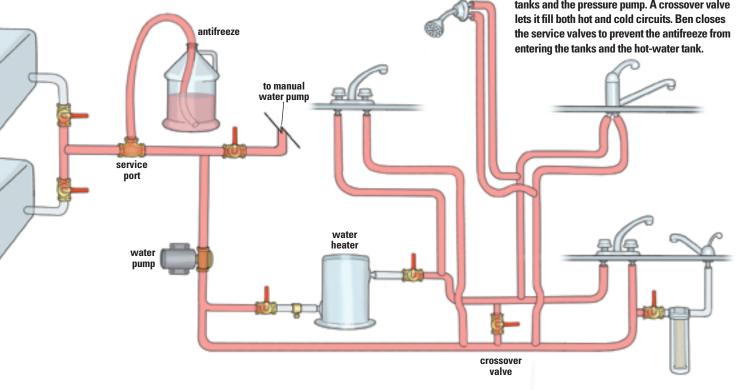
pipes. This step may not be necessary on all boats and it would be desirable to skip it in order to keep antifreeze out of the hot-water tank if this can be done. I pump the emergency manual freshwater pump until it discharges antifreeze. Then I turn off the electric pump and close the crossover valve.

Protecting the freshwater system can take a full hour after the tanks have been pumped out. I use about 2 gallons of antifreeze for this system.

Deck-wash/seawater pump

My boat has a deck-wash pump that supplies a hose on the foredeck for washing the anchor and also supplies seawater to the galley for rinsing dishes. The system has a Y-strainer on the input line. Rather than installing a separate service port, I procured a second top for the Y-strainer and installed a hose barb in it.

In Ben's freshwater system, antifreeze can be drawn in via a service point between the water tanks and the pressure pump. A crossover valve lets it fill both hot and cold circuits. Ben closes entering the tanks and the hot-water tank.



To protect this system, I close the seacock, take off the top of the Y-strainer, install my special top with a hose barb, put a hose from the hose barb to the jug of antifreeze, turn on the pump, and open first the deck valve and then the galley valve until each flows pink. I then replace the normal top of the Y-strainer and open the seacock to drain residuals. This takes 15 minutes and 1/4 gallon of antifreeze.

Bilge

The bilge pump(s) cannot pump the bilge in the winter, of course, because any water that collects in the bilge, and the pump, might be frozen at least part of the time. For this reason, a boat needs a garboard drain plug. With this, the boat will drain its water and water cannot accumulate (from leaks on deck, hatches, ports, and so on). I have been astounded at how much damage boats suffer from water accumulating in their bilges, all for lack of a simple plug. Garboard drain plugs should be made of bronze. Perko and Buck Algonquin both make suitable hardware.

Bilge pumps

My old manual Navy bilge pump is drained by unscrewing a drain plug in its base. This lets water drain out of the pump cylinder.

My boat also has a large PAR electric diaphragm bilge pump. Over the years, I have noticed that the valves in this pump have not weathered winter well. Some combination of back pressure on the valves and chemicals in the antifreeze leads to deformation and premature failure of the valves. It's simple enough to disassemble the pump (four accessible bolts), remove the valves, and put them in a safe place where they will not be exposed to pressure or chemicals.

But there is a problem. The discharge hose to the transom is upward and long, so it holds a lot of water. Disassembling the pump results in quite a bit of water draining out into the locker that houses the pump. To catch the water before it spills, I have a service port with a valve on it, located where the discharge hose leaves the pump. I can put a hose barb on, add a hose, and put the end of the hose in a bucket. Then I open the valve and the hose drains into a bucket, rather than into the locker where it's difficult to sponge up.

Gray-water tank and pump

An electric pump empties my graywater tank. I get the tank as empty as possible and then add antifreeze to it. On my boat, the simplest way to get anti-freeze into the gray-water tank is through the shower drain. This graywater pump has the same problem as the bilge pump — a long, upward discharge hose that holds a lot of water — so I have the same solution: a service port with a valve and a temporary hose that enables me to drain the discharge hose neatly into a bucket. I then run the gray-water pump until pink water flows from the discharge service port/hose into the bucket.

Protecting these systems takes 30 minutes and ½ gallon of antifreeze.

Engine

antifreeze

wash-down

pump

Y-strainer

My boat has a fairly conventional engine installation. A sealed coolant circuit cools the engine. Seawater is pumped through a heat exchanger to cool the coolant and then injected into the exhaust system to cool the exhaust. The part of this system that needs protection from freezing is the seawater plumbing.

I protect the engine seawater system in two segments. First, I have placed a service port just before the intake side of the seawater pump. I remove the plug, put in a hose barb, and install a hose going upward. Then I open the seacock and the seawater strainer and blow out the hose, pushing as much water out of this plumbing as possible. After a few blows, most of the water is out. Then I pour antifreeze into the hose and blow it through the hoses back to the seacock. When I see

Ben uses the Y-strainer in the wash-down system as the service port for drawing antifreeze into the plumbing.

The allergy problem

Propylene glycol, which is the main ingredient in "pink antifreeze," is "generally recognized as safe" for use in food by the Food and Drug Administration. Peanuts are also considered safe in food, except that people who are allergic to them may die if they eat them. Cases and situations vary.

A search of the Internet will show that some people have skin reactions to propylene glycol and respiratory reactions to its vapors. There are some who have a very violent and debilitating reaction to propylene glycol, and I am one of them.

On one occasion, I got some propylene glycol in a water filter, rinsed the filter, and filled a 20-gallon water tank through it. I figure the water in that tank could not have had a propylene glycol concentration of more than 1,000:1. Drinking that water caused a reaction in me that had me sick by Jerry Powlas

in my bunk for about four days. Karen did not react to the water at all. I would think there might be others who react this way. I've never been that unique.

So just in case, I recommend that when using pink antifreeze, you never put it in your mouth and never put it in water tanks, filters, or filter housings. Once propylene glycol gets into a water tank, it's very difficult to get out because these tanks typically do not drain completely. We flushed our forward water tank 20 times, removing the dregs each time with a vacuum cleaner and a towel, before I had no further reaction to the water. Even if you are not allergic to the stuff, it still smells and tastes bad.

If I restrict the use of propylene glycol to lines and pumps, I am able to flush these to a point where I do not react to the water that passes through them after that.

antifreeze coming out there, I know that segment of the plumbing is protected. Among other things, the refrigerator condenser is cooled by this segment of plumbing, so the antifreeze protects it as well. I close the seawater strainer so I won't have to remember it in the spring. (*Caution:* while pink antifreeze, which is propylene glycol, is considered safe as a food additive, some people are allergic to it; see sidebar. –*Eds.*)

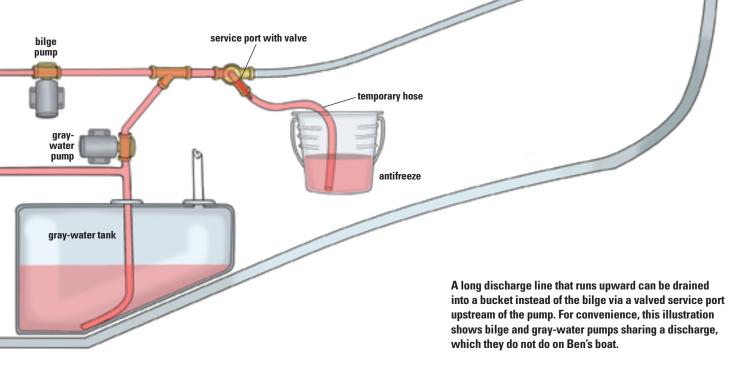
Seawater circuit

When I've done the intake side, I turn to the segment of the engine cooling that goes from the seawater pump discharge to the heat exchanger, up to the siphon break, and down into the waterlift muffler.

I start by removing the drain plug in the bottom of the muffler. I then loosen a hose clamp and slide off the rubber hose that comes from the seawater pump discharge. This is the only place where I remove a hose for the freezeprotection process.

I twist the hose so it points up and pour antifreeze into it, then blow it back through the heat exchanger, up past the siphon break, and down into the muffler. I can clamp in a hose going upward to make it easier to pour in antifreeze and easier to blow the antifreeze through the heat exchanger and over the siphon break. (*Caution:* Unless you are absolutely certain that you do not react to propylene glycol, you may wish to use Ben's alternate solution, in which the engine is run briefly to pump water through the system. -**Eds.**)

Eventually, as I blow antifreeze into the system, the water coming out of the muffler drain turns



pink. At this point, I know the system is protected. I have done this alone. There is no need for someone to turn on the engine or go below to watch the muffler drain. And I have used the least amount of antifreeze possible. This system takes one hour and one gallon of antifreeze.

The last thing I do is remove the water pump impeller so it doesn't take a set during the winter. Jabsco makes an elegant (and expensive) impeller puller. I finally decided to buy one as I use it at least once a year. By the time I am ready to remove the impeller, I feel I deserve the treat of a special tool instead of the frustration of struggling with various pliers and other tools.

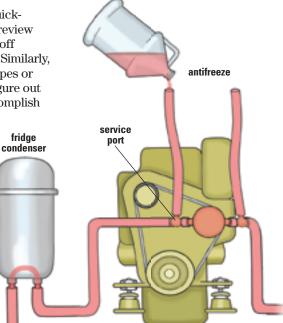
I also have a service port in the seawater intake line near the seacock. It's possible to put in a barb and hose going to a container of antifreeze and turn on the engine for a few seconds to suck antifreeze through the system into the muffler. I haven't done it this way because I end up doing everything myself. To run the engine, I would need a helper to start and stop the engine while I monitor the flow of antifreeze, and potential helpers are busy with their own boats on these cold afternoons. If you can start and stop your engine from below, or you have a helper, this would work fine.

Prepare before haulout

If you live in the north, you will have to protect your boat's plumbing systems every year. You will make life easier for yourself if you add service ports and drain plugs in critical places. Start making the changes soon after you have winterized the old way, while you remember the difficulties you experienced.

The details will be different in each boat and plumbing system. My boat's freshwater plumbing system is made of simple reinforced PVC tubing with brass pipe fittings. Plumbing below the waterline is all heavy hose and bronze fittings. It was very simple to cut the hoses and create service ports from standard brass or bronze pipe fittings. If your boat is plumbed with quickconnect fittings, you'll have to review what combination of tees, shutoff valves, and adapters you need. Similarly, if you have a lot of rigid PVC pipes or copper tubing, you'll have to figure out what fittings you'll need to accomplish the same objectives.

However you do it, you'll be delighted that freeze protection will be faster, simpler, and less wasteful. Who needs complicated problems of freeze protection when it's getting dark, the wind is howling, and the thermometer is on its way to 22 degrees? \varDelta



Ben winterizes his engine in two stages so he doesn't have to start it. He forces antifreeze through the intake side, then does the same on the discharge side, forcing it through the heat exchanger and to the muffler.

Opening the drain plug in the muffler drains the wet side of the exhaust system. It also lets out antifreeze when the heat exchanger circuit is full. Ben Stavis has been the "maintenance guy" on his family's Rhodes Reliant, Astarte, since she was new 45 years ago. He is constantly trying to make maintenance easier and service intervals longer. His sailing season is in southern New England and northern Chesapeake Bay. The long maintenance season is on the hard in Delran, New Jersey.

A wash for the anchor

No more muddy souvenirs to foul the foredeck

by Chuck Baier

othing says you need a washdown system quite like hauling up an anchor and rode full of black goop that attaches itself to the anchor, rode, anchor platform, windlass, foredeck, anchor locker, and anything else within a couple of feet of it.

On our new boat, *Beach House*, we took a day trip with our visiting children and grandchildren. After a day of fishing and anchoring on the Beaufort River off Parris Island, and catching a few shark and redfish, this project came to the top of our to-do list.



We always try to plan our boat projects. We study each one carefully, determine what the main components will be, and buy them ahead of time. As the project progresses, we only have to purchase the small items that make up the details. Since the wash-down project had been on the list for some time, all of the parts were already sitting on a shelf in the boat, so starting it was easy.

A source of raw water

With a raw-water wash-down system, the first consideration is where the

water will come from. Since we had converted our forward head to primary use as a shower, the head would seldom be used. That left the intake for the head as a good

Chuck's first step in installing a deckwash system was to insert a tee into the intake line for the forward head. candidate to serve double duty as the wash-down intake. Teeing into the head intake would not adversely affect its use and would allow us to plumb the wash-down without installing another through-hull.

From the tee, the wash-down hose runs into a strainer to prevent debris from clogging the pump. The washdown pump we purchased came with its own strainer, which we used, but there are also several small sea strainers available that could work quite well. The strainer should be sized to the pump you would use.

Where to put the pump?

We next had to decide where to locate the pump. We prefer that a pump be in a place where it will stay dry and free of corrosion. We also prefer it to be easily accessible for service and in case of a leak. In the end, we chose to install it inside a locker in the forward cabin near the head, on the opposite side of the bulkhead. This allowed the straightest possible runs for the hoses.

We have found through experience that too many bends and elbows will considerably reduce the flow from the through-hull to the hose on the



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From the head intake, the wash-down supply hose passes through the bulkhead into the forward cabin, to a strainer, then to the pump, at left. The hose continues forward under the berth, at right, and into the chain locker, where it connects to the on-deck hose bib via a pipe extension, below.

foredeck. The chosen location would also give the hose a good straight run into the anchor locker and to the deck fitting on the foredeck.

We chose the Shurflow wash-down pump since we have had good success with it in the past. Many pump options are available, from a simple 12-volt system, such as the one we chose, to dedicated 12-volt high-pressure wash-down systems from companies like Groco, and even to 120-volt highpressure pumps for boats with the power capacity to handle them.

Cutting and fitting

With the head intake through-hull closed, we cut the head intake line at the appropriate spot, placed the tee in the line, and mounted the strainer and pump in place.

There are several options for deck fittings. We chose a stainless-steel standard hose bib with a flange so we could attach it directly to the deck.

Once again, we gave some thought to the location of the hose bib since we didn't want the wash-down connection to become a toe-stubber, get entangled in the anchor rode, or snag any other foredeck lines. Our anchor platform has a teak grate, a good portion of which is over the foredeck, so a location under the grate as far forward as possible would get it out of the way and give us easy access. We had considered installing it in the bulwark, but doing so would require a 90-degree fitting on the inside attachment and we wanted to avoid that.



We drilled a hole in the deck just large enough to accept the pipe extension on the bib that would pass through the deck. This would extend into the anchor locker far enough that we could easily reach it to attach the hose.

Each time we cut a hole in the deck, we saturate the hole and the exposed deck-core material in epoxy. The goal is to seal the core and prevent moisture from entering the core material if a leak should develop. To do this, we seal off the bottom of the hole, fill it with epoxy, allow it to saturate the core material, then clean out the excess before the epoxy sets. We do this for any screw holes as well.

After the epoxy sealing the core material had cured, we installed the deck fitting with generous amounts of bedding compound.

Plumbing and wiring

Once all the main components were in place and we were satisfied with their locations, we could begin connecting the hose, starting at the intake tee and working our way to the deck fitting connection inside the anchor locker.

We chose a type of hose that would allow wide bends without kinking and would not collapse if some weight were applied to the hose itself. After we installed the hose, we secured and supported it with plastic straps about every 8 inches.

That left making the final connection: the electrical wiring. We wired the pump into a circuit breaker on

our 12-volt panel so it could be easily turned on and off as needed. The wires run from the pump to the panel and back to the pump. This is quite a long distance and the wiring needed to be of the proper gauge to carry the maximum amperage the pump could draw at an acceptable voltage drop. It also had to be secured properly.

At the business end of the washdown system, we prefer the pre-coiled hose over garden-variety hose. You can find it in most hardware, marine, and RV supply stores. The pre-coiled hoses stow better. We keep ours in a canvas bag to prevent it from getting entangled in everything else on the foredeck. Our hose is long enough to cover most of the deck; we use it for general deck cleaning when we are not at a dock where fresh water is available.

One more job done

With the completion of our deck-wash system, we could check off one more pre-cruising project. We know we'll feel less anxious the next time we have to anchor where the bottom comes up in large chunks with the anchor and rode. This system will also be wonderful the first time we catch and clean a fish under way. \varDelta

Chuck Baier and his wife, Susan Landry, are working hard on their Marine Trader 34, Beach House, *readying* her for cruising. Chuck, a marine technician and licensed captain, is general manager for Waterway Guide and Susan is the editor.

66 This system will also be wonderful the first time we catch and clean a fish under way. **99**



The wash-down plumbing leads to a standard hose bib under the foredeck grating, above. The precoiled hose is easy to stow, at right.



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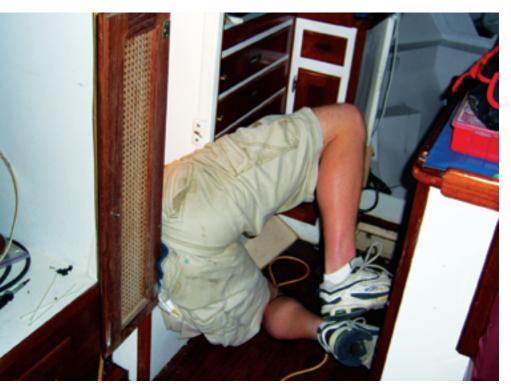
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Taming an electrical nightmare to further a cruising dream

by Aaron Norland



Aaron described the wiring behind the electric panel and in the engine bay as "out of control," at left. One of the previous owners told him, "It looks like a spastic spider got loose in there." The engine was in desperate need of repainting and the wiring around it was so chaotic that the decision to remove the engine for accessibility was a no-brainer, below. In any project like this one there will, inevitably, be places that are hard to get to, at left below.



hen our boat, *Asia Marie*, a Westsail 32, acquired us in the summer of 2007, she came with a wish list of projects waiting to be started. Having owned a few boats in the past, my father and I expected everything on those lists to take at least twice as long as our best guess, and to be three times as expensive. And it was clear from the beginning that her electrical system needed serious changes — for the safety of everyone involved.

Like many boats of mid-1970s vintage, she had (and still has) a serious case of POMS (Previous Owner Modification Syndrome). On Asia *Marie*, the original electrical system was barely adequate and nearly at the limits of its expansion the day it left the factory. Since then, at least five previous owners, from the man who originally paid Westsail crews after-hours to finish the interior for half the factory cost to the gentlemen we acquired her from (a pair of retired veterans with a fulfilled desire to attempt to sail around the world), have modified it countless times. We decided to re-wire her.

We became aware of some obvious problems upon inspecting the boat. Most of the breakers and switches on the main electrical panel did function — just not the way they were supposed to. For instance, the watermaker breaker activated the engine start key (there was no watermaker), the engine switch turned on a few cabin lights and powered the VHF, and the bilge-pump switch sent power to the freshwater pump. Initially, we assumed all of this could be easily corrected by simply hooking the right wires to the right switches; all we'd need would be a few new lengths of wire for items we intended to add to the electrical system. Then we got the boat home and started looking into the wiring more thoroughly...

Dangerous situations

In addition to the circuitry being absolutely unintelligible at the panel, we found countless iffy and downright dangerous situations throughout the boat. There were hot wires extending into space, ground wires dangling inches from positive posts, dozens of wires that had no apparent use, and others that had clearly done something important but, although no longer connected to a device, were still live.

Then there was the battery hold-down system: a small piece of Dacron line with one end tied around an engine mount and the other to a wrench taped to the bulkhead. Also, half of the "breakers" in the panel were simple toggle switches from which wires ran throughout the boat unprotected by fuses. Several items had green and black wires for their DC positive leads. One wire run even had a length of household extension cord spliced into it ... several times. Beside one of the diesel tanks was a wad of wires that had shorted and melted into a ball of coppery goo. Throughout the boat's cabin, we found wires that had been crushed by furniture and abraded by tight corners.

Connections had been made with electrical tape, duct tape, bell nuts, and the ultimate abomination of the electrical connectors: side steps. A few of these had shorted out, explaining why more than half of the devices on the boat simply did not work even after we figured out which switches were supposed to run them. As if this were not enough, the wire originally used throughout the boat was nontinned and, after 30 years, was highly corroded. Many of the ends were brittle enough to snap off with slight pressure. Of the wires that were in good shape,

66 There was a *lot* to think about, especially for someone with limited knowledge of electrical wiring. **99**

most had been cut to the exact length needed, leaving no slack for making new connections.

Clean slate

In light of these fundamental problems with our boat's electrical work, we decided to remove most of the wiring and start from a nearly clean slate. We did not remove the AC wiring as it had been recently added and was installed correctly throughout. Everything else would have to go.

Another syndrome that creeps into conversations about boat work is WIHTAS, the "While I Have This Apart" syndrome. This is guaranteed to quadruple the expected completion time of a project. While rewiring sounds like a simple enough project, it becomes infinitely more complicated once one decides to remove the engine and the fuel and water tanks. This leads to cleaning, refinishing, and modifying the areas they normally occupy. And

Behind the new electric panel, order reigns, at right. Aaron bundled wires tidily and used PVC pipe for raceways, below left, and wrapped wires with scrap nylon hose where they passed through furniture, below right.







while doing that, one always finds a few more things that are on the cusp of greatness, just waiting for their moment to be renovated. So they join the list.

Planning is the most important step in most projects. Although we started the rewiring in December, expecting naively to have it completed by mid-January, we had spent the previous months considering exactly what we wanted in our electrical system. There was a *lot* to think about, especially for someone with limited knowledge of electrical wiring. To prepare, we read the sections on electrical systems in Nigel Calder's Boat Owner's Electrical and Mechanical Manual and Don Casey's Sailboat Electrics Simplified; then we reread each, several times. Armed with this information and what we gleaned from several hundred hours browsing Internet forums, we sketched our prospective electrical system.

We spent entire days on the boat mulling over where we wanted to put

Electrical wiring



Aaron used a computer program to make a sketch of the electric panel to show to Mobile Marine Electrical Systems (MMES), at left. MMES made suggestions and, after exchanging a few drafts with Aaron, assembled a panel that met all the Norlands' needs with room for future additions, at right.

lights, DC outlets, fans, and other fittings. Other days we were at home, drawing wiring diagrams, determining whether there might be a simpler way to do a particular run, and ensuring that every device would receive the juice it needed.

Simple system

Since we are fairly traditional, our electrical system is quite simple: no refrigeration, air conditioning, or other power-hungry, complicated systems. We did, though, consider future owners and the need for later expansion. It's a good idea to plan for something you may want to do later. That may mean leaving a few vacant slots on the panel for breakers or running wire for systems you can't afford at the outset. It would never be easier to run wires for something than while rewiring, so we ran wires for a fridge, radar, SSB, TV, speakers, and a few other things, even though we don't have them.

Central to the planning of a boat's electrical installation is the means for charging the batteries. We read about many options, including the main engine's alternator, solar panels, wind generators, water generators, and built-in or portable generators. While we wanted a simple system, our plans for long-distance cruising demanded a self-sufficient power supply that could be unplugged from shore indefinitely. We decided to base our installation around a shorepower battery charger powered by a Honda EU2000i portable generator. In addition, a 110-amp alternator fitted to the main engine could be used in case the Honda went on the fritz. As we intended to cruise in the tropics, we also planned to add two 65-watt solar panels to limit the amount of time we would have to manually intervene in the charging. For our small, simple electrical system, these options would ensure our house and starting battery banks would stay well charged and maintained.

Available options

During our planning we searched for electric panels that would serve the needs of our system. Many pre-fabricated options are available from Blue Sea Systems, Paneltronics, Seadog Line, and others. We wound up with a custom panel made by Mobile Marine Electrical Systems. At first, we avoided this route as we assumed it to be expensive, but the total cost was not quite \$100 more than equivalent prefabricated panels. That seemed a fair price for a custommade panel that looked great and was exactly what we wanted.

Finally, when we had agreed as to how, what, and where things would be installed, and how it would all be powered and charged, we quadruplechecked our plan and began the installation.

Since it had been scary to discover how much wire in the previous installation was hidden, our goal was to keep all wiring and connections accessible and within arm's reach to ensure a secure and clean installation and permit regular inspections. Rather than running wires above the headliner, for instance, we put them underneath the easily removable trim boards and used wiring tracks to surface-mount leads going to lights. Instead of snaking wires in blind spots behind bulkheads, we chose to cut large holes where wires could be protected from chafe and easily examined by eye and touch. Further, the only wires near the bilge are those going to the bilge pumps and depth finder. Everything else runs at hip level.

I cannot over-stress the importance of planning and considering all options

and opinions during this process. If you embark on a similar project, remember that the more time you spend planning, the easier it will be to install and use your electrical system. Be cognizant of the different methods for doing the same thing (such as push-button circuit breakers powering similar toggle switches, rather than individual breakers for each item). Most important, ensure that the system you build will be safe today and 20 years from now.

Like all boat deadlines, that for the engine slipped and we did not get it reinstalled until mid-May of 2008. Our original budget of \$1,500 exploded and, though I am afraid to add up the

Resources

Blue Sea Systems http://bluesea.com

Mobile Marine Electrical Systems www.wewireboats.com

Paneltronics

www.paneltronics.com

Pacer Marine

www.pacermarine.com

Seadog Line www.sea-dog.com

Sun Electronics

http://sunelec.com

Books

Boat Owner's Electrical and Mechanical Manual, by Nigel Calder; Sailboat Electrics Simplified, by Don Casey.

For more related products and services www.goodoldboat.com/resources_for_ sailors/suppliers_directory receipts, I have no doubt we edged past \$5,000. The wiring alone consumed 600 feet of 16-, 14-, 12-, 10-, and 1-AWG wire, 300 or 400 ring terminals, bags and bags of wire ties and mounts, 100 feet of chafe-protecting nylon hose, and a bazillion supporting screws. On top of that, we purchased 2½ gallons of epoxy, 3 gallons of Interlux Brightside paint, a new water tank, a new muffler, a few parts for the engine, new batteries, Racor filters, diverters, hose, bilge pumps, propane line, some more zip ties, and 26 six-packs of beer. But it was worth the time and the cost and the several hundred hours of work.

Do not be daunted by the cost of products required to rewire your boat. We set up a wholesale account through Pacer Marine, a company in southern Florida that makes high-quality electrical products and sells them at prices about a third of those at West Marine. Similar generic companies can be found around the United States and abroad.

A few tips:

- Buy a ratcheting crimping tool; it greatly eases the application of terminals. We cringed at the \$65 price tag but now agree it was one of the best investments we made.
- When in doubt, use chafe protection. If a wire goes through a bulkhead, crevice, nook, or shadowy area, put some ½-inch or ¾-inch nylon hose around it. Throughout the boat, we found areas of original wiring where the protective jacket had been chafed through.
- Label, label, label! Write on wires, use wire-marking tags and heat-shrink labels or any means you can to keep track of wires. We used very fine permanent markers to label wires every 3 or 4 feet and anywhere we thought it was possible that someone might see a wire and wonder, "What wire is that?"
- Use blue-jacket boat wire for all DC wiring. Also, use yellow wire for all DC ground wires. We used white jacket with black/red, but have since realized that it makes it difficult to distinguish between AC and DC wires. Remember, DC = Blue, AC = White. Nigel Calder says this in his book. Listen to him.
- Use heat-shrink terminals for all connections. A dab of dielectric grease on all terminal blocks, power posts, and on the ends of wires

66 Asia Marie has a completely fresh electrical system that we are confident is of high quality. **99**

before applying crimp terminals will prevent corrosion for many years.

- Don't be afraid to make your own hardware; we saved a significant amount of money by constructing our own bus bars and terminal blocks using scrap pieces of StarBoard with stainless-steel bolts countersunk for posts.
- Support your wires judiciously. Books suggest every 18 inches, but 12 inches is often better, especially if the loom contains many wires. Unsupported wires flex and chafe. When possible, run like wires (DC or AC) in a loom within a hose or something that doubles as chafe protection and support. In the engine bay, we ran wires inside PVC pipe to protect them from oil, which can damage wire.
- Leave service loops for every wire so you can make modifications without running new wires. We left at least a foot of wire for most connections. It looks a bit odd but, coiled and bound, it can be supported out of the way. You will thank yourself later, whether it is 10 minutes (I did a lot of modifications 10 minutes later) or 10 years.
- Make a good wiring diagram before, for planning, and after, showing what you actually did. Don't wait long after you complete your project; it's surprising how quickly specifics leave your mind.

Despite the gross overruns in time and cost, we are very satisfied with the end result. *Asia Marie* has a completely fresh electrical system that we are confident is of high quality. Flipping a switch on our pretty

Removing the engine, fuel tanks, and wiring (and the projects that ensued) added to the work list, but the clean engine bay was well worth the effort. electrical panel and knowing it will work, as well as how it works, is very fulfilling. Above all, the time I spent with my father — creating, arguing, and working — was priceless and worth the project by itself. Δ

Postscript

While we were preparing Aaron's article for this issue, he provided us with an update. He did warn about "modifications." Well, instead of the Honda generator, they fitted two 130-watt solar panels and a Blue Skies MPPT charger and matching monitor/ controller. The main reason, he says, was cost — the price of solar dropped from \$6.50/watt to \$2.08/watt (the price they paid for SUN brand panels purchased from Sun Electronics in Miami, Florida) so they ended up with a less expensive (and quieter) charging system. "I have seen my 260-watt panels put 90 amp hours back into the batteries," Aaron says. "Plenty for my current needs." -Eds.

Aaron Norland has USCG Master and Mate licenses and has taught sailing aboard several tall ships. He just completed a degree in trumpet performance from the University of Miami. He hopes to play trumpet with a major symphony orchestra and cruise his Westsail 32 in the off season.



Refit boat

The one (figuratively, at least) that will contemplate his final vessel. The one (figuratively, at least) that will carry him to Valhalla . . . the boat that will epitomize who he has become. For my wife, Terrel, and me, this means a small ocean-capable cruiser of traditional design. No matter that it may never cross an ocean, the ability to do so should be enough to sustain the dream. For us, this last boat would be trailerable, at least within the context of being transported great distances but not necessarily on a frequent basis.

Several boats we've known fell within this general category. Among them was the Nor'Sea 27, which I have always considered the gold standard for a transportable, ocean-girdling, sailboat. Pacific Seacraft's 25 was another contender.

But one boat has stuck in our minds over the past 20 years of boat browsing, a boat that incorporated many of the best features of the previous two: the little-known Ocean Voyager 26, a Florida-built, offshore double-ender designed by Dan Avoures in 1975 and built through the 1980s.

Brooks Atherton, one of the owners of the Ocean Voyager Corp., recently said it was one of the sweetest sailing boats he had ever handled. He went on to remember famed circumnavigator Tristan Jones praising it at the Houston boat show.

A countrywide search

The search for our own Voyager was a long process, ending with a four-month sabbatical that led us from Colorado to Miami to look at first one (that proved beyond practical repair) and then to Tampa where a second candidate sold 24 hours before our arrival. (It had been on the market two years and I, in my infinite wisdom, felt there was no hurry.)

Seldom are two of these boats on the market at the same time. But, as luck would have it, we found our next target (a third one) on the Internet. It was in Seattle, Washington. We stopped by our home in Colorado on the way to Seattle and exchanged the motor home for the pickup truck and gooseneck trailer, on which I had previously installed a set of jack-pads with screw adjusters.

At Shilshole Marina in Seattle we at last beheld our new ship \ldots and a

Refitting a rare

This one, he swears, is the final vessel

Vovager 26

by Ron Chappell

sad, sad sight she was: mossy decked and down by the bow, her cataract-like plastic portlights staring sightlessly into the morning mist. We looked at one another with dismay. But we were there; we had little choice but to soldier on. We immediately noticed an ankledeep mix of bilge water and diesel fuel. Things got worse as we sorted through piles of heavy, moldy, gear stuffed in the forepeak (this explained why she was down at the bow).

Neglected but sound

I surveyed the engine with a jaundiced eye, knowing it would never go chugchug-chug again. The mate, not easily intimidated, manned the bilge pump and instructed me to begin tapping the deck for soft spots. I was sure there would be many. But, as it turned out, there were none and, upon closer inspection, we found the boat to be structurally very sound and obviously little used ... just badly neglected by a young and struggling owner. A fairly recent survey we found aboard stated that the bottom was in fine condition with no blistering of any consequence. All in all, things were looking up.

My philosophy in restoring older boats is this: I much prefer a badly neglected example in sound original condition to one that has been "upgraded" by previous owners. The terms "upgraded" or "good used condition" are meaningless phrases to the anal-retentive restoration guy. I would rather buy reasonably to begin with and figure on replacing everything — because in the end, I will anyway. The sailor who follows this plan is more likely to be a happier camper (though a bone-weary one) at the finish.

Few are aware that many of the later Voyager hulls and decks were built on contract by Island Packet. These had a very high-quality hand layup (the schedule being comparable to both the Nor'Sea and Pacific Seacraft). The standard deck core on these boats is 1/2-inch, high-quality marine plywood, just as Pacific Seacraft used. Even better, the core does not extend to the bordermounted stanchion-bases, cleats, and so on. They are bedded through solid glass, which is impervious to rot. So, unless a lot of "stuff" has been haphazardly added to the cored area, these decks are not prone to soft spots. (Months later, when we pulled the headliners on our boat, the clear glass overlay revealed plywood core as beautifully sound as the day it was laid).

Happily, the trailer fit, and we arrived back in Colorado (several snowstorms later) with our dubious prize in tow. A new dream was born.

A restoration begins

Fortunately, I was in a position to devote myself full time to the project, now parked in front of our shop. This is a huge advantage, by the way, and another plus for a transportable boat. I spent the first few months gutting the boat. Everything we could take off or out without using a cutting torch or saber saw we removed and stored for later refurbishment. We scrapped all the wiring, electrical panels, plumbing (including the head), and the engine (with its associated mechanicals).

66 Fortunately, I was in a position to devote myself full time to the project, now parked in front of our shop. **99**

I packed more than 60 pounds of cat litter into the bilges to soak up the last vestiges of diesel fuel. Weeks later, I removed it with a Shop Vac and replaced it with five gallons of Simple Green mixed with an equal amount of hot water. We then took the boat for a little 20-mile drive on hilly, curvy roads, employing the old "washing machine effect" to emulsify any residual diesel. This is yet another unsung advantage of a trailerable boat. It still took several flushes of hot soapy water and nearly another year spent "airing out" in western Colorado's high, dry climate to effect a complete cure.

True to the survey, the bottom condition exceeded my expectations, with only a scattering of pinhead-sized blisters and perhaps a half-dozen or so the size of a nickel. There was no evidence of previous repair ... not bad for a boat that had spent most of the last 28 years in the water. It did carry six or seven coats of very hard bottom paint that would have to be ground down to gelcoat to facilitate fairing and applying barrier coats. Our friends Rich and Sara Cardwell volunteered to help with this project. They clearly had no idea of what they were letting themselves in for. I jumped at the offer and, amazingly, they remain our good friends to this day.

We let the bottom cook in the sun for many weeks and then applied four heavy coats of industrial-strength epoxy barrier coat. Later in the restoration, we went back inside and coated every square inch of exposed fiberglass in the interior — lockers, overheads, bilges, engine compartment — with two coats of Interprotect barrier coat by Interlux.

Under a dramatic sky, *Envy*, a Voyager 26, sets off on a new adventure, facing page. First, though, owners Ron and Terrel Chappell made the long journey of restoring her. The engine was among many items removed, at top, while the seasons changed around *Envy* in the Chappells' driveway, at bottom. The laminate was thus protected from moisture inside and out.

Electrical and mechanical

This was the proper time to begin the job of rewiring: before the interior went back in. If I have a forte (and this is widely debated), it is wiring. I spent an inordinate amount of time installing circuitry for control panels, switches, fans, outlets, pumps, radios, solar regulator, GPS, various sailing



Refit boat





A "good used" Yanmar engine, courtesy of eBay, replaced the original Farymann without much ado, at left. Ron rewired the boat entirely, and the new electric panel is the master control station for many new systems, at center. Another eBay score was the stainless-steel hatch for the cabintop, at right.

instruments (including two separate autopilot circuits), and spare runs for future items not yet invented. All wiring runs were item-specific, individually fused, and with all circuitry terminating in a single-hinged-front cabinet for easy access. I chewed up about \$600 in oversized Anchor-brand tinned wire in the process and the better part of an additional two weeks of restoration time. I was still shooting for a 16-month splash date and felt I was running only a little behind. Silly me.

As for diesels, all Voyagers had one. The first boats generally came with a single-cylinder Farymann or BMW, both raw-water-cooled and rated somewhere around 12 hp. While these were considered adequate in their day, their design has become a bit long in the tooth for most. We opted for a Yanmar 2GM20F we found on eBay.

Although it was a "good used engine," I elected, for peace of mind, to rebuild it completely. I've been spinning wrenches and building engines since high school and, for me, these little precision diesels are a joy to work on (out of the boat, of course). The fact that this particular engine had been coupled to a saildrive in its previous life left me no option but to purchase an expensive brand-new conventional transmission.

The Yanmar fit nicely in the old Farymann's space with only minor modifications to the bed. It later proved smooth and dependable.

The prop shaft on this boat is rather long, making it especially important to get a proper alignment on our new shaft and Cutless bearing. A Drivesaver coupling device was a good investment, in our opinion. Another nice feature of this engine bed is that it allows a nearly horizontal shaft run, which translates to more efficiency at the prop. We found that a $13 \ge 12$ RH 3-bladed prop was just about spot-on for this setup.

Interior amenities

The Voyager enjoys a bright and airy Herreshoff-style interior and, while there were two versions, our traditional center-galley model made the most sense for us. Though the forepeak is a bit cramped, it does provide privacy for the V-berth and, surprisingly, a larger head area than the layout version with the aft head. were on sale. Still, buying eight of them was a budget-blowing experience. This is one of the few upgrades likely to return dividends at sale time.

While instructions for installing these are straightforward, I still spent about one day per port removing the old one and installing the new. However, they are now a strong structural part of the boat and will probably have to be chain-sawed out someday (but not by me). As a side note, while the screens that came with these ports are beautifully made, it's nearly impossible to install them and have the ports remain

66 Voyager Marine invested heavily in teak ... only the best old growth from what used to be Burma. 99

We installed a modern holding system with an integrated, oversized manual pump, which expedites things in a more dependable fashion. Waste goes first into the tank, leaving us with the option of sending it to the deck pumpout port or — with the help of a three-way valve (that's always locked) — to the through-hull below the waterline. This is a system design I have never had questioned by harbor authorities anywhere we've sailed.

The portlights were one of the few places the original buyer had skimped on his order form. While these plastic ports had (amazingly) remained virtually leak-free for 28 years, they were nearly opaque and a bit brittle. A call to New Found Metals in Port Townsend, Washington, confirmed the availability of our favorite style of traditional bronze ports and — happy day! — they leak-free. Other owners hope NFM will address this issue.

At this juncture, I should also confess that I use only one type of sealant/caulk on our boats: 3M 5200. Yes, it's forever; that's what I like about it. Some folks may be unaware of the new spray-on release agent for this product, which should negate any lingering objections.

Our boat had no permanent stove installed. I couldn't justify the space for and weight of an oven model but we did find a wonderful little brassand-stainless-steel gimbaled propane cooktop we could build in. We ran the new impervious-to-everything line aft and through the stern deck to a rail-mounted aluminum tank. These are tall slim tanks about the size of scuba tanks. Terrel, my better half, has provided them with insulated



The galley-forward layout on the Voyager 26 is not fashionable today but, in a boat of this size, it uses the width in a practical way, at left. On the port side, aft of the sink, the settee berth doubles as a navigator's seat. The bronze portlights add a big-ship touch, at right.

green covers to enhance that illusion. There is, by the way, a feeder line to the small rail-mounted Force 10 barbecue. The system does, of course, include the obligatory Xintex Fireboy 2 safety control panel connected to a tank solenoid and additional sensors, one in the bilge and one in the bottom of the stove compartment. This system is pretty much the standard in the marine industry. Over the years, we've become satisfied that it's safer than most when properly installed.

Crowning achievement

Terrel, a skilled seamstress, did all the interior upholstery, then went on to build Sunbrella sailcovers, lee cloths, tiller covers, and sunshades. Her crowning achievement was an honest-to-gosh offshore dodger of a quality you'd be hard-pressed to find commercially. Though she has often crafted elaborate wedding and graduation dresses, she admits this was the toughest sewing project she has ever undertaken. She built and rebuilt it over the course of six months until she was satisfied that it was exactly right for the boat. I have not seen a better one. Before you ask, she says she will never do another.

We were able to do all the work on this boat ourselves, save for the Awlgrip paint on the topsides and spars. It's a very tricky material to apply properly in our climate. Professional sprayers of Awlgrip are few and far between in western Colorado but, after casting about, I did find a local airplane painter, Jim Partsch, who was familiar with Awlgrip and not afraid to give it a shot. I'm happy with the results and he did it at a reasonable price, considering the materials alone ran \$1,600.

Voyager Marine invested heavily in teak for these boats, inside and out. They used only the best old growth from what used to be Burma and, though our boat's outside trim was badly weathered, it was also very dense and quite thick. I had first thought some of it might have to be replaced, but it was amazingly solid and sanded out nicely, leaving plenty of wood on the toerails and coamings. We had always thought the bowsprit on these boats (consisting of one heavy narrow plank) was less than adequate for serious bow work in any kind of weather. Again eBay came to the rescue with a heavily built sprit from an expensive trawler. It was just the thing, vastly improving safety and the boat's appearance.

Finishing touches

At this point, I could no longer abide the heavy, fiberglass "cargo hatch" on the foredeck. While it was a popular design in its time, it did nothing for the general lines of the boat and I have never seen one that didn't leak ... copiously. You guessed it: a brand-new all-stainless-steel, low-profile hatch appeared like magic on eBay. It fit with a minimum amount of surgery and melded well with the traditional lines of the cabintop. I was thus encouraged to add teak Dorade boxes with



A new journey ahead: Ron, Terrel, and son-in-law Michael Paxon, center, get set to raise Envy's mast.

stainless-steel vents. These, along with the eight opening ports, made this the best-ventilated boat we've owned. Did I mention the day/night Nicro vent installed over the chain locker to exhaust wet-rode odors?

After nearly three years, we were coming to the end of this project. Then we decided the finishing touch would be a classic boom gallows. I'm talking about a real boom gallows with hefty bronze side brackets and oversize stanchions, something a sailor could hang on to in the dark and stormies. It would also provide support for a zip-on Bimini. There are innumerable reasons for a boom gallows (see *Good Old Boat*, July 2005).

After pricing bronze side brackets from the few people who still make them, I was beginning to have second thoughts but, once again, eBay came to the rescue! Sure, they were off a Westsail 32 and weighed roughly 12 pounds each, but they were priced right and I figured they could be worked down to a more reasonable size and weight.

After only six days with a hand grinder, they were down to 6 pounds each and my backyard looked like a golden fairyland. Polishing them out to a high luster took an additional two days. The cross plank of solid black walnut demanded another couple of days to fit, sand, and varnish. Inchand-a-half polished stainless-steel pipe made up the stanchions, and we were good to go. In the end it was worth it. (That's what I keep telling myself.)

Better sailer

We have sailed both the Nor'Sea 27 and the PS 25 extensively in the past and, in

66 In terms of expense, we are into her about half what a comparable off-the-rack boat of this caliber would cost. **99**

the final analysis, thought the Voyager 26 to be the better sailer in most conditions. She is a tad beamier — at 8 feet 3 inches — than the other two and will accommodate more stores. She is surprisingly fast in light air, perhaps due to her sharp entry and knife-edge keel carried all the way to the stern. Her very shallow draft, only 3 feet 4 inches, reduces wetted area as well, I suppose, though I'm no design authority. Like the other two boats, the Voyager will pretty much steer herself when properly balanced. And at a designed displacement of 7,200 pounds, she is quite seakindly for a boat this size.

On the downside, she does make some leeway, as do all her ilk, and I would not expect to get any closer to the wind than 40 degrees. These are the trade-offs one must expect in a vessel with such shoal draft, tradeoffs we happily concede. The ability to explore skinny water has always been a priority for us. Oh, and take care backing this boat out of a slip in a crosswind; she'll certainly entertain you.

We named our boat *Envy* — one of the seven deadly sins and the reason for her being. We have attempted to recreate in her the craftsmanship and virtues of boats well beyond our grasp at a price we could afford.



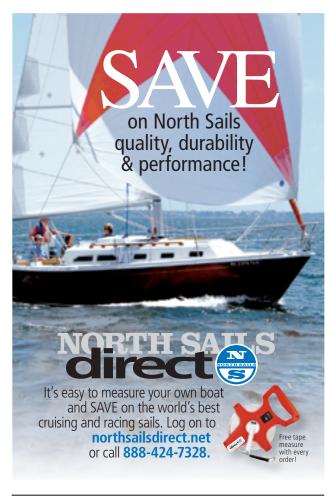
In terms of expense, we are into her about half what a comparable off-therack boat of this caliber would cost (disregarding three years of intensive labor, of course).

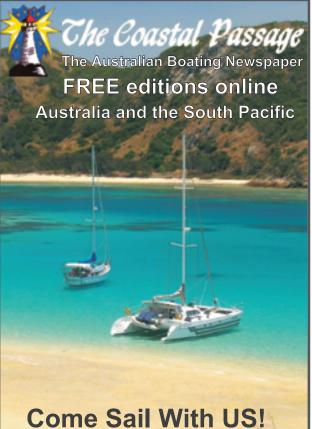
We like this boat. We truly expect her to be our last. $\ensuremath{\varDelta}$

Ron and Terrel Chappell have been restoring and sailing small cruisers for the last 20 years and, last winter, tried out Envy in the Abaco Islands. Ron maintains he has gained much of his expertise through articles in Good Old Boat — he has been on board since the magazine's inception and archives every issue.



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MONTH YEAR

Cruising memories

In praise of the perfect mate

She's the best crew a man could hope for

by Robert Poindexter

Robert and Jac survived a halting first voyage aboard *Mariner* to embark on a life adventure.

Too many stories about my sailing exploits leave out, or at least don't give enough credit to, my first mate, Jac. Here is a girl who, never having set foot on a sailboat before meeting me, has risen to the occasion in more than a few of my misadventures.

We had been dating a little more than a year when we stepped out of the movie theater into the bitterly cold Midwestern February evening. The movie we had just watched was a comedy that took place in the Caribbean, a far cry from the ice-covered parking lot we were crossing on our way to my ice-covered car. We ducked in as fast as we could and cuddled for a moment while waiting for the air temperature inside to climb to at least freezing. As I drove her back to her home, we had to laugh about the contrast of our present location versus the warm, sundrenched beaches we had just sat ooh-ing and aah-ing over for the last 2 hours.

It was on that ride home that I popped the question — you know the one. I took her gloved hand in mine, took a deep breath and said, "Honey, how's about we buy a sailboat?"

She jumped in with both feet. She admitted she knew nothing about sailing but thought it sounded like fun. How could you not be in love with a girl like that?

We spent the next few weeks searching online and driving to various — still ice-covered — marinas. Our requirements were simple: cheap, big enough to spend the weekend on, cheap, in reasonably good shape, cheap, and not so fancy we would wince if we bumped a dock or two. It had to at least float and have the ability to get in and out of the marina under its own power... most of the time.

It was about mid-March when Jac sent me an email link to the ad for the boat we wound up buying. She was in a marina in Perry, Kansas, a 40- to 45-minute drive from where we lived. She was a 1968 28-foot Columbia powered by an Atomic 4 and met all of our requirements: roomy enough for a cozy weekend getaway, seaworthy, and beat-up enough that one or two more scrapes wouldn't send us over the edge. Oh... and cheap. It took us two more weeks to seal the deal. By the time we agreed to purchase *Mariner*, the ice had all but thawed and temperatures were finally reaching daytime highs of around 60 degrees.

Adventure

Jac showed her mettle the very first time we (I) decided to take our new acquisition for a test drive. We'd spent the day crawling all over our boat, opening everything that would open, wowing at all the cool stuff we found, and ugh-ing over some of the non-cool stuff we found.

By three in the afternoon, we were sitting in the cockpit. The day was cool, but the sun was bright, adding to the excitement of the upcoming season and our dreams of long, sun-drenched summer days under sail. Finally, I couldn't take it any more. I just had to try this girl out.

"Let's take 'er for a quick spin, babe. Whatd'ya say?"

"Can you drive this boat?" she asked.

"Can I drive this boat?" asked I. "Sure, I can! We'll just take her out of the marina, turn around, and come right back in just sort of get a feel for her, ya know?"

I was obviously very convincing, as Jac stood up and asked what she should do. I gave her a quick rundown of procedures for getting under way and she, although unsure of her own ability to follow these procedures as I had outlined them, agreed to do her best.

What else could a captain ask of his crew? I followed the instructions the previous owner shared for starting the Atomic 4 and, soon enough, she was running. Jac released the bow line, and I released the stern line. Throwing our lines into the boat, we clambered aboard and found our way to the cockpit as *Mariner* slipped away from the dock.

A little bit of reverse while pulling the tiller to port, a quick shift to forward, and we slipped through the buoys that marked our little marina. As I confidently steered onto the lake, I basked in my boat, my crew, and the warm late winter sun — it was too good for words. We motored toward a nearby shore and turned back toward the marina.

Misadventure

It was around 5 p.m.; the sun would only be up for another 30 minutes or so. About 100 yards from the marina entrance, the motor suddenly stopped — no warning, no coughing, spitting, or sputtering; it just ceased to be on.

The sun was setting quickly now. Jac and I were wearing light jackets. The only tools on the boat were whatever the previous owner had forgotten: a pipe wrench, a screwdriver, and a rusted pair of needle-nose pliers.

Jac never said a word, never complained, never freaked out. She just stood by, ready to do whatever was helpful. I checked the usual stuff: fuel supply, spark, air. All those elements were present. It was getting later and colder as we sat helplessly drifting just 50 or so yards from the marina entrance.

We had no additional clothing or blankets with us. No food, no water, no operational toilet. It was dire.

"Well, we'll just have to sail in," I told my trusting crew. Since the wind was nonexistent, that plan failed immediately.

Out of sheer desperation, I tried the key again and, to our delight, the little Atomic 4 roared to life. Wahoo! Yippee! We were saved! But, as we entered the marina, disaster struck again. The motor died once more. The good news: we were inside the marina. The bad news: we were still several hundred yards from our slip.

The worst news: there were many boats between us and our slip, all with anchors more valuable than our whole boat.

We drifted slowly toward the first set of docks as I prepared to fend *Mariner* off the previously mentioned much-more-expensive boats.

It only took three hours of gingerly pushing off and drifting forward, pushing off and drifting forward to get us safely back to our slip. At one point, we employed as an oar the 1-inch x 4-inch x 2-foot board that served as the companionway step. It worked quite nicely.

On balance, a success

On the way home that night, we determined that since no boats were damaged, no one was injured or killed, and the boat was safely back in her berth, our first outing had been a complete success.

Jac had every reason to be upset by her first sailing experience. I had given her plenty of fodder to use against ever setting foot on that or any other boat with me for as long as we drew breath. Instead, she praised me for getting us in safely. She beamed with pride at what she considered my great resourcefulness against all odds. She lauded my calm demeanor and quick action in the face of this challenge.

As it turned out, there was more water than fuel in the tank of that old boat and eventually we got her running pretty



well... most of the time. We've had many more adventures since that first time out — some good, some challenging. But all were made better thanks to the best crew a man could ever hope for.

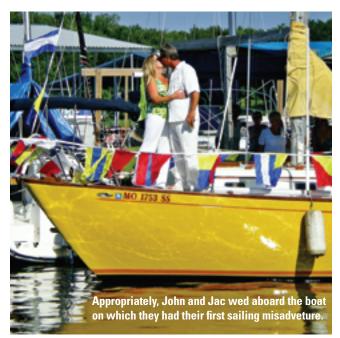
Of course, we are married now. I had to marry Jac or risk losing her to another captain.

I'll probably not go down in history. No one is likely to write books about my sailing prowess. But if they ever open up a hall of fame for the most fearless, faithful, and willing crewmembers, I'm sure Jac's name will top the list of inductees.

She's already been called the best sailor on our dock by a few of the old-timers.

They say it's because she puts up with me. Who am I to disagree? \varDelta

Robert Poindexter is a business manager, a freelance writer, and prolific blogger for a top careers blog. Currently landlocked in Kansas City, Missouri, he and his wife, Jac, spend almost every weekend of the Midwestern boating season on Lake Perry, in Kansas.





The silver lure soared into the soft late afternoon sunlight before splashing into the quiet water of Mattituck Harbor, Long Island, sending ripples out in a circular pattern. I hadn't cranked the handle more than a few times before a fish grabbed it and took off, hell-bent on escape. After carefully playing it, I lifted it out of the water just as a stunning black 42-foot yawl coasted by.

"Cocktail blue, eh?" said the captain. "Yeah, but he forgot my martini," I quipped. We both laughed.

"Well, after we drop anchor, come aboard and we'll offer you a real martini," said the owner of the handsome yawl.

The owners of *Golden~Eye*, Richard Emmert and his son Mike, were warm,

Capt. Steve Sanders pilots Gary's good old 1969 Pearson 35 centerboarder, *Viridian* while Gary photographs the fleet. hospitable sailors whose verbal jousting with me became the cement that would bind a developing friendship. I learned that *Golden~Eye* is a 1937 Rhodes custom yawl built by Minneford's on City Island, New York. Richard had discovered her in 1972, forsaken at a City Island yard. A restoration project of significant proportions followed.

As we sat in the cockpit that afternoon, the father-and-son team explained they were headed to many of the same ports of call we were. Over the next few days, we sailed in tandem and enjoyed their company on Long Island Sound. Then they popped the question.

"Say, would you like to participate in the Heritage Cup Series?" asked Mike.

"Race?" I asked, a quiver in my voice. "Yeah, just for fun. Not very competitive at all."

My experience in racing goes back quite a ways, aboard some really memorable boats in some very exciting races. The phrase "not competitive" never once entered my vocabulary, much less my head. When I embarrassingly



It's just a friendly get-together they say

by Gary Miller

caused a jib-sheet jam in the winch, I was horrified to see the owner take a meat cleaver and hack off a \$300 piece of line. As a result of that experience, I have always believed the concept of "insanely competitive" more accurately describes sailboat racing.

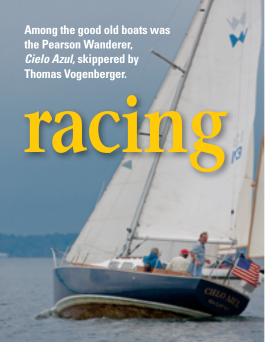
"Oh, no," Mike said. "This is *nothing* like that at all. We just get together for a friendly race around the buoys. We even have a class for good old boats like yours [a fiberglass 1969 Pearson 35-foot centerboard sloop named *Viridian*]. Look at it this way — racing is a great way to polish your seamanship and navigation skills."

Uh oh. Now there was no backing out.

A race for classics

So it was that *Viridian* entered the 2009 Heritage Cup Series, in Hempstead Harbor, Long Island. The series, born out of the cancellation of the well-known New York Governor's Cup, is held the first weekend in October and was originally a regatta for wooden boats (in 2009





The Nevins 40, *Prima Donna*, skippered by David Puchkoff, leads *Cielo Azul* and the O'Day 28, *Tradewind*, owned by John Juergens, around a mark.

of the Good Old Boat division was

Trevor Wisdom, sailing Wizard, a

came in second in her class.

"Yanmar division"

around for an hour

in the pouring rain

- after slatting

(with no wind) on the last leg,

we turned the

key and motored

home so as not

awards dinner.

to be late for the

cocktail party and

That's also part of

racing, isn't it? Δ

C&C 35 Mk III. The overall winner on

corrected time was Bill Simmons on

Allegro, a venerable S-Boat. Golden~Eye

Viridian came in first in the, er,

there were 18 wooden boats). To widen interest in the series, Mike wanted to expand it to include fiberglass boats, and had been talking with Jim Cassidy, owner of Heritage Marine Insurance. Jim invited *Good Old Boat* magazine to sponsor the race that was to be named the Heritage Series for Good Old Boats. The rest, as they, is history.

Mike and his team added a Good Old Boat division for fiberglass boats designed more than 25 years ago. Only three boats signed up the first year. The next year there were four. In 2009 there were five. So, in addition to entering the 2010 race, I pledged to help Mike and the crew get more good old boats in on the fun. Hence this article and the accompanying photos.

Some beautiful boats (both wood and glass) competed in 2009. Winner

Resources

For information on the Heritage Cup Series, contact Capt. Michael Emmert: 516-647-3105, goldeni37@aol.com.



Gary Miller has been photographing, writing, and editing for magazines, corporations and organizations for more than 25 years. He has also written, produced and directed hundreds of corporate and educational films and videos. He is an active freelance writer and photographer today.



Elegant in black, Yumi, a Knight yawl, sailed in the woodie fleet under the guidance of Bruce Nelligan and crew.

Quick and easy

Lifeline resurrection

Old rigging provides new safety

by Connie McBride

A s the refit in celebration of *Eurisko*'s 30th year neared completion, we were three months and several thousand dollars beyond our original estimate. Luckily, only small projects remained; one of these was replacing the lifelines.

Our 1979 34-foot Creekmore had vinyl-coated lifelines that we feared were original. For the 10 years we'd owned her, we continually warned our three sons not to trust them. But then, why have them? The vinyl coating was cracked and the wire so badly rusted we could no longer hang clothes on them for fear of stains. They were obviously unsafe and needed to be replaced, but we were unsure what to use.

When we first considered replacing the lifelines, we were stateside, and high-strength, low-stretch line seemed the ideal material. When we eventually got around to doing the job, we were in the Caribbean, where supplies are more expensive (when available). We were not willing to spend the money or wait to have a package shipped down. Ever a recycler of boat parts, my husband, Dave, suggested we use our old standing rigging, since we had just replaced it as part of the refit.

Eurisko is a cutter with an unusually tall rig for her size, so we were able to use her old backstay, inner forestay, and two intermediate shrouds for the four lifelines. We didn't use the upper shrouds. Since they are the longest, we chose to save them for use in the event of a rigging failure.

We have swageless terminals on our rigging and left one of these terminals on each length of wire. After measuring the old lifelines, we cut the new ones from the lengths of old rigging. We cut them 6 inches short to allow for the terminal on the other end, lashings at each end, and stretch in the wire as it straightened out under tension.

We chose to lash the replacement lifelines to the pulpits because it's simpler, in keeping with how we live our lives,

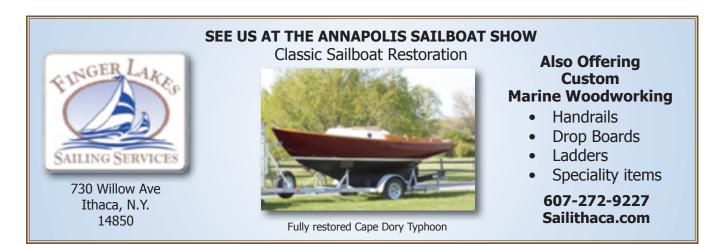


For the price of a handful of swageless rigging terminals, Dave and Connie McBride replaced *Eurisko*'s doubtful lifelines with new ones made out of her old standing rigging.

and they add less weight and cost less than turnbuckles. We suspend solar panels from our top lifelines, so a gate is impractical for us.

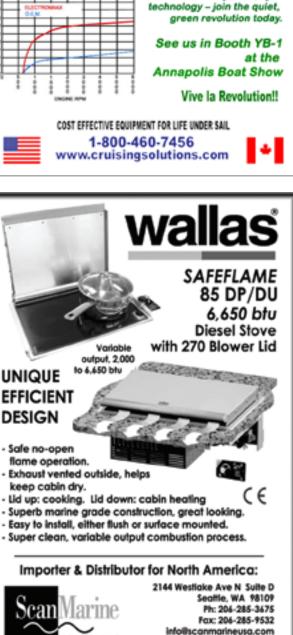
Only after a thorough inspection of the old rigging did we feel comfortable using it for lifelines. We disassembled several terminals and even unlayed strands of wire. We found no corrosion or visible cracks. Although we reused terminals from the old rigging, we did buy new cones for each replacement lifeline. For an investment of \$8 per cone (\$32 total) and several feet of line for the lashings, we now have attractive, heavy-duty lifelines that live up to their name. \varDelta

Connie McBride, her husband, Dave, and their three boys have been living and exploring aboard their 34-foot Creekmore, Eurisko, for 9 years. After several years in the Eastern and Western Caribbean, they are currently in the Florida Keys topping up the cruising kitty.





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Pulling staples

A better tool makes easy work of it

by Rudy Sechez

hen doing canvas projects, it's common practice to staple pieces together before sewing them, but removing the staples using a standard staple remover can be difficult.

With a simple modification to a pair of 6-inch needle-nose pliers, you can make a tool to simplify the task. Grind the ends of the jaws of the pliers to form wide, wedge-shaped tips and they will easily remove any staples, even those that have been stitched over. As an added benefit, you can use your modified pliers to insert or remove pins, and even to remove pins that are wedged under the sewing machine's foot.

The tips can be easily shaped using a bench grinder or a hand-held angle grinder. If time is not of much importance to you, you can grind down the tips on a rough-grit whetstone. \mathcal{A}

Rudy Sechez and his wife, Jill, have lived aboard and cruised for 13 years, at first with a 36-foot wooden cutter they built and currently with a 34-foot sail-assisted wooden troller they designed and built.

> A few minutes' work on a bench grinder and a pair of needle-nose pliers becomes a handy tool with which to grip and pull staples and pins.

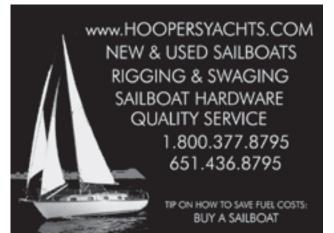


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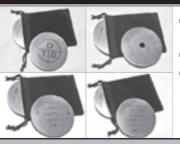


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Nautical tattoos

Persistence's owner thanks his lucky stars

by Marlin Bree

C all it "boat tattooing" if you like. With a razor knife, a few ounces of epoxy, and some homemade wood filler, or maybe even your leftover coffee beans, you can add decorative elements, permanent lettering, or identification to wooden surfaces on your boat. Boat tattoos don't take long to do and are fun to make. You can get creative and at the same time beautify beat-up or damaged areas. And, like body tattoos, they'll last forever.

To celebrate my boat's transition into her second quarter-century, I added some stars on the transom's aft edge. Nautical stars have always meant luck. These were a pleasant design addition and easy to apply. I used a razor knife (\$7 from Home Depot with 10 blades) to cut through the glass-and-epoxy surface layer. Since the surface was tough to cut, I used a woodcarver's mallet made of lignum vitae. With a few light whacks of the mallet on the razor knife, the sharp blade sliced away clean lines for the stars. I carved the outlines with my razor knife, then scooped out a layer of wood inside them with a wood chisel. This left me with a star hollowed out to a depth of about ½ inch. And naw, this treatment didn't seem to hurt the tough little razor knife's fold-out blade holder.

Mixing up the colors

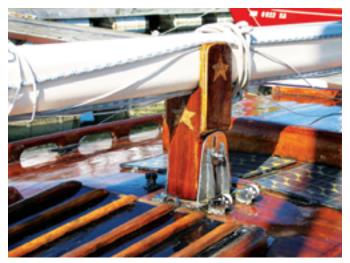
I carved four stars, two large and two small. Since *Persistence*'s cedar transom is golden-colored, I wanted the fill to be of a darker color to make the stars stand out. I selected a piece of dark mahogany from my wood box and sliced off some shavings with my razor knife. I put these mahogany bits into my household coffee grinder and ground the shavings into a fine powder. This would do for the larger stars. For fun, I also ground up some used, dried, espresso coffee-bean grounds. I now had two different filler colors. These I'd mix with epoxy.

Starting with the small stars, I brushed in some two-part boat epoxy. When the raw wood wouldn't suck up any more, I added a stiff filler mix of fine-whipped espresso and mahogany to give me a dark surface.

For the larger stars, I saturated the raw wood with epoxy and stuffed the star cavities with mahogany-epoxy filler. In each case, I overfilled the surface. After the well-filled stars had dried and contracted a little, I used a hand sander with medium grit to level the protruding star surfaces to the surface of the transom. Now I had my beautiful stars ... and perhaps I had given my boat a little good luck too.

A little sanding with a power sander using fine grit gave me a good tooth. A layer of epoxy over everything — raw stars and the surrounding varnished area — prepared the surface. I've found that you can brush boat epoxy over old varnish, provided you give the epoxy something to grip. When the wooden mast crutch on *Persistence* was damaged, Marlin rebuilt it with epoxy glue and applied walnut veneers over the original fir and plywood. He finished the job with decorative star tattoos. Now, the crutch is not only functional, it's also a thing of beauty.





Now came the real payoff for all that work: making the final surface pristine once more. For the past 25 years, my 20-foot centerboard sloop, *Persistence*, has been bright finished with high-quality marine varnish fortified with UV filters. I thought the little boat deserved something new. I turned to one of the newer wood finishes, a two-part highgloss, clear polyurethane with UV filters. This is the good stuff that — cough, cough! — retails for around \$160 a gallon. I bought a couple of quarts.

A special luster

After I wet-sanded the transom I used my power sander, working with the quarter-sheet purple sanding papers put out by 3M, since these have a consistent cut and last a good long time. I used a fine grit overall so I could give the new epoxy and the old varnished surface a slight tooth. This would let the new two-part polyurethane get a grip and also give the surface underneath a certain refractory quality. Well-sanded surfaces seem to sparkle under final finishes. I wiped the sanded surface with a clean cloth lightly moistened with



After drawing the stars on the transom, Marlin used a razor knife to cut around their outlines and hollow them out. He filled the stars with homemade wood-epoxy filler, then sanded and epoxied the area and applied several coats of glossy clear polyurethane with UV filters.

thinner, turning the cloth often. It's important to keep your cloth clean or you'll muddy the surface with old varnish dust.

To lay down my expensive two-part finish, I used ordinary disposable bristle brushes I buy by the bag at Home Depot. Some sailors buy expensive hair brushes and spend a lot of time and money cleaning them with solvents. Others use foam brushes. I don't like the foam because it doesn't seem to lay down the kind of thick coat I want. After fussing with a number of expensive brushes, I found having to clean them all the time was a bore. Hence the cheap disposable bristle brushes. After one or two uses, I throw them away. I'm not certain this costs very much more or is any less ecologically sound than using expensive brushes and solvents.

"Varnishing" is the most pleasurable and rewarding part of the entire process. On a clear, fresh day, without much wind, I chose a clean, new brush and began laying down the two-part polyurethane coating. With each stroke, the gleaming clear finish brought the wood to life and the whole job seemed to glisten with an amber glow.

That left the hull sides looking a little shabby and — can you see where this is going? — I wound up refinishing not just the new part of the transom but the entire hull and both sides of the cabintop as well as the deck. In the late spring sunlight the wood gleamed, and *Persistence* shone as never before.

Coming clean

I admit that I had not limited my boat's pretty tattoos to just a few stars on *Persistence*'s transom. Earlier, I had used the same process to permanently tattoo her name and registration number in the transom. This was the same process: I set up a typeface and size I liked on my computer, printed it out, and tried it out on the boat (it's important to get the right size and relationship). I then cut out the image with my razor knife, taped the heavy paper to the transom, and drew around the outline.

I used my razor knife and chisel to get the ¼-inch indentation and filled the cavity with a contrasting wood-epoxy filler. In this case, I used a homemade filler, courtesy of my kitchen blender, of golden-hued Sitka spruce. To provide a little contrast between the letters and the transom, I drew a black line around the edges with a Sharpie permanent marker. A sea hood that had some old compass holes also got the tattoo treatment. As I eye my boat for some new tattoo opportunities, I see several more good places. A hatch has seen a lot of bumps over the years and there are some spots where hardware has been used and removed, leaving filled holes. A tattoo star would look good here. My custom-built tiller could use a star on its end — a minor decoration — and so could the ends of my Sitka spruce rubrails, which have seen their share of rubbing over the years.

Tattoos are fun, and I am happy to say you're not weakening the wood; you're really building it up with a wood-epoxy composite that is far stronger than the soft wood it replaces. So, if you have a broad wood surface that aches for decoration or a bit of blemished wood that has seen better days, maybe a tattoo would be a fine addition.

And, oh yes, did I mention that stars bring luck to a mariner? Δ

Marlin Bree has had his fair share of luck while cruising his 20-foot homebuilt sloop on Lake Superior. He has written about his adventures in books, including Wake of the Green Storm: A Survivor's Tale, and Broken Seas: True Tales of Extraordinary Seafaring Adventures. See what Marlin is up to at his website <www.marlinbree.com>.



Marlin has decorated *Persistence*'s scoop transom with stars and the boat's name and identification number "tattooed" into the wood.

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Simple solutions

fitting for vent line

inlet fitting from head

8-inch diameter PVC pipe

fitting glued into end cap for pumpout

An ingenious holding tank A large PVC pipe eliminates odors

by Gregg Nestor

uring a recent trip to southern Florida, I spent two enjoyable afternoons walking the docks. I use these opportunities to chat with sailors I meet. On the day before we headed north, I met Thaddeus, a man who had taken a novel approach in solving an odor problem with his head and holding tank.

Thad invited me aboard and, once I was relaxing with a cool beverage, told me his tale of foul odors, his quest to eliminate them, and his solution.

He sails a late 1970s Islander 28 that he maintains meticulously. About a dozen years ago, he noticed a "head odor" in the head compartment and the main saloon. His first corrective action was to pump out the tank, flush the system with fresh water, and deodorize it with a common household product, followed by a final freshwater flush. But the odor remained.

Thad next suspected that the hose connecting the toilet to the holding tank might be the culprit. He replaced the hose, which was more than three decades old, with Series 148 vinyl hose. This nearly eliminated the odor in the head compartment, but not in the saloon.

Thad then directed his attention to the holding tank, a rubberized bladder beneath the starboard settee. The odor was noticeably stronger once he removed the cushions and plywood base. Instead of replacing the bladder, however, Thad elected to encapsulate it in vinyl sheeting and tape all the seams and potential openings with duct tape. This cheap fix did the trick, at least temporarily.

A year later, the odors returned. Thad's examination of the bladder revealed that its routine expansion and contraction had chafed the vinyl covering and the bladder at several locations. He needed a new holding tank.

Thad removed the bladder and replaced both the newer Series 148 vinyl hose and any remaining original waste hoses with Series 101 multilayer rayon-and-rubber hose. In place of the bladder, he installed a 6-foot section of 8-inch diameter, Schedule 40 PVC pipe. He mounted hose fittings in the end caps, one for the inlet from the head forward and near the top, and one for the outlet for the pumpout aft and at the bottom. He installed a fitting for the vent line at a point about one third of the length of the pipe. He doubleclamped all the hoses with stainless-steel hose clamps. Then, using 1-inch nylon webbing, Thad secured the new holding tank to the wooden settee-support structure.

He reports, and I can confirm, that his boat no longer has a head-odor problem. Thad further states that, while the PVC-pipe holding tank's volume (approximately 15.5 gallons), is less than that of the original bladder, it easily suffices for a week-long cruise. \varDelta

Gregg Nestor is a contributing editor with Good Old Boat, and is the author of three books, All Hands On Deck, Twenty Affordable Sailboats to Take You Anywhere, and The Trailer Sailer Owner's Manual: Buy-Outfit-Trail-Maintain. Having recently sold both their good old boats, Gregg and his wife, Joyce, are currently searching for the perfect replacement.





Product launchings

Tiller Clutch review

Doug Montgomery, a reader and product tester for Good Old Boat, sails a 1979 Catalina 22 on Lake Ray Hubbard outside Dallas, Texas. He tested the new Tiller Clutch earlier this year. Here is his review:

"I was shipped a tiller-control device called the Tiller Clutch, sold by Wavefront Marine. It retails for \$69.95, so there are less expensive tiller-controllers on the market, but I give the Tiller Clutch pluses for ease of installation, one-handed operation, and the minimum cockpit space it takes up. The clutch mounts on the underside of the tiller and you engage or release it by activating a control paddle using just one finger of the hand with which you are steering.

"We have all seen and used different types of homemade remedies made from bungee cords and line. I even once tried to duplicate the technique Joshua Slocum used when he sailed hundreds of miles through the Pacific Ocean without touching the helm.

The mariners must have tool

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pose, Slice through line attached cutting plate.



"There are several devices on the market. Not one among them is perfect but, for simplicity of installation and use, I would recommend this product over some of them. The \$69.95 price tag might occasion a second look, but I can remember times when I would have paid many times more than that for the convenience of the Tiller Clutch!"

For more information, go to <www.wavefrontmarine.com>.

HotBlade-X line cutter and more ...

Most of us only need to cut lines once in a while. When we do, it would be nice to own one of those fancy electric or propane-fired line cutters, but the price per cut would be ridiculous. That's why Zarcor's John Halter has brought an inexpensive alternative to market. He calls it HotBlade-X.

> To cut line, you must first let the torch heat the cutting blade for about 20 seconds. This may seem like a long while to wait, but getting it up to 2,000° Fahrenheit takes time. Once the blade is hot, it will cut line up to ¾-inch diameter relatively easily. The butane fuel cell, held within the device's handle, is refillable and the flame is adjustable. In addition, the cutting blade flips away from the flame so the flame itself can be used for a variety of other jobs.

A very nice feature is the metal plate, attached by a tether, that provides a heat-resistant surface on which to do your cutting or soldering. The HotBlade-X is available from the Zarcor website, <www.Zarcor. com>, and sells for \$29.95.

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

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Tartan 37C

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

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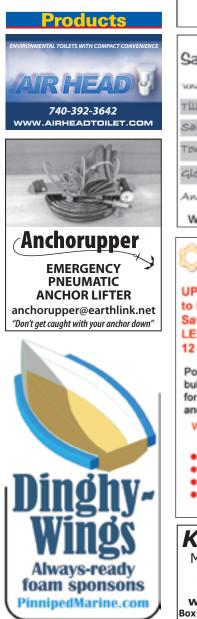
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Bo'sun Supplies76	Knotstick 69	Power Tiller71	Swego International 69				
BottomSiders	LBI/Fiberglass70	Queasy Drops71	Thai Teak Marine				
Bristol Bronze	Leslie Transport and Services72	Raka Marine72	The Coastal Passage				
By-The-Sea website72	Little Cod/Navigator Stove71	Rigging Only70	The Sail Cleaners73				
Cajun Trading Company70	Long Beach Boat Company72	Riverside Mattress72	Tiller Watch70				
CDI (Cruising Design Inc)	Marine Cabin Fans70	Robert H. Perry Yacht Designers	Triton Yachts72				
ChartMates	Marine Diesel Direct	Rostand/Historical Arts61	Tufted Topper72				
Cross Country Boat Transport72	Marine Skylights 69	SailboatOwners.com61	Unscrew-Ums/T&L Tools71				
Cruising Solutions	Mast Mate69	Sail Care73	Used Boat Gear71				
Dinghy Wings 69	Mauch's Sailboat Guide	Sailing Services	Vigilance/Electrosense.com71				
Eco-Chartering72	Medex Plan73	Sail Ithaca60, 69, 71					
Electric Yacht	MessingAbout.com73	Sailor's Solutions70					



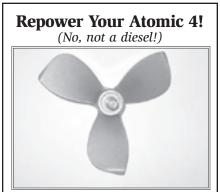
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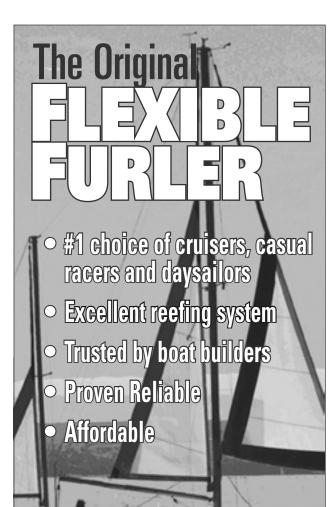


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STAINLESS STEEL



Who needs palm trees?

It doesn't get any better than this

by Marshall Judges

ike most boats in the north, mine spends the winter hauled out and bundled up, gathering snowdrifts and growing icicles. To feed my sailing craving during the winter, I anxiously await the snail-mail delivery of my personal library of sailing magazines, my favorite being *Good Old Boat*. The other glossies are replete with tales of idyllic island-hopping adventures and alluring ads for charter companies in faraway tropical places. This is nice daydream fuel for the long New England winter, but these siren songs fit solidly in the "someday" category. "The rest of us" resist the natural envy those images evoke by sharing tales of idyllic "backyard cruising adventures" that don't include vistas of white beaches wreathed with palm trees. I have just such a special sailing memory.

When my wife, Margaret, and I relocated to Boston 10 years ago, we were able to fulfill our lifelong dream of owning our own boat, a 1989 Catalina 30 we named *Saint Somewhere*. While living in Key West In the 1970s, when Jimmy Buffett was just starting his career there, we connected with his music and were among the earliest Parrot Heads. We timed the end of our 2008 summer cruise to catch the last day of the Newport Folk Festival, featuring a firsttime festival appearance by none other than Jimmy Buffett.

Our day for the festival arrived with clear skies. Armed with lawn chairs and a cooler full of food and appropriate way through Parrot Head staples and a pretty good tribute to Dylan with "Blowin' in the Wind," the storm gathered over Newport. As he started "One Particular Harbor," we could look toward Newport and see — amid the thunderstorm — a brilliant full-color end-to-end rainbow over the town. Behind us to the north, with the Rose Island Light as background, two classic wooden schooners — the 72-foot *Madeleine* and the 82-foot *Adirondack II*, both harbor cruise vessels — were heading out under full sail, all flags flying. West, over Jamestown, the setting sun was a deep fiery orange, the color beautifully reflected by fluffy clouds suspended in an azure sky. Because the storm was only over Newport (less than a mile away), the wind was light.

We had this unbelievable scene: brilliant rainbow, a pair of schooners beam-to-beam under full sail, and a sunset to rival any on a tropical isle — all while being serenaded with a live performance of "One Particular Harbor" by Jimmy Buffett. As Jimmy exclaimed mid-song, with nary a palm tree in sight: "It just doesn't get any better than this!" the thunderstorm moved south, leaving a clear early evening sky in its wake.

We packed up and headed back to *Saint Somewhere* to enjoy cheeseburgers in our own paradise. With Parrot Head music softly playing, we enjoyed food, wine, and I must confess, watching the poor landlubbers ashore schlep back to their cars in the parking lot.

libations, Margaret and I headed into Fort Adams to stake out a spot. All afternoon, we enjoyed a truly eclectic selection of wonderful live performances, both on the main stage and at smaller side venues. Jake Shimabukuro, an artist discovered by Jimmy Buffett, put on a performance that I can only describe with two words that I never imagined fitting appropriately together: virtuoso ukulele. By the end of the day, we were certainly ready for Margaritaville.

Special effects

At last, Jimmy began his set and the culmination of the three-day festival. Meanwhile, in the east, a mass of low, dark, ominous storm clouds, intermittently lit by lighting flashes, began rolling in toward Newport, across the harbor. As Jimmy made his



Ending on an up beat

The next morning, we cast off and turned *Saint Somewhere* northward for the return trip. Sometimes, the last leg of a cruise can be a bit of a downer. Not this time. Instead, we had the feeling of having had a truly special cruising experience on our old boat, one to rival any regaled in the other sailing magazines. Best yet, we enjoyed it in our own backyard. Who needs palm trees?

Marshall and Margaret Judges cruise their 1989 Catalina 30, Saint Somewhere, on Narragansett Bay and to Martha's Vineyard, Nantucket, and Block Island. Marshall grew up sailing Flying Scots on Chesapeake Bay. He now oversees the operations for two zoological parks (yes, real lions, tigers, and bears) in the greater Boston area.

77

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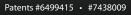
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